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Non-U.S. Citizen, Community College Students: Their Federal Student Aid Status, Gender, Achievement, and Persistence at an Emerging HSI

By Jafeth E. Sanchez and Jeannette Smith

This study presents a quantitative, exploratory analysis of 535 students attending Truckee Meadows Community College in Northern Nevada who were eligible or ineligible for federal student aid and were non-U.S. citizens. Within a snapshot of the Fall 2015 through Fall 2016 semesters, we examined the variables of gender, grade point average (GPA), credits earned, type of financial aid, amount of financial aid, persistence, and graduation status of these two groups via a collaboration between two institutions. Results revealed no statistically significant differences by gender. Non-U.S. citizens attained similar GPAs regardless of eligibility for aid, but there were differences in credit enrollment, attainment, and persistence between those eligible and ineligible for aid. Those with eligible federal student aid status were 6.4 times more likely to persist than those ineligible for this aid; students with increases in GPA were almost three times more likely to persist; and students with higher levels of increases in total financial aid were twice as likely to persist. We provide conclusions and implications based on these findings.

Keywords: *community college, immigrant, international students, undocumented, DACA, DACAmented, financial aid, persistence*

Universities and community colleges have functioned in tandem since the early twentieth century to “develop a pathway to help students earn bachelor’s degrees” (Handel, 2013, p. 7). Encouragement for universities to focus on research and scholarly pursuits paved the way for community and junior colleges to serve as feeder schools, where students could earn a general or vocational education (Cohen, Brawer, & Kisker, 2014). Today’s community colleges, however, fulfill a wide range of educational purposes, such as continuing education, associate degrees, bachelor’s degrees, occupational education, developmental and remedial education, and high school and dual-enrollment credit attainment (Cohen et al., 2014). Certainly, the function of academic transfer remains, but the mission and functions of community colleges have expanded, as have the type of student populations served.

With student populations expanding, it is important to learn more about who the students are in order to better serve and meet their needs in higher education institutions. Over 800,000 international students were enrolled in U.S. universities and colleges during the 2013-14 academic year (Zhang, 2016a); this number increased to 1.2 million by the 2015-16 academic year (Alpert, 2017). Although not new to universities, community colleges began seeing international student interest in the 1970s, and that interest has steadily increased each year (Zhang, 2016a).

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However, those who identify as international students are not the only group of non-U.S. citizens who attend college. In 2015, 11.1 million unauthorized immigrants lived in the United States (Pew Research Center, 2017). The state of Nevada, in particular, had one of the highest undocumented populations, with 529,164 immigrants who contributed approximately \$94 million in sales and property taxes as of 2015 (Messerly, 2016). Also, students within the Deferred Action for Childhood Arrivals (DACA) program are provided “temporary relief from deportation and a two-year work permit to qualifying young adults ages 15 to 30 who were brought to the U.S. illegally as children” (Lopez & Krogstad, 2014, p. 1); DACA requires enrollment in a higher education institution or military service. Individuals within this program are often referred to as *DACAmented* students. Out of an estimated 1.2 million youth who are eligible to apply for DACA, more than 728,000 are now *DACAmented* students nationwide, with close to 12,000 *DACAmented* youth in Nevada (Wong et al., 2016).

In Northern Nevada, the University of Nevada Reno (UNR), and the Truckee Meadows Community College (TMCC) are situated within four miles of one another; their close proximity fosters opportunities for collaboration among efforts to improve student access, retention, and successful degree completion. In light of changing demographic populations, both are emerging Hispanic Serving Institutions (HSIs). To qualify as HSI, an institution must have an undergraduate population that is at least 25% Hispanic and a student population that meets certain low-income family background requirements (Alliance of Hispanic Serving Institution Educators, 2017). Once eligible, institutional leaders can apply for Title V funding, established in the Higher Education Act of 1965 to support students from recruitment to completion. This funding can provide institutional aid in the form of grant funds to improve facilities, provide faculty development, improve curriculum development, and augment student services (Hegji, 2014). Consequently, the emerging HSI designation has compounded a need to explore and expand funding availability for all students. However, research on financial aid practices and outcomes for HSIs remains limited (Venegas, 2015). Thus, faculty collaboration between university and community colleges can strengthen an understanding of their students within the higher education pipeline; this collaboration is not only timely but also highly critical.

