

Do We Belong? A Conceptual Model for International Students' Sense of Belonging in Community Colleges

Hugo A. García
Texas Tech University, USA

Tiberio Garza
University of Nevada, USA

Katie Yeaton-Hromada
University of Southern Maine, USA

ABSTRACT

International student enrollment in higher education has risen in the United States for the past several decades. Along with the increase within 4-year institutions, the number of international students at community colleges also continues to rise. Open Doors reports there were 91,648 total international students enrolled in community college for the 2014–2015 academic year. Since student retention is often reviewed as a measure of “the quality of educational experiences” (Lee, 2010, p. 68), these changing enrollment statistics raise questions about international students’ engagement and sense of belonging within U.S. community colleges. Guided by Deil-Amen’s (2011) construct of socio-academic integration moments and Strayhorn’s (2012) sense of belonging, and using the Community College Survey of Student Engagement dataset and structural equation modeling, this study found that socio-academic integration was instrumental for sense of belonging for international students while social integration is also, to a lesser extent, significant to sense of belonging. Our findings suggest that international

students are more likely to obtain closer relationships than their domestic peers when it comes to faculty and staff interactions.

Keywords: belonging, community college, higher education, international students

INTRODUCTION

International student enrollment in higher education has risen in the United States for the past several decades (Institute of International Education [IIE], 2018; Zhang, 2016). The United States is still the global leader for international students studying abroad, occupying 24% of the world's mobile students (Farrugia & Bhandari, 2017; IIE, 2018). Along with the increase within 4-year institutions, the number of international students at community colleges also continues to rise (Jennings, 2017; Zhang, 2016). Open Doors reported there were 91,648 total international students enrolled in community college for the 2014–2015 academic year, whereas, previous years between 2004 to 2014 saw anywhere between 80,851 enrolled in 2005–2006 and 95,785 enrolled in 2008–2009 (IIE, 2016c). Since student retention is often reviewed as a measure of “the quality of educational experiences” (Lee, 2010), these changing enrollment statistics raise questions about international students' engagement and sense of belonging within U.S. community colleges.

Although there has been immense growth of sojourners within the 2-year sector (García & Villarreal, 2014; Jennings, 2017), community colleges have been left out of the international student conversation (Zhang, 2016). While the large corpus of empirical work on international students is still focused at the 4-year level, there is sparse research on international students within the 2-year sector (Hagedorn & Lee, 2005; Lau et al., 2018; Zhang, 2016).

LITERATURE REVIEW

Politics, economy, social relationships, and technology changed the way countries interacted with one another after the September 11th attacks (Altbach, 2004; Altbach & Peterson, 2008; García & Villarreal, 2014; Raby & Valeau, 2007). This historical date marked a turning point in an era of globalization and internationalization, and the four aforementioned areas of change act as push and pull factors for the growth of higher education in the United States. For example, with the improvement of technology over the past

decade, peoples' mobility has increased, and more students studied outside of their home country (Anayah & Kuk, 2015; Osfield, Perozzi, Moscaritolo, & Shea, 2016). This improvement in technology acts as a pull, attracting students to travel for their education. The United States is the largest host site of foreign students with 18% of total mobile students (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2014). Altbach (2004) estimated this percentage of students will increase and the total number of international students in the United States will be 8 million by 2025.

This enrollment increase is not limited to 4-year institutions. As previously stated, international students are coming to the United States in higher rates to attend community colleges (García & Villarreal, 2014; Lau, Garza, & García, 2018; Zhang, 2016). Community colleges provide the educational opportunity for international students who may not have the same chance in their home country while also allowing them to be more competitive in the job market and support their families (Anayah & Kuk, 2015). While international students' reasons for attending community colleges vary by individual case (Bohman, 2014), it is important to note some of the most used services of international community college students are transfer credit assistance, academic, and career advising (Lau, Garza, & García, 2018). The positive interactions international students have with faculty, staff, and peers are significant in creating an inclusive campus climate (Glass, Kociolek, Wongtrirat, Lynch, & Cong, 2015). This study aims to speak to this specific population in a community college context and targets sense of belonging as a key factor in supporting international student recruitment, retention, and completion at community colleges.

Considering the higher rate of international students enrolling in community colleges (García & Villarreal, 2014), it is necessary to examine factors impacting their sense of belonging since this construct is tied to a host of protective factors to achieve in college settings (Strayhorn, 2012). When considering the experiences of international students at community colleges, one must first consider why students decide to attend this type of school and how students feel they belong to that community (Yao, 2015). One must also consider the motivations for recruiting international students, as well as stressors and adjustments. International students may have a harder time adjusting to college life, both academically and socially (Lee, 2010; Lee & Rice, 2007; Treat & Hagedorn, 2013). The stressors international students face, as well as students' motivation for enrolling in American higher education—whether job training or for a four-year degree—all impact whether a student will complete their community college career (Hagedorn &

Lee, 2005; Mamiseishvili, 2012; Rubin, 2014). Ultimately, these experiences influence a student's persistence within a community college and it is imperative for researchers and professionals to observe this trend to better support international students.

