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Abstract

Co-enrollment, defined as simultaneous enrollment at more than one postsecondary institution, has become increasingly prevalent among college student attendance patterns. This descriptive study analyzes the characteristics and experiences of a nationally representative sample of co-enrolled Latinx community college students from the Beginning Postsecondary Longitudinal Study (BPS: 12/17). Results showed that certificate, associate's degree, and bachelor's degree completion was higher for co-enrolled Latinx community college students than for the entire sample of Latinx community college students. In addition, Latinx community college students co-enrolled at greater rates than the total sample of students in the dataset who co-enrolled.

Introduction

Because over one-third of all postsecondary students attend community colleges (Irwin et al., 2021), it is critical to improve achievement outcomes among them. Compared to students who begin college at a university, community college students have lower rates of persistence and bachelor's degree completion, with approximately 52% of students who begin at a community college persisting to the second year in comparison with 84% of students who begin at a university (National Student Clearinghouse Research Center [NSCRC], 2021). In addition, nearly 11% of first-time community college students earn a bachelor's degree within six years compared to 58% of university students (de Brey et al., 2021). Such achievement gaps also exist among students from various demographic groups. For example, although people of Hispanic or Latino origin (hereafter referred to as Latinx) make up the largest racial/ethnic minority group in the United States (U.S.; United States Census Bureau, 2019) and their college enrollment rates have increased by 134% in this century, they still have the lowest bachelor's degree attainment rates among all adults at least 25 years of age except American Indians and Alaskan Natives (de Brey et al., 2019). Furthermore, the percentage of Latinx students who persisted at any postsecondary institution in 2019 was 58% for community college beginners while it was nearly 81% for beginners at universities (NSCRC, 2021).

Given these inequities in educational attainment, some scholars have identified multi-institution attendance, including co-enrollment, as a factor that may contribute to student success outcomes (Carales, 2020; Crisp, 2013; Herzog, 2005; Peter & Cataldi, 2005; Wang, 2012; Wang & McReady, 2013; Wang & Wickersham, 2014). Co-enrollment is defined as "simultaneous enrollment at multiple postsecondary institutions during the same academic term" (Wang & McReady, 2013, p. 392), though it has also been referred to in the literature as

simultaneous, concurrent, overlapping, or dual enrollment, as well as double dipping and student “swirl” (Adelman, 2006; Bach et al, 2000; Bailey, 2003; Crisp, 2013; de los Santos & Wright, 1990; McCormick, 2003; Peter & Cataldi, 2005; Taylor & Jain, 2017; Wang & Wickersham, 2014). While there are myriad combinations of ways that students may co-enroll, one example is a student who takes in-person classes at a community college while also being enrolled in an online course at another institution.

Historically, vertical transfer, or transfer from one community college to one university, has been the focus of student mobility across institutions. However, other multi-institution attendance patterns such as co-enrollment have become much more prevalent and, in the past 20 years, have been named by the Association of American Colleges and Universities as one of the significant challenges facing higher education institutions (Bailey, 2003). Federal data sets have shown that 16.4% of college students have co-enrolled (Wang & Wickersham, 2014), while research from individual institutions has found co-enrollment rates to be even higher, at approximately 30% (Gose, 1995; McCormick, 2003). Moreover, findings from the Beginning College Survey of Student Engagement (2020) showed that 58% of first-year college students expected to transfer between one and 11 credits to their current institutions, and 6% of both transfer and older students planned to take at least one course from another college or university while attending their current institution. Additionally, higher education institutions in various states have created programs and agreements between multiple campuses that allow for co-enrollment, including in California, Oregon, Illinois, Indiana, and Texas (Crisp, 2013; Wang & McReady, 2013).