While collaborative efforts to support students often include areas related to curriculum alignment, articulation agreements, and transfer admission requirements, there is limited research on institutional collaborative efforts to explore the non-U.S. citizen student population and their outcomes in postsecondary education. More specifically, there is limited research that focuses on postsecondary access or persistence outcomes of students who are eligible or ineligible for federal student aid and are also non-U.S. citizens.

The intersectionality of non-U.S. citizens and financial aid is unique; yet, Zhang (2016b) found that research on students who are non-U.S. citizens is not often disaggregated. Zhang (2016b) also suggested that research addressing this gap could “enhance the understanding” of this student population and support and “inform campus-wide strategies that engage key departments and personnel” (p. 35). The current study aimed to do just that—i.e., to analyze specific financial aid data of students who are non-U.S. citizens enrolled at a community college, enhance an understanding of the student population, and inform strategies in practice. Thus, as the non-U.S. citizen population of students continues to access postsecondary institutions, it is imperative to examine financial aid eligibility and how such aid (according to citizen status) may impact short- and long-term outcomes. This line of inquiry has the potential to inform financial aid policies and practices at the institutional, state, and federal levels.

Literature Review

According to the American Association of Community Colleges (2017), community colleges have a mission to “serve all segments of society through an open-access admissions policy that offers equal and fair

treatment to all students” (“Community College Mission,” para. 1). Levin (2001) indicated that international students and non-U.S. citizens are included in the definition of *community*, particularly as students become better prepared to participate in the global workforce and economy. Cohen et al. (2014) affirmed that 14% of the international students at institutions of higher education in the United States enrolled at a community college; additionally, undocumented students are more likely to begin their college careers at a community college than a university (Pérez, 2010).

Some international students and undocumented students begin at a community college, and fewer begin at a university but then make their way back to a community college; in either circumstance, students use transfer options to achieve their education goals (Townsend, 2001). Thus, while these students may attend and transfer for varying reasons, their goals are similar—both groups are often identified as immigrant students. Yet, there is still limited data on immigrant students (Teranishi, Suarez-Orozco, & Suarez-Orozco, 2011).

Teranishi et al. (2011) defined immigrant students as “foreign-born, attending college as an immigrant, and intending to remain [in the United States],” while international students were defined as “foreign-born, attending college with a student visa, and intending to return to their country of origin” (p. 155). Regardless of definition, immigrant students often have greater financial need than those who are not immigrants, and financial aid is critical for enrollment and persistence (Teranishi et al., 2011). Therefore, immigrant students may opt to attend a community college first in order to lessen the costs of tuition, books, and other expenses when compared to the costs at a university. Moreover, immigrant students who are non-U.S. citizens face additional challenges when seeking ways to afford college (Gardezi, 2012; Voss & Silva, 2013). For example, undocumented students who are ineligible to work are also not eligible for most funding options; even DACAmented students have limited opportunities for state aid and work options (Gonzalez, Terriquez, & Ruszczyk, 2014). For many, those private scholarships from non-profit organizations and individual donors that do not require proof of citizenship or residency are among the few resources college counselors can suggest to help students attain financial aid (Gin, 2010). It should not be surprising, then, that fewer than 10% of high school graduates who are undocumented attend any college at all (Ibarra & Sherman, 2012), and few studies have focused on their transition from high school to college (Abrego & Gonzales, 2010). Altogether, limited opportunities for students can lead to intermittent attendance patterns (Cohen et al., 2014). A greater understanding of students who are non-U.S. citizens but *do* attend can be used to enhance existing or new support structures within the educational pipeline from community college to university. For such students, there needs to be a targeted focus on what happens after enrollment and the factors that contribute to successful outcomes (Keels, 2013).

Gender is commonly explored in the literature related to postsecondary outcomes. Recently, more females than males access postsecondary education (Keels, 2013), while past decades saw more balance between males and females (Goldin, Katz, & Kuziemko, 2006). In addition, more women than ever are relying on community colleges to pursue education and become workforce ready (American Association of University Women, [AAUW], 2013). As more women enter community college, though, they still need access to resources that can range from increased financial aid support and active outreach for recruitment in Science, Technology, and Math (STEM) fields to child care opportunities and improved academic and advising (AAUW, 2013).