Underlining Motivations for Recruiting International Students

Whether a 4-year or 2-year institution, a greater emphasis on international recruitment is being pushed within American higher education. A main motivation for institutions in the United States to recruit international students is the financial benefit since institutions charge international student fees (Altbach & Knight, 2007; García & Villarreal, 2014; Hagedorn & Zhang, 2013; Viggiano, López Damián, Morales, & Levin, 2018). In order to be more focused on retention and students' sense of belonging, greater attention needs to be directed to research, cultural understanding, and peace building (Altbach & de Wit, 2015; Knight, 2006; Osfield et al., 2016). Recruiting international students yields academic, cultural, and economic benefits that will further support the United States' place as a leading competitor in the field of higher education (IIE, 2011). International students are enhancing domestic students' academic experiences, and this need for globalization illustrates the subsequent need for all institutions to recruit (Brennan & Dellow, 2013; Manns, 2014), not necessarily to retain or to serve (Center for International and Global Engagement, 2012; IIE, 2011). From a student affairs perspective, these pull factors—cultural diversity, peace building collaborations, and greater collaborations among universities—emphasize the need to support students' personal growth (Altbach & Knight, 2007; Osfield et al., 2016). Osfield et al. (2016) attested to this need and added professionals—student affairs and faculty—can support international students' growth by meeting with and encouraging students who never considered college an option. Furthermore, greater attention needs to be placed on the services to support international students to help them persist.

Stressors and Adjustment

Given this need to recruit and not necessarily serve, some may say international students are the forgotten minority at colleges (Hagedorn & Lee, 2005). Language, cultural, and social barriers can heavily impact and impede an international student's college experience (Lee, 2010; Lee & Rice, 2007; Yao, 2015). One notable stressor for some students is the predominant English instruction for educational institutions in the United States (Trice, 2004; Yeaton, García, Soria, & Huerta, 2017). While English instruction could be an adjustment for some, for others this dialect could provide a

barrier. Some of the greatest hardships faced by international students are due to their race or foreign national status, varying from verbal insults and being ignored to confrontation (Lee & Rice, 2007). Lacina (2002) illustrated these challenges, identifying how language and cultural differences can aid or deter social relationships. These stressors allow students to withdraw, to become less connected with their school and studies, increasing the obstacles for international students to persist. Furthermore, international students should not be forgotten, and college supports are key to assisting students in overcoming these challenges.

In addition to these stressors, international college students may struggle to acclimate to community college life. Most community colleges in the United States primarily have a commuter population, thus, the level of engagement in out of classroom experiences will heavily differ from a 4-year institution with on-campus living. Classroom time might be the only point when an international student interacts with peers and their professors. Lack of connectedness outside the classroom means faculty and student organizations can help students increase their sense of belonging (Lau et al., 2018). This lack of connection outside of the classroom could be for a number of reasons. According to a study by Lau et al. (2018), international community college students often used computer labs and tutoring resources, but only sometimes used academic services, such as academic advising. While resources like the computer lab are positive supports for international students' success, proactive connections with academic services and other student services support a student's success long term. These connections with counselors and student affairs professionals can help students navigate the "organizational and bureaucratic complexity" of a community college (Deil-Amen, 2011). International students may not know about these services and resources, which is the reason for student affairs members to meet regularly with international students and to remember a "one-size-fits-all" model is not recommended (Lau et al., 2018).

International students coming to community colleges can add to their own success by bringing diversity, but to realize this success, sojourners need to adapt to new academic, social, and cultural environments to better navigate the nuances that are tacit for domestic students (Korobova, 2012). Sojourners can feel isolated and alone in their academic career. Considering most international students have left their families in their home countries, having support networks and ways to connect with people at school is essential for positive social experiences (Lacina, 2002). To retain students and encourage this positive college experience, research has found colleges need to support international students with tailored student centers, advisors, and counselors

(Korobova, 2012; Lacina, 2002; Muraskin & Wilner, 2004; Rubin, 2014; Zhang, 2016). Understanding the needs of international students, investing in programs and services not only in an international engagement office, but also around campus are key to supporting international students (Lau et al., 2018). The increase in diversity means professionals will need to promote personal development and be prepared for students of different cultures, ages, and academic backgrounds (Osfield et al., 2016). The support of higher education professionals—both from faculty and student affairs—is essential in helping students overcome these stressors and discrimination.

International Students at Community Colleges

As the number of international students increases within the 2-year sector, it is necessary to examine how these students transit from their home countries to institutions whose students are primarily commuter and part-timers. A student may choose to attend a community college because of the cost, location, faculty social interaction outside of class, and college's reputation (Mamiseishvili, 2012). As previously addressed, a community college might provide a more approachable introduction to English instruction before enrolling in a 4-year institute. Considering these reasons for selecting a college, sense of belonging is key for a student to not only select a school that fits these needs, but to find a place they will persist academically to achieve their goals.