Notwithstanding this evidence of the importance of co-enrollment to community colleges, there remains a paucity of empirical research on the topic, even at the descriptive level, particularly as it relates to students from underrepresented racial/ethnic groups. Without the inclusion of race in such studies, postsecondary institutions may not implement policies and programs that serve the specific needs of these students (Soler, 2020). Higher education researchers also have noted that studying subpopulations of co-enrolled students “is key to developing a more complete understanding of this enrollment pattern” (Wang & McReady, 2013, p. 401). Therefore, the purpose of this descriptive study was to identify quantitatively the prevalence, characteristics, and patterns of co-enrollment among a nationally representative sample of Latinx community college students. The research questions guiding this study were:

1. What is the prevalence of co-enrollment among the Latinx community college student population?
2. What are the characteristics of co-enrolled Latinx students at community colleges?
3. What are the patterns of co-enrollment and outcomes achieved (persistence, retention and degree attainment) among a nationally representative sample of Latinx students attending community colleges?

The following sections provide an overview of research that has been conducted related to co-enrollment, outline the methods used in and present the findings of this study, then discuss the results and their implications for community colleges.

Review of the Literature

Despite the limited amount of research that has been conducted to understand the patterns of co-enrollment,

particularly for Latinx students, much of the work that exists has examined community college students. The current body of literature has focused on co-enrolled student characteristics and outcomes, as well as the institutional characteristics of postsecondary institutions where students co-enroll and the factors influencing student co-enrollment decisions. These themes are explored below. However, because of the dearth of research on these topics, this review of the literature discusses co-enrollment in general, not only for community college or Latinx students.

Regarding student characteristics and experiences, previous research has shown that time in college, gender, socio-economic status (SES), and enrollment intensity are related to co-enrollment. For example, de los Santos and Sutton (2012) found that, among Arizona State University undergraduates co-enrolled in Maricopa County community colleges, the highest number were freshmen. In addition, Wang and Wickersham (2014) conducted a quantitative study among a nationally representative sample of both community college and university students and found that female students were more likely to co-enroll than were males, especially among students who began their postsecondary careers at community colleges and aspired to earn a baccalaureate degree. This research also showed that beginning community college students from middle-income groups were more likely to co-enroll laterally and that Latinx students in particular were more likely to co-enroll if they began their postsecondary education at a community college. Moreover, the National Student Clearinghouse Research Center (2011) found that students who combine full- and part-time enrollment had the highest rates of co-enrollment while students who maintained full-time enrollment status had the lowest rates of co-enrollment.

Co-enrolled student outcomes examined in the literature include college grade point average (GPA), transfer, persistence and retention, degree attainment, and time to degree. For instance, Wang (2012) found that predicted GPA was higher for co-enrolled community college students who had transferred to universities. Additionally, Bahr (2012) examined nearly 90,000 students in the California community college system and found that co-enrollment was the second-strongest predictor of the risk of lateral transfer and that this risk was greater for students who co-enrolled in two or more community colleges in the previous semester. Co-enrollment has also been found to increase the likelihood of transfer specifically for Latinx community college students (Carales, 2020). In addition, research conducted by Wang and Wickersham (2014) showed that, among beginning community college students who co-enrolled and transferred to universities, the majority participated in vertical co-enrollment. Pertaining to persistence and retention, multiple researchers have found that co-enrollment improved persistence (Crisp, 2013; Herzog, 2005; Peter & Cataldi, 2005; Wang & McReady, 2013). Concerning retention, Johnson and Muse (2012) found that the odds of departure were higher for co-enrolled students at one public research university. However, among a nationally representative sample of community college students, Wang and Wickersham (2014) found that the predicted probability of departure was higher for students who did not co-enroll.

Several studies that have been conducted with nationally representative samples have shown that the odds of bachelor's degree attainment increased for co-enrolled students (Crisp, 2013; Peter & Cataldi, 2005; Wang & McReady, 2013; Wang & Wickersham, 2014), including for Latinx community college students (Carales, 2020). Furthermore, the odds of earning a credential have been found to be higher for students who co-enrolled in

comparison to students who did not co-enroll (Wang & McReady, 2013). Additionally, research results related to co-enrollment and time to degree have shown that co-enrollment did not shorten the time it took to complete a degree (Lam, 2007) or that co-enrollment resulted in a longer average time to do so (Peter & Cataldi, 2005).