With these gender-specific needs in mind, the call to investigate intragroup differences by citizen status and gender is further exacerbated (Yosso & Solórzano, 2006). While it is acknowledged that more resources are needed to address the increases in female access to postsecondary education, the challenge remains in identifying how these needs and other student factors intersect, such as having a low-income background, identifying with a particular ethnic group, or pertaining to a certain non-U.S. citizen status (i.e., international student, undocumented student, etc.). To illustrate, Sanchez, Usinger, and Thornton (2015) found that

females were more likely to enroll in postsecondary institutions, but this enrollment process was altered when focusing on students from low-income backgrounds, their ethnicity, and their perceptions of affordability. Notably, Latino/a students “who believed that they could definitely not afford college were less likely to pursue postsecondary enrollment” (Sanchez et al., 2015, p. 195). The authors asserted that students with these unique factors may have overestimated costs, despite having financial support, thus affirming that other factors continued to impact students.

In a similar study, Sanchez, Lowman, and Hill (2016) found that students from predominately low-income, first-generation, and those from underrepresented racial/ethnic backgrounds who enrolled in postsecondary education were more likely to be females. These females were also more likely to have a more rigorous academic background from high school that could positively contribute to persistence and completion (Sanchez et al., 2016). Indeed, both academic and non-academic factors remain important considerations of access, persistence, and completion in higher education. Unfortunately, neither of the aforementioned studies explicitly focused on non-U.S. citizen students’ outcomes, nor were they focused on the community college experience. The work by Covarrubias and Lara (2014), however, did specifically highlight non-U.S. citizen status across various levels of educational attainment. They found that status played a key role in educational attainment, with U.S. citizenship demonstrating a clear advantage over those who did not have it. Further, their findings affirmed that a citizenship continuum (from undocumented status through U.S.-born status) impacts performance outcomes. A stronger understanding within that particular continuum, focusing on non-U.S. citizens who may or may not be eligible for financial aid, is warranted.

Purpose and Research Questions

The purpose of this study was two-fold: (a) to enact institutional collaboration between a research university and a community college, even if as an indirect part of the study, and (b) to explore community college student outcomes of those who were eligible or ineligible for federal student aid and were non-U.S. citizens to contribute to a growing body of knowledge on emerging-HSI institutions. In doing so, findings may also generate an understanding of the student population and inform strategies in practice. Thus, the following research questions guided this study:

1. Are there differences by gender when exploring outcomes of community college students who were eligible or ineligible for federal student aid and were non-U.S. citizens?
2. Are there differences by grade point average, credits earned, credit status, amount of financial aid, persistence, and graduation when comparing students who were eligible or ineligible for student aid and were non-U.S. citizens?
3. Do the variables of eligibility status for federal student aid, gender, grade point average, type of financial aid, and amount of financial aid predict persistence?

Methodology

Under the auspices of the UNR’s Institutional Review Board (IRB), we conducted a quantitative, exploratory analysis of 535 community college students who were eligible or ineligible for federal student aid (FSA) and were non-U.S. citizens. The Free Application for Federal Student Aid (FAFSA) asks applicants to confirm their citizenship status. Any student who is not a U.S. citizen is identified as either an *eligible non-U.S. citizens* or *non-eligible non-U.S. citizen* (U.S. Department of Education, n.d.). The eligible non-U.S. citizens are students with a green card (permanent residency) or who fall within very specific residency categories (see U.S. Department of Education, n.d.), making them eligible for certain types of financial aid, such as

Federal Work-Study, Federal Pell Grant, or federal student loans. Non-eligible non-U.S. citizens, however, are ineligible for such funding, and may only be eligible for certain state or institution-specific funding—in the form of scholarships, grants, or state work-study—or, in some cases, no assistance at all. DACAmented students fall into this FSA-ineligible category, as do many other immigrant and international students. For coding simplicity, we coded/grouped students in this study as 0 = ineligible for FSA and 1 = eligible for FSA.

Two researchers (one each from TMCC and UNR) collaborated to collect and analyze data that met the inclusion criteria of FSA status. We requested and received data from administrators at the TMCC financial aid office. We generated the dataset through a query in PeopleSoft, a software used for student data management. The query resulted in students who had completed a FAFSA or attempted to complete a FAFSA and had identified as a non-U.S. citizen. The director of the TMCC financial aid office reviewed and de-identified the dataset. Due to the sensitive nature of the information for this vulnerable student population, we encrypted and protected certain data, including ethnicity and specific identifiers used to determine which students met the criteria of non-eligible, non-U.S. citizen students and eligible non-U.S. citizen students (S. Wurm, personal communication, May 3, 2017). Data collection captured the beginning of Fall 2015 through the subsequent two semesters, Spring 2016 and Fall 2016. We used Fall 2015 specifically as the starting semester to initiate this snapshot of data because TMCC initiated its new DACA Grant during this time, allowing us to potentially include more non-U.S. citizen student data.

