APPLYING RETENTION THEORIES TO
STUDENT-FACULTY INTERACTIONS
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Abstract

This article focuses on the relationship between student and faculty interactions in post-secondary education using Astin's (1977, 1985) involvement theory and Tinto's (1975) student integration models, in relation to their contributions to college retention. The common points in the literature suggest that student involvement and student integration with faculty is essential. This review reveals student-faculty interaction determinants and student and faculty interaction issues, which include diverse and underrepresented students. The discussion positions a retention philosophy, and includes Meseus's (2014) culturally engaging campus environment (CECE) model, as a viable outlet for student-faculty interaction discourse. The implications suggest that meaningful faculty and student involvement is an important aspect of the college integration process that leads to student persistence.

INTRODUCTION

This article focuses on the relationship between student and faculty interactions in post-secondary education, which is one of many elements that contribute to college retention. The student-faculty interaction associated with Astin's (1977, 1985) involvement theory and Tinto's (1975) student integration model allows us to better understand the complications of college retention, especially since a focus on diversity and inclusion has become paramount nowadays. The rationale for the use of two different theories is that Astin's theory focuses on student involvement, whereas Tinto's theory asserts that students who make progress in school are individual pieces of the wider retention demographic picture. While the theories may be questioned due to student demographic changes over the years, along with increases in campus diversity and inclusion factors, incorporating Meseus's (2014) Culturally Engaging Campus Environment (CECE) model may be of help in examining, understanding, and improving the campus environment and could strengthen Astin's and Tinto's models, with an eye toward current and prospective students.

Use of the different models leads to the following two research questions: (1) How are Astin's (1977, 1985) and Tinto's (1975) theories restricting the picture of college retention, in relation to student-faculty interaction? (2) How has Meseus's (2012) CECE model supplemented other theories, such as Astin's (1977, 1985) and Tinto's (1975), as far as examining patterns regarding college retention? The literature shows that involvement and interaction between students and faculty are paramount, regardless of whether the interaction is in formal or informal settings; however, when a school considers diversity and inclusion, this increases the likelihood a student may persist. Finally, this article examines and incorporates Meseus's (2014) CECE model because Astin's and Tinto's theories are not well positioned for an examination of the current diverse student population or the focus on inclusion.

Context of Retention Theories

Tinto's (1975) student integration model and Astin's (1977, 1985) involvement theory are two retention theories that allow for a better understanding of the importance of student-faculty relationships in college retention. Tinto introduced the student integration model as a way to understand behaviors that promote retention. In addition, Astin (1977, 1985) laid out student characteristics that would explain why some students were more likely to persist. According to both theorists, those students who were involved in both the "academic and social communities of the college" (Seidman, 2012, p. 71) were likely to continue to degree attainment. There are two components relating to formal and informal elements of academic and social integration. Tinto (1987) described formal and informal academic integration as a "student's abilities and skills, and the academic demands of the college" and "common values held by the members of the college and those held by the students" (p. 72) respectively. For example, if a student wanted to major in engineering, the student would need to have a strong aptitude in mathematics and physics to fit into the program. The formal and informal social integration could be the amount of "involvement of a student in college's newspaper, clubs, student government or other forms of activities" (p. 72), and as a "peer-group interaction, such as student's group of friends" (p. 72) respectively. For example, students could participate in professional student chapter organizations as project

managers with faculty advising to enhance the students' engineering experience or participate in a national conference to exhibit scholarly work.

Astin's (1977, 1985) theory of involvement indicated that "the more students were involved in their academic endeavors and college life, the more likely they were to be retained" (Seidman, 2012, p. 23). Astin (1977, 1985) recognized students' personal and environmental factors that threaten retention. The personal factors include "academic background, family background, educational aspirations, study habits, expectations about college, age, and marital status" (Astin, 1975, as cited in Seidman, 2012, p. 76). The environmental factors include "residence, employment, academic environment, and characteristics of college" (Astin, 1975, as cited in Seidman, 2012, p. 76). Moreover, Astin (1984) indicated that the primary advantage of the student involvement theory is it "directs attention away from subject matter and technique and toward the motivation and behavior of the student" (Astin, 1984, p. 529), whereas other theories focus explicitly on the quality of teaching only as the main determinant of retention.