Other research utilizing nationally representative samples have provided descriptions of institutional characteristics of postsecondary institutions where co-enrolled students attend. Two of these studies have found that the majority of students co-enrolled at community colleges and universities at the same time (NSCRC, 2011; Wang & McReady, 2013). Another study found that 42% of university co-enrolled students took additional coursework at another university while the majority did so at a community or technical college (National Survey of Student Engagement, 2005). Another body of research has focused on the reasons why students may co-enroll and has found that convenience of location (de los Santos & Wright, 1990), flexibility in scheduling (de los Santos & Wright, 1990; National Survey of Student Engagement, 2005), course delivery options (Wickersham, 2020), and early completion of degree requirements (National Survey of Student Engagement, 2005) were all influential factors in students' decisions to co-enroll.

Method

The purpose of this descriptive, quantitative study was to identify the prevalence of co-enrollment among the Latinx community college student population, describe the characteristics of co-enrolled Latinx community college students, and understand the patterns of co-enrollment and outcomes achieved among a nationally representative sample of Latinx community college students. Specifically, this study sought to better understand enrollment patterns by disaggregating data by students' socio-demographic characteristics, pre-college characteristics, environmental pull factors and motivations, early college experiences and supports, and outcomes.

The study drew upon the most recent data from the Beginning Postsecondary Students Longitudinal Study (BPS: 12/17), sponsored by the National Center for Education Statistics (NCES). This nationally representative data set drew from all students who began postsecondary education at a Title IV-eligible institution in the United States for the first time during the 2011-2012 academic year and included institutional administrative data as well as survey items from the 2011-2012 National Postsecondary Student Aid Study, including topics pertaining to student co-enrollment. Data were collected in three waves, during students' first, third, and sixth years after entering college, and BPS: 12/17 is the second and final follow-up study of these students (Bryan et al., 2019).

Descriptive data were analyzed using PowerStats, which is part of a set of data analysis tools provided by NCES that allows researchers to analyze data without acquiring a restricted use license or having to utilize an outside statistical analysis program (National Center for Education Statistics, n.d.). The analytic sample used in this study was limited to co-enrolled students who identified as being of Hispanic or Latino origin. Of the 22,500 total students included in BPS: 12/17, 24% identified as Latinx community college students and 30% of all Latinx community college students co-enrolled during at least one academic term between 2012 and June 2017. Note that this is higher than the 25% of the entire sample of students in the BPS dataset who co-enrolled.

Descriptive data were computed to explore the characteristics, experiences, and achievement outcomes of Latinx students and the characteristics of the community colleges they attended. Student variables included socio-demographic characteristics (i.e., gender, age, SES, primary language, generational status, parent education level), pre-college experiences (i.e., high school GPA, high school course-taking patterns), motivational factors (i.e., highest level of education expected, self-efficacy), and financial and engagement items (i.e., work commitments, financial aid, social capital, support services used, institutional engagement, sense of belonging). Variables concerning students' early college experiences and institutional supports comprised students' first-year college GPA, enrollment intensity, enrollment in developmental courses, in-state college attendance, institutional distance from a student's home, and residency. Institutional characteristics included institutional control, size, price, urbanization, and region, as well as the student population disaggregated by race. The student outcomes examined were persistence six years after college entry and bachelor's degree attainment during that same time period.

Results

Analyses revealed numerous findings about Latinx community college students who were co-enrolled and the institutions they attended. The following sections describe co-enrolled student characteristics, their early college experiences and institutional supports, the characteristics of the colleges they attended, and student achievement outcomes.

Student Characteristics

Answers to the first and second research questions demonstrated that, among the Latinx community college population, just over 30% co-enrolled during at least one academic term (RQ1). The following characteristics describe these students (RQ2). More of these students were of traditional college-going age (92%) compared to the full Latinx community college student sample (87%). More co-enrolled Latinx students were also female (62%) than were all Latinx community college students (58%).

Latinx community college students who spoke English as their primary language were more likely to be co-enrolled (49% vs. 45%) or speak bilingually (20% vs. 17%), while more students in the full sample spoke primarily Spanish (36% vs. 30%). Co-enrolled Latinx students were also slightly more likely to have been born in the U.S. (83% vs. 80%), though all students had similar percentages of parents who were born in the U.S. (\approx 46%). Moreover, marginally more co-enrolled Latinx students had at least one parent with at least a bachelor's degree (16% vs. 14%), though the majority of students from both groups came from low or low-middle income backgrounds (67%).