We used descriptive statistics to explore and gain an overall understanding of the dataset and the students as a whole. For research questions 1 and 2, we conducted independent samples *t*-tests, chi-square goodness-of-fit tests, or Mann-Whitney *U* tests, where appropriate, to determine whether differences between grouping variables existed among the reported student outcomes. For research question 3, we conducted a binary logistic regression analysis with 1 = *Persisted* and 2 = *Did Not Persist*. For the purpose of this study, persistence was defined as continuing from semester to semester over the course of three semesters (Fall 2015, Spring 2016, Fall 2016).

The following variables were obtained in an Excel dataset of the 535 cases (students): gender, cumulative GPA for Fall 2015 and Spring 2016, total credits accumulated, credit enrollment status from the Fall 2015-to-Fall 2016 semesters, whether students were still enrolled in Fall 2016, the type/name of students' academic plan/major, community college graduation, and 59 funding options that exist at TMCC. From among these 59 funding options, we excluded student loans from the analysis to capture student financial aid that would not incur student loan debt. Moreover, variations in citizenship requirements and qualifications for loan eligibility could have jeopardized the validity of the data. The debt-free funding options included multiple scholarships from various funding sources. As such, we calculated a total sum of these options, with loans excluded, to better represent the debt-free total financial aid that non-U.S. citizen students accessed during this snapshot of data. We coded and analyzed all data using Statistical Package for the Social Sciences (SPSS) software.

Of note, for some students, GPA data was only available for one semester; in such cases, we used the highest available GPA as the proxy for student achievement. Also, the graduation variable represented only graduation at the community college level, so a student within a one-year program could have appeared as having graduated during the course of this study. Furthermore, in the case of students who graduated, the original dataset listed total credits attained as a zero; consequently, we excluded these cases from the analysis when exploring descriptive statistics related to credit attainment as they had earned above zero credits but the actual number was not provided in the dataset. There was no attempt to top-code graduates because the number of credits required for each students' program area would have been needed, along with data related to whether students may have changed their program after enrollment, additional credits attained (such as dual enrollment credits or prior history), and overall varying credit requirements across programs.

Limitations

The original purpose of the study was to explore differences between DACAmented students who received a DACA-specific grant from TMCC against those who did not receive the grant, but the sample size was too small to conduct valid and reliable statistical analyses. Also, with the 535 students, no attempts were made to disaggregate by ethnicity or by a specific reason for the eligible or ineligible FSA status; disaggregation of the data by these variables could reveal unique characteristics and different results. We collected data for students who were enrolled from the Fall 2015 through Fall 2016 semesters, which is only a snapshot of student outcomes. In this snapshot of data, TMCC did not provide the enrollment start date in order to protect the identity of the students; it was believed that the smaller sample size, in combination with other variables, could potentially identify non-U.S. citizen students who were undocumented. Had this start date been provided, more information related to credit attainment and program completion could have been revealed. Additionally, persistence outcomes could be more strongly revealed in combination with other longitudinal data, such as university transfer and completion rates.

Results

Descriptive Statistics

Of the 535 students, 242 (45%) students were male and 293 (55%) were female. A total of 319 (60%) students were ineligible for FSA, and 216 (40%) students were eligible for FSA. Of all students in the study, 107 (20%) students did not persist, while 428 (80%) persisted. This number was higher than the overall 67% persistence rate for all students at TMCC (Institutional Research, Analysis, and Effectiveness Office, 2016). Furthermore, 28 (5%) students graduated from the community college. In reviewing students' academic plans (majors) within the community college, we found a total of 65 academic programs. The declared majors included an associate of science degree (AS; $n = 79$) or an associate of arts degree (AA; $n = 54$). Students declaring these majors are typically those who plan to transfer upon degree attainment and do not have a more specified "label" with their declaration of major (Zhang, 2016a). The remaining top majors were business ($n = 52$), community health science ($n = 47$), computer science ($n = 31$), and undeclared ($n = 26$); all remaining majors ranged from 1 to 23 students in each academic option.