International students have performed well academically at both 4-year and 2-year colleges in the United States (Hagedorn & Lee, 2005). In a study conducted by Hagedorn and Lee (2005), international students performed slightly better academically than their non-international peers. Most participants in this study were international students enrolled full-time in a Los Angeles community college looking to enhance their English and math skills. In comparison with their domestic peers, international students were typically in community college for a shorter period and had a higher average cumulative grade point average (Hagedorn & Lee, 2005). Given visa and F1 requirements for international students, this study highlights how full-time enrollment for international students impacts the comparison with a domestic student who may not be enrolled full time. This study touches upon the importance of full-time enrollment as it can help students feel more connected with their peers, professors, and overall school. Lau et al. (2018) concluded a similar finding in their quantitative study on international students at community colleges, suggesting the hourly work limitations might help students prioritize their academics. These research outcomes raise the

question of what can help international students succeed, both academically and socially.

Campus Services

In a quantitative study, Lau et al. (2018) found international students rarely used community college on-campus services and for those who occasionally sought support, academic services were the most popular. Other studies have found similar results, notably Mamiseishvili (2012) found 39.6% of international students at 2-year colleges never meet with their academic advisor during their first year and 70% never participate in fine arts, school clubs, or events during their beginning year. Lau et al. (2018) also found that career and job placement services were the least utilized services, possibly because sojourners are not seeking employment in the United States post-graduation. This lack of connection is alarming and underlines the lack of social integration, which could decrease a students' probability to persist (Mamiseishvili, 2012). Osfield et al. (2016) echoed these sentiments from a student affairs perspective. They further added the role of student affairs is to help the student grow holistically and to provide an environment where learning is mutual between international and domestic students (Osfield et al., 2016). While a majority of an international student's social integration happens in the classroom (Lau et al., 2018), connections with campus services can be the key proponent to a students' success.

Socio-Academic Integration

In terms of supporting a student holistically with a global mindset (Osfield et al., 2016), one must consider the social and academic supports for international community college students. Considering the open enrollment of a community college, the environment and student population will look different than a 4-year college. Deil-Amen's (2011) approach for 2-year college students examined the intersection of the social and academic realms. These two realms interplay in the classroom when students talk with their professors and peers. Students feel valued and a boosted sense of competence when they build relationships, which supports their ability to succeed (Deil-Amen, 2011). These relationships both in and out of the classroom can support students' persistence. Overall, international student persistence is tied to the social integration they can form with their peers, faculty, and staff within their school. International students are looking for "fair and equal treatment" (Lee, 2010) and U.S. higher education is looking for global competency (IIE, 2011). Being able to connect with advisors and peers, both international and domestic, can influence the likelihood of students'

persistence, especially considering the commuter lifestyle of most community college campuses.

Major Themes

Sense of belonging is thought to be a major reason for student persistence and the key variable of interest in this study as a means of retaining international students at community colleges. Thus, the three major terms discussed in this study are persistence, withdrawal, and sense of belonging. To gain a better understanding of international students' sense of belonging in community colleges, the following study employs Deil-Amen's (2011) model to examine the predictors associated with sense of belonging or withdrawal, including academic, social, and socio-academic integration.

Growing Need

It is important to reiterate that research on international students' socio-academic support in the community college sector is limited. Fortunately, more research has been published on the experiences of international students (e.g., Alphin, Chan, & Lavine, 2017; Osfield et al., 2016); however, little attention is being directed to the experiences of international students at community colleges. Many sense-of-belonging researchers will either focus on the experiences of domestic students at community colleges or international students at 4-year institutions. Hagedorn and Lee (2005) acknowledged this lack of research and that only a small collection of studies have been produced in this area (Deil-Amen, 2011). More studies must be conducted to support the growing international community college population that makes up 14% of the 700,000 higher education international students in the United States (Cohen, Brawer, & Kisker, 2014).

CONCEPTUAL MODEL

None of the prominently used models consider 2-year college environments where students are largely commuter and from various backgrounds (Bean, 2005; Tinto, 1975, 1993; Weidman, 1989). This includes students coming from various socioeconomic backgrounds, generational states, ages, and academic preparation (Bensimon, 2007; Braxton, Hirschy, & McClendon, 2004; Cejda & Hoover, 2010; Rendón, Jalomo, & Nora, 2000; Tierney, 1992). Furthermore, these models are focused on domestic students without considering the difficult transitions international students face when moving from their country to the United States. This complexity is further compounded by the fact that community colleges have multiple missions.