Prior to college, more co-enrolled Latinx students had high school GPAs of 3.0 or higher and were more likely to take rigorous courses in high school, including higher-level mathematics courses (40% vs. 37%). Although similar percentages of both co-enrolled students and all Latinx community college students reported that they expected to earn at least a bachelor's degree (\approx 40%), co-enrolled students were slightly more likely to report feeling confident in their ability to achieve academic success (i.e., self-efficacy; 89% vs. 87%). While approximately 60%

of Latinx community college students did not work, among those who did hold a job, more co-enrolled students worked part-time (27% vs. 22%) rather than full-time. Furthermore, co-enrolled Latinx students received nearly \$1,400 more in financial aid than all Latinx community college students, though the majority of both groups did not receive financial support from family or friends for education or living expenses (89%) and the majority of each group reported high levels of social capital (i.e., support of their postsecondary education from friends; ≈ 80%). Table 1 displays the characteristics of the Latinx community college students included in this study.

Table 1. Characteristics of Latinx Community College Students

Variable	Co-Enrolled Latinx Students (n = 1,658) % ^a or <i>M</i>	All Latinx/ Students (n = 5,490) % or <i>M</i>
<i>Socio-Demographic Characteristics</i>		
Gender		
Female	61.9	58.2
Age		
15-23	91.7	87.1
SES		
Low/Low middle	67.4	66.6
Primary Language		
English	48.5	44.7
Spanish	29.7	36.1
English and Spanish equally	20.3	17.2
Generational Status		
Student born in U.S.	83.3	80.1
At least one parent born in U.S. (or PR/territory)	46.5	45.7
Parent Education Level		
Bachelor's degree or higher	15.6	13.8
<i>Pre-College Experiences</i>		
High school GPA		
3.0 or higher	49.2	47.3
Rigorous Course-Taking		
AP Courses	38.7	33.5
College-level courses	26.1	22.0
College credits	53.7	46.9
Highest Level of High School Mathematics		
Algebra 2	38.9	39.1
Above Algebra 2 (trigonometry, pre-calculus, calculus or beyond)	39.8	36.8
<i>Motivation</i>		
Degree Expectations		
Highest level of education expected		
Bachelor's degree	40.5	39.7
Graduate (master's, doctorate, professional)	37.4	35.4

Self-Efficacy (confidence in academic success)		
Somewhat or Strongly Agree	88.9	87.0
Work Commitments		
No job	60.2	61.7
Part-time	26.6	21.7
Full-time	13.1	16.6
Financial Aid		
Mean Financial Aid Received	\$6,248.80	\$4,886.30
Did not receive financial support from family or friends for education or living expenses	89.0	88.5
Social Capital		
(friends from home were supportive of PSE)		
Somewhat or Strongly Agree	80.1	79.4
Support Services (used academic advising)	44.4	44.9
Engagement (satisfaction with social experience at first institution)		
Somewhat or Strongly Agree	75.5	70.6
Sense of Belonging (degree to which student felt like part of institution)		
Somewhat or Strongly Agree	68.0	67.5

^aTotal BPS Sample ($n = 22,500$); Total Latinx Community College Students = 24.4%;
Co-Enrolled Latinx Community College Students = 30.2%

Early College Experiences and Institutional Supports

In answer to the third research question, compared to all Latinx community college students, 10% more co-enrolled Latinx students were enrolled full-time (51% vs. 41%) and were more likely to have college GPAs of 3.0 or higher (55% vs. 52%), though approximately 31% of both groups of students took developmental courses in college. Almost all students in both groups attended in-state institutions (93%) and attended institutions 30 or fewer miles from home (92%) with just over half of both groups living with their parents. Table 2 provides a description of the early college experiences and institutional supports for both co-enrolled and all Latinx community college students.