The literature has illustrated the commonality and differences between Astin's (1977, 1985) involvement theory and Tinto's (1975) integration model. The commonality of the studies lies in the suggestion that student involvement and student integration with faculty is essential. However, an essential difference between the Astin and Tinto models is that Astin's model promotes the importance of the amount of physical and psychological investment that students need to devote to college experiences, while Tinto's model indicates that behavior is a function of successful integration into academic and social settings within the college. In addition, both models differ on the value of the impact of the integration or involvement of student-faculty interaction. Tinto's model recognized that formal and informal interaction outside the classroom played a crucial role in students' persistence. However, Astin's model indicated that involvement of faculty in non-academic student life activities has a limited development impact on student college experiences. Finally, Meseus's (2014) CECE model includes examining, understanding, and improving the campus environment, which incorporates Astin's and Tinto's dimensions of containing individual influence features of prospective students (i.e., belonging, dispositions, and performance).

LITERATURE REVIEW

Through the literature review, a document analysis chart was developed and annotated bibliographies were created to organize and synthesize information, for the purpose of maintaining a critical lens throughout the review. The literature reveals a broad spectrum of student-faculty interaction elements that are contained within Astin's (1977, 1985) and Tinto's (1975) models. The subjects vary depending on the students' determinants and norms, multicultural and underrepresented issues, disparities of professoriate status (i.e. tenured, tenure-track, and non-tenure track faculty members), and changing major academic programs. In addition, Meseus's (2014) CECE model, which works to examine, understand, and improve the campus environment by problematizing Tinto (1975) and Astin's (1977, 1985) models, is revealed to illustrate why the model is recommended as an alternative perspective that is capable of strengthening Astin's and Tinto's theories. The remaining section of the literature review utilizes student-faculty interaction as the primary example that applies (or incorporates) the models of Astin, Meseus, and Tinto.

General Student-Faculty Interaction Factors

The literature focused on general characteristics, determinants, and patterns of student-faculty interaction. Some of the literature appears to be outdated, but it is still appreciated because it is foundational. Quantitative approaches have included work from Pascarella and Terenzini (1977), who randomly sampled 1,008 students to investigate the pattern of student-faculty interaction and college persistence versus voluntary attrition. Additionally, Endo and Harpel (1982) surveyed 2,830 freshmen on educational outcomes in 1975. In the most recent literature from this approach, Kuh and Hu (2001) surveyed 5,409 students randomly selected from 126 colleges on the effects of student-faculty interaction. Cotten and Wilson (2006) used nine focus groups with a total sample size of 49 students as the only qualitative research for this sub-category.

As Kuh and Hu (2001) illustrated, quantitative findings indicated that the most frequent type of contact with faculty was "asking for information about a course" or "visiting after class" (p. 318, table 2). The less frequent interaction was "out of class activities such as getting together over cokes [*sic*] and snacks" or "discussing personal problems" (Kuh & Hu, 2001, p. 318, table 2). These interactions connect to Pascarella and Terenzini' s (1977) research, which indicated that faculty interacted with students over topics such as the need "to get basic information about students' academic program," "discussion of intellectual or course-related matters," and "discussion of career concerns" (Pascarella & Terenzini, 1977, p. 548) as students progressed through their academic career. Furthermore, it is interesting to note that students "interacted with faculty 5 to 7 times per year for academic purposes and 1.5 to 2 times per year for non-academic purpose" (Terenzini & Wright, 1987, as cited in Cotten & Wilson, 2006, p. 507). Jaasma and Koper (1999) also reported "an average office hour visit length of 2.6 minutes; and an average informal exchange length of 1.4 minutes" (as cited in Cotten & Wilson, 2006, p. 508). The literature reviewed seems to agree that interacting with faculty two times per year for a total of 8 minutes is insufficient for college retention. The findings recommended that students may not feel comfortable actually approaching the faculty members (Cotten & Wilson, 2006). The challenge may be related to students' feeling of uncertainty about whether the faculty member will be receptive. Qualitative findings were related to the frequency and nature of interactions between students and faculty and revealed factors that promote (or hinder) the interactions. Cotten and Wilson (2006) noted several remarks to this effect by the students, such as, "If my grade's all right…I just do not see the need to go and talk" (p. 497). Then again, students felt that the faculty "seem like they're always in a rush. …they do not want to speak to you … seems like they are not approachable" (Cotten & Wilson, 2006, p. 504).