The mean amount of financial aid available to all 535 students in the study was \$1,925, excluding loans. When loans were included, the value changed to a mean of \$2,276. In disaggregating the dataset of all students by FSA eligibility (and without the inclusion of loans from here forward), all 216 students *eligible* for FSA received Pell Grant funding ($M = \$4,246$). This was a unique and surprising descriptor because we did not use a specific range in expected family contribution; the query for data collection was purely based on students' non-U.S. citizen identifier. However, of the students *ineligible* for FSA, only 50 received some other form of grant or scholarship funding ($M = \$2,144$), while the remaining 269 students did not receive any form of funding. Finally, in exploring students' academic achievement, we found a mean GPA of 2.27, ($SD = 1.53$), but the data were negatively skewed with 0.0 GPAs (of those who enrolled but did not complete coursework), so a more accurate descriptive statistic of overall academic achievement is the median value of 2.95.

While there were too few DACA grant recipients in this study to conduct valid and reliable analyses, the exploratory nature allowed for some basic descriptive statistics of these students to gain a stronger understanding of this group. Of these six students, four were male and two were female. All six were ineligible for FSA funding, but each did receive other grant funding by the institution through the DACA Grant. Their mean average total financial aid was \$3,466 ($SD = \$2,100$). For student achievement, the mean

GPA was 3.32. No students in this group had graduated during the time of this study, but each of the six students persisted from Fall 2015 to Fall 2016.

While this DACA data was limited for this study, the TMCC DACA grant was established in 2015 as a \$1,000 scholarship available to DACAmented students enrolled in a minimum of six credits. To fund it, an algorithm was created to identify a percentage of student fees paid only by students who were non-U.S. citizens. No other funding supported the scholarships, and it was available to 40 students annually. In its first year, while many applied, six students were fully funded. The application process consisted of a complete Free Application for Federal Student Aid (FAFSA), a one-page scholarship application, a personal statement (not to exceed 750 words), and proof of a work permit and social security card obtained after successful completion of the I-797 form required by the federal government for the DACA application. The application had a rolling deadline and was provided in Spanish to decrease barriers and increase access. This scholarship was the result of a collaboration between multiple people across the community college campus. To increase participation, the college began moving toward a process known as Institutional Methodology, which omitted the need to *prove* citizenship status and made FAFSA application completion optional. Participation increased beyond capacity after the completion of this study, meaning more students applied for the scholarship than the number of awards available.

Research Question 1

The first research question guided our exploratory analysis to identify possible differences between male and female students in this study. First, we conducted a *t*-test to determine whether differences in achievement existed by gender. Data were negatively skewed and elimination of the 0.0 GPAs allowed the data to approximate normality for analysis. The elimination of the 0.0 GPAs was deemed appropriate, as they represented students who initiated enrollment at the community college but did not complete coursework, thus not earning a GPA, as opposed to completing and failing all coursework and earning a 0.0 GPA. As such, the GPA results by gender were not statistically significant between males ($M = 3.10$) and females ($M = 3.13$), $t = .36$, $df = 385$, $p = .721$. Thus, there were no differences in academic achievement by gender. A *t*-test was also conducted to determine differences in financial aid, and results were not statistically significant between males ($M = \$1,826$) and females ($M = \$1,988$), $t = -.635$, $df = 533$, $p = .526$. Both results are provided in Table 1.

In addition to the *t*-tests, we used nominal data to conduct Pearson chi-square analyses to identify differences in frequencies between gender by their eligibility status for FSA, financial aid type, and persistence (see Table 2). In all instances, there were no statistically significant differences in the observed frequencies between non-U.S. citizen, male and female students.

Table 1

Independent Samples t-tests for GPA and Total Financial Aid Between Gender

Variables		Independent samples <i>t</i> -tests				
		<i>M</i>	<i>n</i>	<i>t</i>	<i>df</i>	<i>p</i>
GPA	Male	3.10	183	.36	385	.721
	Female	3.13	204			
Total financial aid	Male	\$1,826	242	-.635	533	.526
	Female	\$1,988	293			

Note. Tests were not significant.

Table 2

Pearson Chi-Square for FSA, Financial Aid Type, and Persistence Between Gender

Variables		Pearson chi-square tests					
		<i>Observed</i>	<i>Expected</i>	<i>Residual</i>	λ^2	<i>df</i>	<i>p</i>
Male	Eligible, FSA	101	98	3.3	.34	1	.560
	Ineligible, FSA	141	144	-3.3	-	-	-
	Pell	101	98	3.3	1.15	2	.564
	Other funding	25	23	2.4	-	-	-
	No funding	116	122	-5.7	-	-	-
	Persisted	199	194	5.4	1.38	1	.241
	Did not persist	43	48	-5.4	-	-	-
Female	Eligible, FSA	115	118	-3.3	-	-	-
	Ineligible, FSA	178	175	3.3	-	-	-
	Pell	115	118	-3.3	-	-	-
	Other funding	25	27	-2.4	-	-	-
	No funding	153	147	5.7	-	-	-
	Persisted	229	234	-5.4	-	-	-
	Did not persist	64	59	5.4	-	-	-

Note. Tests were not significant. The hyphen (-) indicates repetition of analyses values; the male variable contains outcomes of analyses.