Table 2. Early College Experiences and Institutional Supports

Variable	Co-Enrolled Latinx Students ($n = 1,658$)	All Latinx Students ($n = 5,490$)
	%	%
Delayed Entry to College		
6 months or more after high school graduation	20.6	14.0
First-year College GPA		
3.0 or higher	55.1	51.5
Enrollment Intensity		

Enrolled full-time	51.0	41.4
Took Developmental Courses	31.7	31.1
In-State Student	92.5	92.5
First Institution 30 or fewer miles from home	92.4	92.3
Residence		
On campus	0.6	0.6
Off campus	38.8	41.3
Living with parents	53.3	55.0

Characteristics of Institutions Attended by Co-Enrolled Latinx Students

Some of the starkest differences between Latinx co- and non-co-enrolled community college students concerned institutional control, reflective of enrollment patterns in research question three. Co-enrolled Latinx community college students were less likely to attend public institutions (72% vs. 84%) and more likely to attend private for-profit colleges (28% vs. 16%) than all Latinx community college students. Additionally, more co-enrolled students attended small institutions of fewer than 5,000 students (32% vs. 25%) and institutions that cost approximately \$2,000 more to attend. Moreover, co-enrolled students were most likely to attend institutions in large cities (39%) or in large suburbs (32%) compared to smaller cities or rural areas. More co-enrolled Latinx students were also enrolled in community colleges in the West and Southwest of the U.S. in comparison to other areas of the country. Furthermore, fewer co-enrolled Latinx community college students initially enrolled at institutions with a higher average population of White students than the full sample of Latinx community college students (an average of 31% of White students at institutions where Latinx students were co-enrolled vs. an average of 37% of White students where all Latinx students were enrolled). Co-enrolled Latinx community college students also initially enrolled at Hispanic-Serving Institutions at higher rates than all Latinx community college students (34% vs. 32%). Table 3 displays the characteristics of the first institution students attended.

Table 3. Context and Characteristics of First Institution Attended

Variable	Co-Enrolled Latinx Students (n = 1,658)	All Latinx Students (n = 5,490)
	% or M	% or M
Control		
Public	71.5	83.7
Private nonprofit	0.4	0.5
Private for-profit	28.1	15.8
Average Institutional Size (fall enrollment)	13,764	11,845
Institution with fewer than 5,000 students	32.0	24.5
5000-10,000 students	12.5	15.8
10,001-15,000 students	12.8	15.0
15,001-20,000 students	12.6	12.6
Price of Attendance for First Institution	\$13,876.40	\$11,844.50

Urbanization		
City		
Large city	39.2	32.8
Midsized city	10.7	12.2
Small city	4.6	7.4
Large Suburb	31.5	26.7
Rural	≈ 6%	≈ 9%
Region of First Institution		
Far West (AK, CA, HI, NV, OR, WA)	39.3	35.5
Southwest (AZ, NM, OK, TX)	37.3	29.9
Southeast (AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV)	5.4	9.1
Mideast (DE, DC, MD, NJ, NY, PA)	7.7	10.5
Great Lakes (IL, IN, MI, OH, WI)	6.8	7.0
Exposure to Diversity (mean % of student population at first institution)		
White students	30.6	36.9
Black students	10.6	11.7
Latinx students	34.3	31.8

Student Outcomes

Co-enrolled Latinx community college students achieved higher rates of academic attainment in all areas than did all Latinx community college students. For example, more co-enrolled students attained a bachelor's degree (12% vs. 7%), associate's degree (19% vs. 17%), or certificate (25% vs. 16%) within six years of enrolling in college, including associate's degrees and certificates at the first institutions they attended. In addition to academic attainment, co-enrolled Latinx community college students had higher college persistence rates anywhere (23% vs. 17%) and transfer rates from their first institutions (38% vs. 24%) than the full Latinx community college sample, while greater rates of all Latinx community college students left college with no degree than did co-enrolled Latinx community college students (43% vs. 21%). Table 4 depicts success outcomes for both co-enrolled Latinx community college students and the total Latinx community college sample.