Faculty Issues Impact Student-Faculty Interactions

According to research studies, the causes and effect of student-faculty interaction and faculty issues vary depending on the professoriate status (Kezar & Sam, 2010). The literature points out that professoriate status does affect the quality of student-faculty interaction. Research shows that the two-class system potentially impacts student-faculty interactions through tenured, non-tenure track, or contingent faculty members' accessibility and availability for the students. For example, non-tenure track or contingent faculty members have limited office hours or are infrequently on campus because they often have other jobs, unlike full-time tenured faculty members.

Using the "National Study of Post-secondary Faculty" study (p. 4), Kezar and Sam (2010) discovered that non-tenure track (i.e., lecturer and adjunct) faculty members can negatively impact student-faculty interaction based on the quality of the faculty members' degree and training (Benjamin, 2003b, as cited in Kezar & Sam, 2010). "Benjamin (2003a and 2003b) argues that the temporary nature of the employment, lack of office hours, and numerous appointments at different institutions indicate that non-tenure track faculty lack commitment to teaching and students compared with tenured faculty," impacting quality and productivity in student-faculty interaction (Kezar & Sam, 2010, p. 55). At the end, a major limitation of using non-tenure track faculty and the nature of non-tenure track faculty availability are major crises. The literature reviewed seems to overwhelmingly suggest that professoriate status can have an impact on students' academic and social experience in higher education.

Endo and Harpel (1982) discovered factors that impacted student-faculty interaction such as accessibility of faculty members, helpfulness of faculty members, and the quality of advising. These factors variables illustrated to be effective of reliability using Cronbach's alpha from the survey of 2,830 freshman in 1975. When this cohort arrived at senior year, the survey was sent to 480 seniors who were scheduled to graduate May 1979. On this survey, the quality of formal academic advising scored poorly (i.e. alpha = .48, the acceptance rate is .70 or better) (Endo & Harpel, 1982, Table 1).

Umbach and Wawrzynski (2005) utilized two national data sets, (1.) National Survey of Student Engagement (NSSE), and (2.) a data set of questions and answers examining the attitudes and behaviors of faculty at institutions participating in the NSSE data set. The NSSE surveyed 137 colleges and universities with 42,259 student and 14,336 faculty participants. According to their research, faculty interactions with students showed "first-year students' course related interaction as .16 coefficient" and "seniors' as .13 coefficient" (Umbach & Wawrzynski, 2005, p. 164). For out-of-class interaction, first-year students' interaction had a coefficient of .08 and seniors' was .10. Umbach and Wawrzynski conducted another study seeking to understand faculty usage of active and collaborative learning; the student-faculty interaction shows that first-year students' active and collaborative learning had a coefficient of .12 and seniors had a coefficient of .09 (Umbach and Wawrzynski, 2005). The results may not show significant differences from course-related interactions, but it is an important relationship between the faculty and student when the faculty tries to use active and collaborative learning for formal, informal, academic, or social interactions.

Ehrenberg and Zhang (2004) used the data set from the College Entrance Examination Board's Annual Survey of College Standard Research compilation and IPEDS faculty survey during a fifteen-year period. They found that:

> A 10 percent point increase in the percentage of part-time faculty is associated with reduction of the graduation rate of 3 percentage points, while an increasing proportion of full time faculty not on tenure-track line is associated with a reduction in the graduation rate of 4.4 percentage points at these institutions. (Ehrenberg & Zhang, 2004, p. 8-9)

Concurring with Ehrenberg and Zhang's (2004) research, Jaeger and Eagan (2009) found that for "every 10 percent increase of exposure to part-time faculty, a 2 percent decrease occurred in chances of transfer" and for "every 10 percent increase of exposure to part-time faculty, a one

percent decrease occurred in the possibility of earning a degree" (as cited in Kezar & Sam, 2010, p. 58).