To better examine student persistence within community college environments, Deil-Amen (2011) developed the construct of socio-academic integration moments based on 125 student interviews at seven private and seven public community colleges. Deil-Amen concluded that academic and social integration were both interconnected and indistinguishable. Indeed, many students' academic and social integration occurred during in-class interactions with their peers and instructors. The lack of time spent on campus outside of class by students who attend part time and/or have off-campus commitments makes it difficult to apply the binary notion of academic and social integration. Thus, we not only utilize Tinto's (1993) constructs of academic and social integration, but we include Deil-Amen's socio-academic integration moments construct to guide this study for a more robust approach in incorporating the needs of international students.

Sense of Belonging

There is a growing number of scholars who have recently begun focusing on the importance of college students' sense of belonging (Strayhorn, 2012). Research suggests sense of belonging is related to various factors including social and academic integration, and retention of students of color (Hausmann, Schofield, & Woods, 2007; Hurtado & Carter, 1997; Maestas, Vaquera, & Zehr, 2007; Tovar & Simon, 2010). Earlier studies suggest the lack of sense of belonging can have negative impacts on students (Baumeister & Leary, 1995). For example, Hurtado and Carter (1997) found students' sense of belonging declined if they felt racial hostility on campus; however, sense of belonging could also increase over time if college students experience a positive transition to college. Others found recurrent interactions with diverse peers increased college students' sense of belonging (Hurtado, Han, Saenz, Espinosa, Cabrera, & Cerna, 2007; Locks, Hurtado, Bowman, & Oseguera, 2008). While there are many definitions of sense of belonging (Goodenow, 1993; Hurtado & Carter, 1997; Osterman, 2000; Tovar & Simon, 2010), we use Strayhorn's (2012) definition of sense of belonging as "students' perceived social support on campus, a feeling or sensation of connectedness, the experience of mattering or feeling cared about, accepted, respected, valued by, and important to the group (e.g., campus community) or others on campus (e.g., faculty, peers)." While the growing body of literature on sense of belonging has increased in the last decade, much of the literature on sense of belonging has focused on students of color and their racial/ethnic experiences within predominantly white institutions, and only a few studies have examined this construct and persistence quantitatively (e.g., Hausmann et al., 2007; Tovar & Simon, 2010). Yao (2015) suggested that

scholars should use sense of belonging rather than integration because “the combination of both experiences and perceptions of interactions is likely a better predictor of international students’ success and positive feelings towards their campus community.” Indeed, Yao (2015) was critical of the use of integrations into a campus dominate community because it is “difficult for international students to achieve.” However, the use of Deil-Amen’s socio-academic integration moments was developed for a community college institutional context which may increase sense of belonging. There are no studies, to our knowledge, that examine sense of belonging, nor Deil-Amen’s (2011) socio-academic integration moments with international students’ persistence within 2-year institutions.

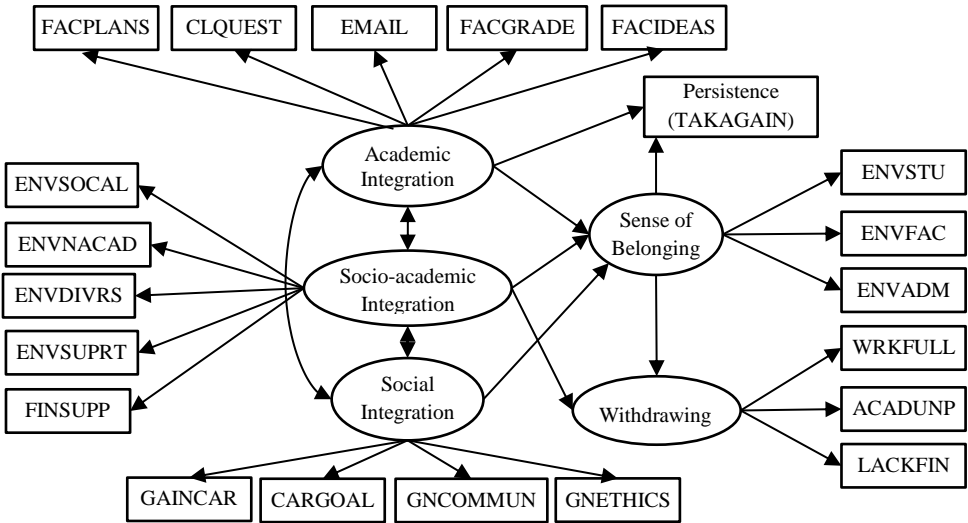
Proposed Model

Utilizing questions from the Community College Survey of Student Engagement (CCSSE, 2014), we proposed a model of international student sense of belonging, persistence, and withdrawing (Figure 1). Withdrawing was operationalized to observe persistence and sense of belonging in the context of common reasons students would withdraw from community college. In developing our model from CCSSE survey questions, compromises were made in the operationalization of sense of belonging and persistence. Through the operationalization of sense of belonging, our estimation for sense of belonging closely resembles the relationships international students have among peers, instructors, and administrative personnel. By utilizing what is available from the CCSSE survey, the examination of how international students feel about their relationships with individuals at community colleges was considered the relational aspect often expressed in describing sense of belonging. Although labeled as persistence, the directly observed variable used in our model is more closely aligned to reenrollment. Yet, the label of persistence was retained only to describe reenrollment as one aspect in describing persistence as a directly observed variable.