Table 4. Student Outcomes

	Co-Enrolled Latinx Students (n = 1,658)	All Latinx Students (n = 5,490)
Variable	%	%
<i>Persistence and Retention</i>		
Persistence at First Institution through 2016-17		
No degree, still enrolled	10.8	8.9
No degree, transferred	38.1	24.0

No degree, left without return	14.7	35.9
<i>Persistence Anywhere through 2016-17</i>		
No degree, still enrolled	22.7	16.5
No degree, left without return	20.8	43.2
<i>Degree Attainment</i>		
<i>Degree Attainment at First Institution through 2016-17</i>		
Attained certificate	14.6	10.5
Attained associate's degree	19.5	18.2
<i>Degree Attainment Anywhere through 2016-17</i>		
Attained certificate	25.3	16.4
Attained associate's degree	19.2	16.6
Attained bachelor's degree	12.0	7.3

Conclusion

Results of this study provide a previously unexamined description of the characteristics, experiences, and academic outcomes of co-enrolled Latinx community college students, as well as the features of the higher education institutions they attend. The following discussion highlights a few of the most notable findings and concludes with recommendations for practice. Results of the present study support prior research showing a positive relationship between co-enrollment and persistence and attainment while extending prior research to the Latinx community college student population. Findings revealed that co-enrolled Latinx community college students were more likely to persist with no degree (23% vs. 17%) and were much less likely to drop out of college (21% vs. 43%) than all Latinx community college students. Co-enrolled Latinx students who began at community colleges also attained a certificate (25% vs. 16%), associate's degree (19% vs. 17%), or bachelor's degree (12% vs. 7%) at higher rates than the total sample of Latinx community college students. These findings align with other work showing increased odds of persistence and attainment for co-enrolled university and community college students (Crisp, 2013; Herzog, 2005; Peter & Cataldi, 2005; Wang & McReady, 2013; Wang & Wickersham, 2014). However, only Carales's (2020) study was focused on Latinx community college students and co-enrollment was merely one variable utilized in that study.

Congruent with prior research findings, co-enrolled Latinx community college students were more likely to be enrolled full-time than all Latinx community college students (51% vs. 41%). By contrast, the National Student Clearinghouse Research Center (2011) found that the lowest rates of co-enrollment were among students who maintained full-time enrollment status, though that study included both university and community college students and was not disaggregated by race. In addition, co-enrolled Latinx community college students were more likely to work part-time (27% vs. 22%) and less likely to work full-time (13% vs. 17%) than all Latinx community college students. Co-enrollment may allow students to maintain full-time enrollment due to reasons previously

described in the literature such as providing increased course-taking options, including classes offered in the evenings, online, or at a school in a location more convenient to a student (de los Santos & Wright, 1990; Wickersham, 2020).

Co-enrolled Latinx community college students attended public institutions at lower rates (72% vs. 84%) and private for-profit institutions at greater rates (28% vs. 16%) than the total sample of Latinx community college students. While the data in the current study cannot explain why this is so, prior research has identified greater levels of support from for-profit institutions in terms of admissions, enrollment, and financial aid assistance as factors that influence students' decisions to enroll there (e.g., Cox, 2016; Ornelas, 2018; Vasquez, 2018). In contrast to identified barriers that exist for Latinx students at community colleges, including limited staff support, course scheduling challenges, and class seat capacity, for-profit institutions have been described as offering "intrusive and quick proactive support" (Vasquez & Zerquera, 2019, p. 52), though those practices often have been identified as unscrupulous, fraudulent, and exploitative of underprivileged students (e.g., Beaver, 2017). Because approximately 84% of the co-enrolled students in this study did not have parents with bachelor's degrees, it is possible that such intrusive assistance from for-profit institutions provided them with information and resources they may not have obtained otherwise due to the lack of social capital their families may have had in negotiating the higher education labyrinth.

Furthermore, previous research has shown that Latinx students disproportionately consider college cost in their enrollment decisions, including considerations of financial barriers to college enrollment and the availability of financial aid (Acevedo, 2020; Cox, 2016; Elliott et al., 2018; Martinez, 2018; Sáenz, 2020). Given prior research findings that Latinx students were provided with more assistance by for-profit colleges than by public institutions in surmounting impediments to college access such as obtaining financial aid and registering for classes (e.g., Cox, 2016), it is unsurprising that students may choose to attend for-profits, even though the costs are much higher (Appel & Taylor, 2015). Data from the present study also showed that co-enrolled students paid more in tuition costs and received more in financial aid. It is important to note, however, that the ease of accessing a for-profit education is often negated by the negative outcomes of attending such institutions, including high debt and unemployment rates, as well as lower earnings, in comparison to students who attended public and non-profit institutions (e.g., Cellini & Chaudhary, 2014; Deming et al., 2012; Vasquez & Zerquera, 2019). Given the improved success outcomes for co-enrolled Latinx community college students, it is important for community college leaders to better understand and accommodate them. The following section discusses specific recommendations in this regard.