Research Question 2

The second research question guided our exploratory analysis by focusing on the two FSA groups (i.e., eligible or ineligible for FSA) and various outcome variables (see Table 3). The first analysis was a *t*-test to examine possible differences in GPA between the two groups; results were not statistically significant between those eligible for FSA ($M = 3.15$) and those ineligible for FSA ($M = 3.07$), $t = -1.12$, $df = 385$, $p = .265$. In exploring differences in credits earned between the two groups, results were statistically significant between those eligible for FSA ($M = 48$) and those ineligible for FSA ($M = 37$), $t = -3.33$, $df = 401$, $p < .001$. Of note, only complete cases for this variable were included in the analysis. To determine differences in the amount of financial aid between the FSA groups, we conducted a Mann-Whitney *U* test, as assumptions for a *t*-test were not met. Results were statistically significant between those eligible for FSA ($M_{rank} = \$415$) and those ineligible for FSA ($M_{rank} = \$196$), $p < .001$.

Table 3

Independent Samples t-tests for GPA, Credits Earned, and Total Financial Aid Between FSA Groups

Variables	Independent samples <i>t</i> -tests					
	<i>M</i>	<i>n</i>	<i>t</i>	<i>df</i>	<i>P</i>	
GPA	Eligible for FSA	3.15	208	-1.12	385	.265
	Ineligible for FSA	3.07	179	-	-	-
Credits earned	Eligible for FSA	48	181	-3.33	401	.0009***
	Ineligible for FSA	37	222	-	-	-
Total financial aid	Eligible for FSA	415	216	-	-	.000***
	Ineligible for FSA	196	319	-	-	-

Note. The *t*-test for total financial aid did not meet assumptions and represents mean ranks for a Mann-Whitney *U*-test. The hyphen (-) indicates repetition of analyses values; the eligible variable contains outcomes of analyses.
 * $p < .05$, ** $p < .01$, *** $p < .001$.

The remaining data exploration guided by this research question included the use of nominal data, so we conducted chi-square analyses to identify differences between FSA groups by their credit status, persistence, and graduation. The chi-square analyses of the two FSA groups by credit status (i.e., full time, three-quarter time, half time, less than half time) for the Fall 2015 ($\chi^2(5) = 73.08, p < .001$) and Spring 2016 ($\chi^2(5) = 108.76, p < .001$) semesters were significant. Specifically, in the Fall 2015 semester, fewer students who were ineligible for FSA were enrolled at three-quarter time and full time than their counterparts. Similarly, in the Spring 2016 semester, fewer students who were ineligible for FSA were enrolled at half time, three-quarter time, and full time as compared to eligible for FSA students. When exploring their FSA status against persistence, those who were ineligible for FSA did not persist at similar frequencies ($\chi^2(1) = 60.13, p < .001$) when compared to their counterparts.

In addition, all students who graduated included only students who were eligible for FSA, so a statistical analysis to compare students by FSA status for graduation was not feasible. Instead, a chi-square analysis was conducted to identify possible differences in frequencies by persistence and funding type. Results were significant ($\chi^2(2) = 91.37, p < .001$); there were more students from the No Funding group who did not persist; the analysis revealed that, for those who received funding (i.e., Pell and other funding, no Pell), more students persisted.

Research Question 3

We used the third research question in this study to identify whether FSA status, gender, grade point average, type of financial aid, and amount of financial aid could predict student persistence. A binary logistic regression analysis was conducted using the “enter” method, with the aforementioned variables as covariates and persistence as the dependent variable. The model was significant ($\chi^2(5) = 216.34, p < .001$, Nagelkerke $R^2 = .53$); 53% of the variance was explained by the model (see Table 4) with 88.5% of the cases correctly classified.

Specifically, FSA status, total financial aid, and GPA served as predictors of persistence (see Table 5). Those with eligible federal student aid status were 6.4 times more likely to persist than those ineligible for this aid; students with increases in GPA indicated were almost three times more likely to persist; and students with higher levels or increases in total financial aid were twice as likely to persist.