The other directly observed variables used to describe academic, socio-academic, and social integration as well as withdrawing were researcher-generated in line with literature and conceptualizing what CCSSE survey questions would most likely contribute to explaining the latent variables in the proposed model. In conceptualizing, academic, socio-academic, social, and withdrawing the grouping of directly observed variables was considered more in line with estimation connected to latent variable labels as compared with sense of belonging and persistence (i.e., the partial estimation for sense of belonging and persistence from CCSSE questions). With the proposed

model and the use of a national survey at the community college level, this study sought to expand estimation of well-known constructs (i.e., academic, socio-academic, and social integration; sense of belonging and persistence) in a new context.

Figure 1: Hypothesized Structural Equation Modeling Model



Thus, to add to the growing body of literature on international students at community colleges, this study examines the role academic, social, and socio-academic integration has on international students' sense of belonging, persistence, and withdrawing within 2-year colleges. The primary research questions are:

1. What are the direct effects of academic, socio-academic, and social integration on international students' sense of belonging, persistence, and withdrawing?
2. What is the direct effect of sense of belonging to persistence and withdrawing?

METHOD

A secondary analysis was taken on the CCSSE (2014) dataset to investigate sense of belonging as an outcome among international students at community colleges (see Figure 1). Using confirmatory factor analysis (CFA), constructs for academic, social, socio-academic integration were assessed for model fit.

These constructs were hypothesized as playing a role in the sense of belonging among international students. Tinto's (1993) student departure model and Deil-Amen's (2011) socio-academic integration construct were used to inform the creation of our three measurement models. The three measurement models (i.e., academic, social, and socio-academic integration) were then used in structural equation modeling (SEM) to incorporate the sense of belonging construct in relation to persistence and withdrawing.

Sample

The data came from the CCSSE survey (2014) administered in 2013 by the Center for Community College Student Engagement. CCSSE has been administered yearly for more than a decade to students in randomly selected classrooms of participating colleges during the spring term. The sampling frame involves all credit-bearing courses with exceptions, such as distance courses, independent study, lower level English as a second language classes, and dual-enrollment courses enrolling high school students exclusively. The CCSSE dataset ensures sample representation across students with differing attendance schedules by stratifying for time of day.

The 2014 CCSSE dataset contained 108,509 responses from community college students from 674 colleges in 46 states in a 3-year cohort. International students comprised 6,043 of the sample or 5.6% of the overall CCSSE dataset. There were 36 questions and 14 of those questions included sub-questions. However, the number of questions used was determined through principal component analysis (PCA). In fact, latent variables were defined by a set of questions described in Table 1.

Analysis

In this study, the intent was to choose questions from the CCSSE survey that best resembled the latent variables used to answer research questions. In SPSS 23.0, PCA was first utilized to determine the viability of researcher-generated groups of CCSSE questions with guidance from literature (Table 1). Prior to conducting PCA, the suitability of the sample for analysis was assessed. In other words, the factorability of the correlation matrix was supported by the correlation matrix having many coefficients of .3 and above, the Kaiser-Meyer-Olkin (KMO; Kaiser 1970, 1974) value exceeding .6 (KMO = .874), and the Bartlett's Test of Sphericity (Bartlett, 1954) reaching statistical significance ($p < .05$).

The chosen CCSSE questions then underwent CFA in lavaan R package (Rosseel, 2012; Rosseel, Oberski, Byrnes, Vanbrabant, & Savalei, 2013). Each measurement model was assessed across several fit indices, because

each fit index has their own rationale and not one will meet the expectations for an ideal index (Fan, Thompson, & Wang, 1999). Along with χ^2 test of model fit, a root mean-square error of approximation (RMSEA; Steiger & Lind, 1980) below .05, a comparative fit index (CFI) above 0.95 (Bentler, 1990), a Tucker-Lewis Index (TLI; Tucker & Lewis, 1973) above 0.95, and a standardized root mean square residual (SRMR; Hu & Bentler, 1999) below 0.08, were the cutoff criteria in determining good model fit.

After conducting CFA (i.e., confirming model fit among measurement models) the researchers conducted an SEM in lavaan R package. SEM was used to examine the direct estimates of academic, social, and socio-academic explanatory constructs to the outcome constructs (e.g., sense of belonging, persistence, and withdrawing). Model fit was also examined with the same fit indices used during CFA.