Recommendations

Results of this study proffer multiple implications for community college leaders who strive to identify and benefit their students who co-enroll. The present study utilized national data to describe the characteristics and patterns of co-enrollment among Latinx community college students. However, community college practitioners should analyze data from their individual institutions in order to distinguish patterns in the characteristics and experiences of their own co-enrolled students. For example, community colleges could use institutional data to track at which

other schools and in which courses students have co-enrolled, during which and how many semesters they have co-enrolled, how many co-enrollment credits they are transferring back to their first institutions, and whether or not students who co-enroll are more successful and in which ways (e.g., Are they completing their programs more quickly than students who are not co-enrolled?). These findings then could be used to make improvements to their own systems, such as by adding more of the most popular classes in which students are co-enrolled to their course schedules. In addition, community colleges should collect qualitative data from students to determine why they co-enroll. If students' reasons for doing so are because their first institutions do not make classes available to students at the times and in the modalities students prefer (e.g., in the evenings, online), or because students find the staff and faculty more available and/or personable elsewhere, community colleges should adjust accordingly. Soler's (2020) recent call in the literature for distinguishing between the many types of multi-institution attendance or swirl, identifying students who swirl and why they do so, and examining relationships between swirl and race further demonstrates the need for investigation of the factors outlined above by individual higher education institutions.

Next, findings of this study revealed that co-enrolled Latinx community college students enrolled in private for-profit institutions at nearly double the rates of all Latinx community college students. Previous research has shown that for-profit institutions make enrolling in their schools and receiving financial aid much simpler for students, including Latinx students. Because students most often will attend college where they believe they can be admitted, can afford, and can be successful, making admissions, financial aid, and enrollment processes complex and cumbersome for them highlights the "racial privilege and oppression that largely shapes students' perceived and actual opportunities" (Rose et al., 2019, p. 66). It is imperative, then, that public and private non-profit institutions work to compete with for-profit institutions for beginning students. Because for-profit institutions have been found to cost more to attend and to have lower employment and earnings rates for graduates than do other institutions, community colleges should educate prospective students about costs and career outcomes for students who complete their programs. In addition, they should work to make their admissions, financial aid, and enrollment processes much easier for students.

For example, community colleges could create and provide maps for admissions, financial aid, and registration procedures that include clear, step-by-step instructions, checklists, and links to accompanying applications and resources. Community colleges could also open admissions centers where students can receive hands-on help with and in-person explanations of these processes. Materials should be made available in both English and Spanish for Latinx families, whose support is critical to the success of Latinx students' educational outcomes. Furthermore, specific information and resources should be made available to undocumented/DACAmented students (Del Real Viramontes, 2020). Upon admission, intrusive advising should be required for students with informed staff trained to provide resources specific to first-generation college-goers, as were the majority of the participants in the present study.

When institutions routinely experience problems with seat capacity limits in high-demand courses, advisors should also be knowledgeable about which other institutions offer these classes and advise students about how to co-enroll in them in order not to extend students' time-to-completion. Advising should also include providing

students with information about how to transfer the credits earned from courses taken elsewhere back to the first institution so as to avoid stranded credits that result in credit loss to students. Relatedly, community colleges would be well served by developing formal intercollegiate partnerships and credit transfer pathways and agreements to account for the growing prevalence of multi-institution attendance among postsecondary students. For instance, the Pathway to Purdue program between the Purdue University College of Agriculture and Ivy Tech Community College-Lafayette allows community college students to co-enroll at the university with the aim of earning a bachelor's degree in agriculture (Purdue University, n.d.). Models such as this one can be used as resources for community college administrators wishing to increase success outcomes among Latinx students.

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