Table 4

Model Summary

	-2 Log Likelihood	Cox & Snell R^2	Nagelkerke R^2
Step 1	317.75	.334	.527

Table 5

Summary of Binary Logistic Regression for Variables Predicting Persistence

Variables	Output					
	<i>B</i>	<i>S.E.</i>	<i>Wald</i>	<i>df</i>	<i>p</i>	<i>Exp(B)</i>
Gender (1)	.062	.288	0.046	1	.831	1.06
FSA status (1)	1.86	.591	9.894	1	.002**	6.41
Financial aid type	-	-	3.035	1	.081	-
Financial aid type (1)	1.90	1.091	3.035	1	.081	6.69
Total financial aid	0	0	4.114	1	.043*	1.00
GPA	1.05	.205	66.381	1	.000***	2.86
Constant	-.543	.129	7.017	1	.008	.581

Note. Gender: 0 = female, 1 = male; FSA status: 0 = ineligible, 1 = eligible; financial aid type: 1 = Pell; 2 = other funding, no Pell; 3 = no funding.

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

Discussion and Conclusion

While the literature includes many studies examining various aspects of students and financial aid, there is still much to be explored and considered as the student population and demands of community colleges and universities continue to change. This quantitative, exploratory analysis aims to enhance the dialogue with regard to better understanding student needs in higher education, particularly for non-U.S. citizens who often have difficulty funding their educational aspirations. Thus, it is important to continue to explore student data related to financial need and outcomes.

Our exploration of potential differences in achievement and outcomes between males and females revealed that they were performing similarly and receiving similar levels of funding. This points to some promising areas of gender equity in a binary construct, especially as recent literature has highlighted shifts in gender demographics with more females enrolling and performing at higher levels than males (Guramatunhu-Mudiwa, 2015; Yakaboski, 2011). Also, while this study only used students' major/program for descriptive purposes, it could be useful to assess whether there are differences in program enrollment by gender. This could further augment findings to determine if more males are selecting STEM majors than are females, as has previously been noted (Wladis, Hachey, & Conway, 2015).

Attaining gender-equitable outcomes in STEM has become increasingly important in Nevada. To illustrate, a Brookings Mountain West report (Lee, Muro, Rothwell, Andes, & Kulkarni, 2014) summarized the need for an educated workforce (and the state's current shortage). Specifically, growth patterns in fields related to STEM for blue-collar and professional employees indicated a shortage of Nevadans with proper content training. Moreover, almost half of the available jobs in these sectors require a certificate or associate degree from a community college. Such certificates or degrees would make Nevadans employable and able to fill this existing gap in the job market (Lee et al., 2014). Results of the snapshot data of the 535 students revealed that our non-U.S. citizen students are selecting major and programs that reflect our high-need positions within the state. Moreover, students had declared AA or AS degrees, which also reflects students who might plan to transfer from TMCC to UNR.

Although gender differences were not present in this study, the exploration of differences by students' FSA status did result in unique findings. Noteworthy, the only comparison test by FSA status that was not significant was for GPA; this means that students performed at equal levels regardless of their eligible or ineligible FSA status. This lack of significance is important, however, in that it shows that those who are ineligible to attain federal student aid can perform at academic levels equal to their eligible peers. Despite their similar achievement, students who were ineligible for FSA received less funding for education at statistically significant levels, enrolled in and earned fewer credits, and did not persist at levels similar to those who were eligible for FSA. Moreover, regardless of FSA status, students without funding did not persist at levels similar to their counterparts who had funding. These results continue to highlight the importance of financial aid for students, particularly for a vulnerable population, such as those ineligible for FSA due to their non-citizen status.

Moreover, our non-U.S. citizen student differences in FSA demonstrate that eligibility for financial aid can help students acquire a *seat* in the college setting. When doing so, they are able to enroll in more classes (higher credit loads), and persist to the next year, as compared to non-U.S. citizen students who are ineligible for federal student aid. In other words, a non-U.S. citizen student who is ineligible for FSA may attain similar academic performance, but within a one-year experience their lack of aid may contribute to negative impacts on other key factors toward completion leading to lower credit attainment and, ultimately, failure to persist.

Students eligible for FSA were six times more likely to persist than those who were ineligible. Support structures are needed to reduce this large gap toward persistence within non-U.S. citizen students. Moreover, GPA was a significant predictor of persistence; with both groups performing at similar levels, it is important to continue to augment student services programs to ensure support systems for increased academic achievement are available to all students. Lastly, the total financial aid awarded also contributed to persistence; policy- and decision-makers should keep this in mind as award programs are created and revised.