RESULTS

Through the means of constructing measurement models for SEM, directly observed variables from the CCSSE survey helped inform the proposed model. In total 21 questions were utilized for SEM based on Tinto's (1993) conceptual model and Deil-Amen's (2011) construct. The hypothesized model examined the predictors of sense of belonging, and withdrawing, which were academic, social, and socio-academic integration. Additionally, parametric assumptions were observed in meeting assumptions. For instance, each of the directly observed variables had values of skewness and kurtosis close to zero and within value limits described by West, Finch, and Curran (1995). Missing data ranged from 0.2% to 2.7% across the 21 variables as observed through the Visualization and Imputation of Missing values R package (VIM; Templ, Alfons, Kowarik, & Prantner, 2015). The data was considered missing at random and because the proportion of missing data was below 5% (i.e., inconsequential per Schafer, 1999) no missing data technique was used.

From the CCSSE survey, 20 questions represented five constructs through PCA using SPSS (see Table 1). Three constructs were explanatory (i.e., academic, social, and social-academic) and two constructs were outcomes (i.e., sense of belonging and withdrawing). The three explanatory constructs were each assessed individually as measurement models. Meaning both explanatory and outcome constructs were not rotated and forced to one construct among the directly observed variables. Catell's (1966) scree test further supported the notion of each measurement model. The explained variances for each explanatory construct with eigenvalues exceeding 1 were

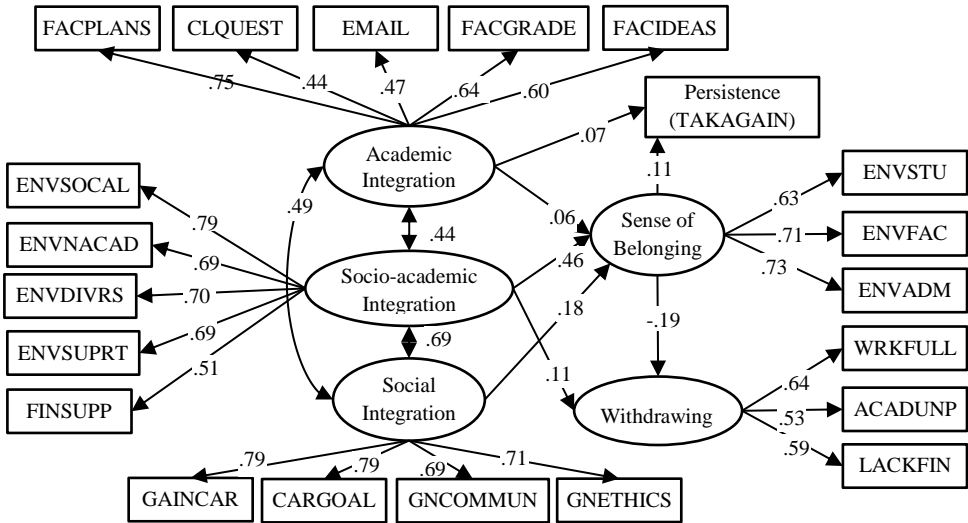
47.0% for academic integration ($KMO = .756, \chi^2=5268.4, df = 10, p < .001$), 56.7% for socio-academic integration ($KMO = .803, \chi^2 = 9545.8, df = 10, p < .001$), and 66.3% for social integration ($KMO = .759, \chi^2 = 9281.0, df = 6, p < .001$). As for the outcome variables, PCA was conducted per latent construct. The measurement model for sense of belonging had an explained variance of 65.3% ($KMO = .665, \chi^2 = 3924.5, df = 3, p < .001$), while the withdrawing measurement model had an explained variance of 56.3% ($KMO = .640, \chi^2 = 1880.9, df = 3, p < .001$).

The 14 questions that comprised the three explanatory latent constructs (i.e., academic, social, and socio-academic integration) were each assessed through CFA in lavaan R package. Each of the constructs was considered having good fit statistics using the weighted least squares means and variance adjusted (WLSMV) estimator. For example, academic integration had a $\chi^2 = 6270.34, df = 10, p < .001$, an RMSEA of 0.062 (90% CI = [0.053, 0.072]), a CFI of 0.982, a TLI of .964, and an SRMR equaled to 0.034 (e.g., Table 1). As for socio-academic integration the results were: $\chi^2 = 97.74 (df = 5, p < .001)$, RMSEA = 0.056 (90% CI = [0.047, 0.067]), CFI = 0.993, TLI = .986, and SRMR = 0.029. Also, the social integration construct had the following fit statistics: $\chi^2 = 136.90 (df = 2, p > .05)$, RMSEA = 0.108 (90% CI = [0.093, 0.123]), CFI = .987, TLI = .962, and SRMR = 0.042. The fit statistics of the three explanatory constructs were considered acceptable to proceed to SEM. Each outcome construct consisted of three directly observed variables (i.e., CCSSE items) and was well within all cutoff criteria fit indices (e.g., Table 1). The use of a more robust estimator compared to maximum likelihood was utilized during SEM (i.e., WLSMV; Muthén, 1993). The WLSMV estimator was believed more appropriate because some directly observed variables had 4-point Likert-scaled responses, which resembled categorical responses compared to a 5-point Likert-scale.