Diverse and Underrepresented Student-Faculty Interaction Populations

Because today's classrooms are changing and undergoing rapid shifts in configuration, culture, and orientation, the nature of learning is also changing. Additionally, due to the increase in diverse and underrepresented students on college campuses, new and different environments are influencing the culture of student-faculty interactions. Kim and Sax (2009) conducted a study through the 2006 University of California Undergraduate Experiences Survey (UCUES) with 58,281 students. Of the total sample, the highlights are as follows: 54.1% were female students, 58.8% came from middle-class and 10.8% came from working class families, and 19.5% were first generation college students. The racial configuration was as follows: 35.1% White, 3% African American, 38% Asian Americans, 13.9% Latinas/os, and 9.7% other race (Kim and Sax, 2009, p. 440). The findings suggested how to maximize the educational effectiveness of student-faculty interaction by minimizing the differences within the gender, race, social class, and first-generation populations. There were two parts to the study for each type of interaction: research-related interaction and course-related interaction. The research-related study varied more depending on the sub-group being studied. For example, the differences in types of particular groups' interaction were studied: students assisted faculty research for pay (Gender), students assisted faculty research as volunteers (race), and students assisted faculty research for course credit (first-generation and social class) populations (Kim & Sax, 2009, Table 1). The main reason was to illustrate the results show several difference by student' social class status as a subgroup. For the course-related student-faculty interaction, across the four sub-groups, the theme indicating that "students frequently interacted with faculty during lecture class session" (Kim & Sax, 2009, Table 1) was the only interaction that was significantly valid. The next highest course-interaction that existed in three of the four sub-groups was "communicated with faculty by email or in person" (Kim & Sax, 2009, Table 1).

Hurtado et al. (2011) conducted a mixed-methods study of underrepresented students' interaction with faculty throughout 117 higher education institutions. The data came from a five-campus qualitative case study and a quantitative longitudinal study on student-faculty interaction. One of the key elements in this study was faculty approachability. For example, one student explained that "some professors are really inviting, like they motivate you to ask them questions and they are more available. Other professors, you go to ask them a question, they are always like, 'Yes, just go through the lecture' " (Hurtado et al., 2011, p. 570); this finding was consistent regardless of race or gender. The quantitative study contained 3,003 student scientists who answered the Freshman Survey; the population was 78% women and 22% men and 30% Black, 21% Latinas/os, 11% Asian, 4% American Indian, and 34% White. For the qualitative study, 10 focus groups and 15 interviews included 71 students who represented a racially diverse group: 56% Latinas/os, 18% Black, 13% Asian-American, 8% Multiracial, 2.4% American Indian, and 2.5% White (Hurtado et al., 2011, p. 563). Hurtado et al. (2011) discovered differences depending on the institutions' structure and climates (i.e. public vs. private or Masters' granting vs. Doctoral granting universities); for example, "students at more selective institutions typically have less frequent, less personal interactions with faculty, whereas Black students at historically Black

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colleges and universities report having more support and frequent interactions with faculty" (Hurtado et al., 2011, p. 553).

Saenz, Ngai, and Hurtado (2007) studied factors that promote positive interaction across race for African American, Asian American, Latina/os and White college students from nine public institutions through a longitudinal survey with a sample size of 13,520. Saenz et al. (2007) discovered that the populated mean (pm) of African American students reported the greatest levels of positive interactions across race (pm=.33) at the end of the second college year, with White students reporting the lowest levels (pm=.11), a figure well below the overall sample mean. African Americans, along with Latinas/os (pm=.17) and Asian American (pm=.28), reported mean values that were well above the overall sample mean. In addition, there were mean differences between the Whites and each of the other groups (i.e., Latinas/os by -.28, African Americans by -.44, and Asian/Asian Americans by -.38); however, there were no significant differences between the Latinas/os, African Americans, and Asian American students through their values for positive interactions (Saenz et al., 2007, Table 3). The literature reviewed agrees that minority students are still underrepresented (i.e., by sample size); however, African Americans and Latinas/os experienced more positive student-faculty interaction compared to the Whites (i.e. by populated means). However, "student characteristics such as gender, race, and social class seem to shape the nature of the relationship between student–faculty interactions and developmental outcomes" (Kim & Sax, 2014, p. 451). The studies showed that women were the larger gender population and that *course-related interaction* provided higher opportunity of interaction with faculty (or students) within the class session. In addition, the underrepresented populations and women appear to have had more positive experiences with their student-faculty interactions than Whites and men did across the board.