Nexus: Connecting Research to Practice

For the purpose of collaboration between community colleges and universities from a financial aid perspective, there are two implications for practice to be considered:

- Award practices for non-eligible, non-U.S. students should be in alignment. Currently, UNR employs an internal process for awarding these students, known as Institutional Methodology, which provides a method for students who are not eligible for FSA to apply for and receive some sort of aid from state and institutional sources. Administrators at TMCC are currently creating such a process. Once created, the value of having a similar award system and process should be communicated to students wanting to transfer. This could potentially further students' motivation for degree completion from TMCC through UNR.
- Collaborative, targeted interventions for non-U.S. citizen student groups and financial aid workshops, presented by university staff to be held at the community college, could lead to better transfer opportunities for these students. Kisker's (2007) research touted university presence on the community college campus as being a significant factor for improving transfer rates and strengthening transfer partnerships.

Beyond financial aid, it is important to note that this supported persistence and is valuable, but academic performance and credit attainment remain essential components to completion. Practitioners can

- Align efforts related to academic support services.
- Share positive findings, such as ours, with non-U.S. citizen students. It is important, especially for students who are ineligible for federal student aid, to help them be aware of their ability to perform equally to their counterparts.
- Enhance current practices related to performance and retention efforts. Non-U.S. citizens students should be made aware of existing interventions that can support their completion at a community college and their potential transfer and completion at a university.

Authors' Reflections on the Researcher-Practitioner Partnership

Jafeth E. Sanchez: The proximity of our institutions facilitated opportunities to meet in person to review current progress, share inquiries, and exchange ideas. An important consideration for researchers who wish to collaborate across institutions is to ensure that all institutions have team members with both scholarly and practitioner perspectives. This can create a stronger balance not only in how the research is conducted but also in how it is interpreted and implemented in practice.

We also found it critical to have positive existing relationships, as they facilitated opportunities to be candid about the purpose (or refined purpose) of the study and its outcomes. As UNR continues to grow and diversify, this study points to the ongoing importance of financial aid and other support structures, particularly for students who are ineligible for financial aid. If those ineligible for aid had difficulty persisting, we could likely anticipate similar outcomes with those who succeed to transfer to the university. Therefore, purposeful opportunities must be available for students; while they are at a community college, university representatives need to have a presence on the campus. Relationships must be strengthened, not just between institutions but also with the students to be served. Findings of this study highlighted that non-U.S. citizens have the potential to academically perform at equal levels to their peers. The concern comes with ensuring that their financial aid support systems are aligned to student services programs that focus on academic support. Overall, this alignment must take place between the community college and the university to ease the potential transfer rates and promote successful longitudinal outcomes, such as full-time enrollment, persistence, and completion. Our institutional collaboration revealed that, while some TMCC students may be able to *pay* for their seat in the classroom, this is insufficient to support the desired completion outcomes.

Jeanette Smith: As a higher education administrator/practitioner, it was important to me to make sense of existing data as a means for evaluating our service and support of students. As a novice researcher, it was important to me to conduct a study using quantitative measures because my dissertation was qualitative. Finally, as a higher education administrator, it was important to me to build upon a relationship with colleagues at the university for the success of our students. This research project taught me much about myself, our students, and our institutions. The language of financial aid comes naturally when one works in financial aid, but translating this language to faculty in an accessible way is no easy feat. This study allowed me to practice that skill, which will be useful as I work with faculty on my own campus. As a practitioner, being able to translate financial aid language is key in helping people understand what we do to serve students and how we can collaborate.

A second important lesson was managing changing data. Our dataset changed several times. The original goal of the study was to focus on DACA students, and that was information deemed too sensitive to study because of the small sample size. We went back and forth with administrators to collect variables that would aid our analysis. For example, it would have been great to acquire race/ethnicity data; but again, it was deemed too great a risk at the time.

As a researcher, knowing and understanding your data is important, and being able to change course, be flexible, and use the data available was a challenge that I think we overcame beautifully. I also saw this study as an opportunity to analyze data we already had. There is much data at our fingertips that can be analyzed to inform the work we do and be a tool to assist with assessment and evaluation of our programs.

Finally, this study provided an opportunity to highlight an underserved population of students and recommit to our values of serving and supporting all students. As our literature review showed, more attention needs to be paid to these students. That attention to their stories can be transformed into meaningful action.

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