Using SEM, the researchers wanted to see if the proposed model was an adequate representation of observing the sense of belonging of international students at community colleges. Withdrawing as a latent variable was also assessed and represented issues that would cause international students to withdraw from college (i.e., Items 14a, 14c, and 14d). From Figure 2, sense of belonging was predicted by greater academic, socio-academic, and social integration. The largest contributing factor to sense of belonging was socio-academic ($\beta = .46$) integration. As for withdrawing, only socio-academic integration was statistically significant, $\beta = .11$ (see Figure 2). Although there is a small positive regression coefficient between socio-academic integration and withdrawing the rationale is an increase in socio-academic integration could result in withdrawing from the community college for other reasons,

such as getting a job through technical education (e.g., nursing degrees offered by community colleges that international students would seek as terminal) or for some unfortunate circumstance of losing financial support. Of the three explanatory constructs (i.e., academic, socio-academic and social integration) only academic integration had a statistically significant effect ($\beta = .07$) to persistence as measured by the directly observed variable (i.e., takagain). Sense of belonging had a negative effect on withdrawing ($\beta = -.19$), which indicated a unit decrease in withdrawing related to sense of belonging. Thus, as sense of belonging increased, international students were less likely to withdraw from their community college. Furthermore, there was an increase of persistence ($\beta = .11$) related to sense of belonging among international students, which indicated that with an increase of sense of belonging, there was also an increase in persistence.

Figure 2: Standardized Coefficients of the Final SEM Model. Non-statistically Significant Coefficients Are Not Displayed from Figure 1



The indirect effects that are presented in Figure 2 because of pathways among the outcome variables connect academic, socio-academic, and social integration to persistence and withdrawing through sense of belonging. All three integration constructs positively contribute to sense of belonging and indirectly increase persistence or reenrollment. Additionally, as all three integration constructs increase, sense of belonging increase and withdrawing decreases.

In observing directly observed variables contributing the most to their constructs, academic integration was most defined by talking about career plans with an instructor or advisor (facplans). Providing the support international students need to thrive socially (envsocial) contributed the most to socio-academic integration. For social integration there were two variables that strongly contributed to the construct and were defined as gaining information about career opportunities (gaincar) and developing clearer career goals (cargoaol). Withdrawing was mostly defined by working full-time (wrkfull) and the lack of finances (lackfin), which indicate some level of financial struggle and international students feeling they are working full time even though they are required to work part time. Sense of belonging among international students was defined more by administrative personnel and offices (envadm), followed by instructors (envfac) compared to other students (envstu).

Several iterations or alternate models were considered. However, the model that best fit our hypothesis (i.e., with no covarying residuals; Figure 2) on the sense of belonging and withdrawing among international students is described as having CFI = .983, TLI = .980, SRMR = .032, and RMSEA = .034 (90% CI = [0.032, 0.036]). All fit indices indicated good model fit with $\chi^2 = 1236.67$, $df = 175$, $p < .001$. Although χ^2 is not relied upon as a basis for model acceptance or rejection (Schlermelleh-Engel, Moosbrugger, & Müller, 2003; Vandenberg, 2006), it was included in overall model evaluation.

DISCUSSION

Using a large national community college dataset and SEM, this study found socio-academic integration was instrumental for sense of belonging for international students while finding that social and academic integration were also, to a lesser extent, statistically significant to sense of belonging. Interestingly, there was a negative effect from sense of belonging to withdrawing, which indicated that as sense of belonging increased for international students, their withdrawing decreased. These findings suggest international students who have higher levels of interactions with administrative personnel and offices because they must attend college full time to fulfill their F1 visas requirements, are more likely to have increased sense of belonging. However, interactions with instructors was also a strong contributor to sense of belonging in comparison with other students. Thus, international students are more likely to obtain closer relationships with their faculty and administrative staff than their domestic peers because of these essential interactions. This contrasts with prior research that has shown

community college students find it challenging to establish close relationships with counselors and faculty (Ream, 2003). Thus, enrollment status (full time versus part time) may play a role in developing sense of belonging among international students since withdrawing is related to working full time and a lack of finances.

This research informs practice in several unique characteristics. For example, questions used in defining sense of belonging indicated when international students have an academic relationship with their professor as well as with administrative staff, their sense of belonging is much more apparent. Tied to sense of belonging is the notion that academic and social integration directly observed variables explained less in their overall sense of belonging (β s = .06, .18), while socio-academic integration contributed the most to sense of belonging among international students. Furthermore, questions that closely blended the academic and social aspects contributed the most to sense of belonging (β = .46). For example, questions related to the college emphasizing support to thrive socially (Item 9e) and encouraging contact with peers from diverse backgrounds (Item 9c) aided in developing socio-academic integration the most among international students (β s = .79, .70).