Problematizing Tinto's Model

This section revealed scholars, researchers, and practitioners who presumptively are controversial about Tinto's (1975, 1987) model of student integration. Tierney (1992) provided a critical perspective, arguing that "rather than think about student participation from a social integrationist perspective, an alternative model is to conceive of universities as multicultural entities where differences are highlighted and celebrated" (p. 604). This is an important perspective because we want our schools to be multicultural because we live in different times than we once did, and/or that each person has their own idea of reality that encourages underrepresented students to participate. Having said this, Museus's (2014) CECE model should be one alternative that people are likely to think of because the model might strengthen Tinto's student integration model.

Tierney (1992) emphasized that "social integrationists assert that all individuals – regardless of race, class, or gender – must undergo a rite of passage in order to achieve full development in society" (p. 607). For that reason, Tierney argued that Tinto (1977, 1985) misinterpreted "Van Gennep's anthropological rites of passage and that this misinterpretation may hold potentially harmful consequences for racial and ethnic minorities" (p. 603, as cited in Metz, 2004, p. 195). Another challenge is in utilizing the rite of passage, as "in traditional cultures rites of passage do not have notions such as departure, failure, or dropout" (Tierney, 1992, p. 609) as it exists in higher education systems. Tierney indicated that Tinto "utilized anthropological terms in an individualist manner" (p. 610) rather than at the sacrifice of group or culture since Tinto failed to deconstruct the anthropological culture and context of the rite of passage.

Metz (2004) clearly indicated the critical concerns and revisions in the literature regarding the criticism of Tinto's (1977, 1985) model. One of the major criticisms of Tinto's model recognized by Tierney (1992) suggested that Tinto's model relied on information only about traditional age students" (Metz, 2004, p. 195).   Moreover, "Tierney asserted that the anthropological foundation associated with [Tinto's model] does not apply to all individual in all settings, as Tinto suggested" (Metz, 2004, p. 1996). This is because Tierney (1992) indicated that Tinto's model was too broad and did not address non-traditional elements with higher education. For example, particular audiences such as deaf or hard-of-hearing groups, Native Americans, LGBT people, or other underrepresented groups who enter a traditional university will feel oppressed or undergo a form of the rite of passage mentioned above (Tierney, 1992).

Bensimon (2007) indicated that there was a possible lack of variability within Tinto's (1977, 1985) model. The lack of variability points to the outcomes of minority students through (a) "sense of belonging" (Hurtado & Carter, 1996 as cited in Bensimon, 2007, p. 449); (b) "validation" (Nora, Barlow, & Crips, 2005; Rendon, 1994 as cited in Bensimon, 2007, p. 449); and (c) "stereotype threat" (Steele, 1997 as cited in Bensimon, 2007, p. 449). In other words, Bensimon (2007) acknowledged the critique of Tinto's student integration model and changes in Tinto's original model regarding the inadequacy of one's real world experience and accumulated knowledge, rather than implementing new approaches.

Pascarella and Terenzini (1991) discovered that Tinto's (1977, 1985) model did not include "non-residential colleges to ascertain those factors that influence degree attainment and persistence at two-year colleges, whether public or private, large or small" (as cited in Metz, 2004, p. 196). This one factor affects commuting students who do not live on campus, because they are not totally integrated and will feel distant from their classmates or programs to some degree. In addition, Tierney (1992) noted that Tinto's model did not include "financial aid as an influence on student persistence at two-year college level" (as cited in Metz, 2004, p. 196). This is a crucial element because colleges today do offer different financial aid packages such as FAFSA, Pell Tap, HELP, or TRIO that will help college to be more affordable and likely will increase persistence rate. Moreover, the involvement of "the influence of peer, faculty, and advisor relationship" (Pascarella & Terenzini, 1991, as cited in Metz, 2004, p. 197) illustrated the weakness of Tinto's original model.   Because of the interrelationship between students' social and academic integration, and how they affect persistence rate and degree achievement, this makes a difference in the graduation rate.

Additionally, Tinto (1993) explained that his model seeks to understand social integration, and "is not a systems [design] of departure" (p.112, as cited in Braxton, Bray, and Berger, 2000, p. 226), but about student retention. After Tinto (1997) cleared up his original model statement, Tinto (1997) clearly stated that if "social integration is to occur, it must [happen] in the classroom" (p. 599 as cited in Braxton et al., 2000, p. 216). This is because "the classroom functions as a gateway for student involvement in the academic and social communities of a college (Tinto, Goodsell, & Russo, 1993, as cited in Braxton, Milem, & Sullivan, 2000, p. 570). Many scholars do recognize the role of the classroom as part of the student integration model. However, based on a student's experience with the academic system and the communities of school is an academic integration of academic activities or classroom based experiences that shape a student's perception of their degree of academic integration (Braxton, in press[2], as cited in Braxton et al., 2000, p. 571). It is safe to say that if a professor delivers a bad experience, the chances increase that the student may leave. Simultaneously, Braxton et al. (2000) indicated that their study did not include a

category of the under-represented audience and thus it was not recommended to generalize to other schools.

Dialogue about the CECE Model

Integrating Meseus's (2014) CECE model, which examines, understands, and improves the campus environment, likely would strengthen Astin's and Tinto's inadequate and outdate models concerning prospective students. Museus's CECE framework intended to strengthen Tinto's (1975) student of integration model. Museus gathered and analyzed three different research studies: Ancis et al. (2000), which surveyed 578 students; Nora and Cabrera (1996), which did quantitative analysis of 831 students, and Rankin and Reason (2005), which surveyed 7,347 students (as cited in Museus, 2014). Museus's meta-analysis shows that the underrepresented students experienced discrimination. However, the study did not include faculty of color and how they interact with others, which is a crucial element related to the best practices of student and faculty matching. The intention was to generate a culture of engagement to foster college success among racially diverse populations.

The CECE indicators (with indicator numbers in parentheses) are: (1) cultural familiarity, (2) culturally relevant knowledge, (5) collectivist cultural orientations, (8) proactive philosophies, and (9) availability of holistic support (Museus, 2014). These fit well with the student-faculty interaction discourse by stressing the importance of the student's sense of belonging, improving academic dispositions and performance, and improving persistence. *Cultural familiarity* is when students can connect with faculty with whom they share common backgrounds. *Culturally relevant knowledge* is when professors and the university offer students to encourage, sustain, and increase understanding of their cultures, which will impact their experiences and success. The *collectivist cultural orientation* allows college students who encounter an institutional environment that is based on a collectivist mode to interact in a racially diverse classroom or other setting along with the professors. When faculty go beyond making information and providing support for taking extra efforts to maximize student learning, it increases the chances of persistence in college retention. Lastly, institutions that provide *holistic support* offer chances for students to have access to more than one faculty or staff member and increases opportunities for college retention and persistence.

LIMITATIONS & CONCLUSION

To conclude, the literature postulates that involvement and integration between students and faculty members is essential. However, questions remain as far as how students and faculty should be matched on the basis of matching capabilities and in relation to retention strategies. Also, the nature of multicultural or underrepresented faculty in descriptive frequency statistics and the inconsistency of the selection of programs or majors must be considered. Another major limitation with the literature is in respect to discovering resolutions to the issue of non-tenure track and contingent faculty's lack of availability (i.e., faculty accessibility). Also, some of the interaction determinants' descriptive statistics are outdated; therefore, a new version with current students and faculty, in particular diverse and underrepresented populations, is essential. Lastly, faculty should think about ways in which they can continue to connect, sustain, and improve

student relationships. The interaction relationship between students and faculty does matter because the interactions will likely increase college students' retention.

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