Although the SEM model is helpful in describing the unique characteristics for seeking to answer research questions related to international students attending community college, this study builds off prior literature to describe the relationship of variables and factors involved in the sense of belonging among international students (Yao, 2015). The results help guide researchers, practitioners, and policy makers in determining how the academic and social components of a community college can make international students feel like they belong. Thus, findings described in this study should challenge community colleges in how to retain and recruit more international students.

International students at community colleges enroll at these 2-year institutions for a variety of reasons. Some reasons include easing the transition to an American educational system before enrolling at a 4-year institution or taking advantage of the lower costs and developmental English courses. Research has found that students have anxiety when interacting with others if the communication is in a non-native language. Indeed, language anxiety, as described by MacIntyre and Gardner (1994), suggests a "...feeling of tension and apprehension especially associated with second language contexts, including speaking, listening, and learning." The transition to an American educational system pertaining to language would then be alleviated with socio-academic integration-related activities with administrative staff and

instructors. Thus, international students have seen community colleges as a means to develop and enhance their English language before they transition to the university and begin their studies in more advanced writing courses. These include taking English language learning classes at the 2-year college and learning the idiosyncrasies (phrases of a language) of conversations with domestic students. International students are trained in proper language usage, but there are every day verbal conversations that come with living in a region. It behooves them to start at a community college so that they can acquire their English language speaking ability. The 2-year institution can help develop these skills to ensure an easier transition to the 4-year institution.

It is not simply a matter of providing academic support, community colleges must develop an international culture by embedding various international programing geared toward all students, not just international students, which contributes to increasing socio-academic integration. Programs can include issues that extend outside of the college campus. For instance, Oregon's Chemeketa Community College has their international program embedded within Student Retention and College Life and is an example of an innovative approach to addressing a host of both social and academic needs among international students (i.e., the academic, socio-academic, and social integration activities are well embedded in the international program; Rubin, 2014). To respond to the international students' needs, and therefore sustain their 85% retention rate, the college offers a two-credit career-planning course free of charge. Rubin (2014) depicts this community college as a career-focused institution that sets out to serve their commuter population. Offering this class introduces students to college life, as well as career options. At the same time, students are introduced to "holistic development advising" where they have a "one-stop set up" to meet with an advisor about housing, advising, immigration issues, as well as medical concerns (Rubin, 2014). Chemeketa supports this focus on a student's life, rather than their socialization, mobility, or occupation (Raby & Valeau, 2007). As the director of international programs stated in Rubin's (2014) study, "it's cheaper to retain students than to recruit them." Ultimately, by providing students with the opportunity to take this free course and engage in campus life and career development, students can adapt to U.S. college academics and culture. Thus, when community colleges embed a combination of academic, socio-academic, and social integration activities then we can expect an increase in sense of belonging, persistence, or reenrollment, and a decrease in withdrawing from the college as was observed in Figure 2.

LIMITATIONS

While there are some exceptions (USCIS approved reduced course work—medical course reduction, assimilation/cultural issue reduction, approved co-enrollment, last semester reduction, etc.), international students are required by law to be full time. That said, some international students indicated they were part-time enrolled. We speculate these individuals (1,580; 26%) may be co-enrolled in various institutions, since an international student could be full-time enrolled in a 4-year institution or another 2-year institution. Thus, international students attending more than one institution may cause confusion or self-identify as a part-time student.

The construction of measurement models with the proposed constructs (i.e., academic, social, socio-academic) and outcome constructs is a limitation to what questions were available for estimation. Although we made every attempt in making logical sense of CCSSE data, we were still constrained by using questions we could reasonably tie to our variables. In other words, measurement was hindered by common limitations in conducting secondary data analysis. A related issue was the distinction between socio-academic and social integration in relation to the directly observed variables provided. For instance, the highest correlation between the integration variables is between socio-academic and social integration ($r = .69$) compared to socio-academic and academic integration ($r = .44$), academic and social integration ($r = .49$).

IMPLICATIONS

Our research findings suggest an increase in socio-academic interactions is critical for sense of belonging among international students. Responses from international students indicated their socio-academic integration was the most critical in sense of belonging. As our findings suggest, it is important to provide international students with the opportunities for social engagement, which reduces any language anxiety that can be a barrier to developing socio-academic integration. Within 4-year campuses, international students have performed well academically in the U.S. and the nascent research at 2-year colleges suggests the same (Hagedorn & Lee, 2005).

Muraskin and Wilner (2004) reported that college students who persisted from year to year were more satisfied with their counselors than those who dropped out. In addition, early interventions by community college counselors improve academically weak students' persistence and academic performance (Grubb, 2003; Summers, 2003). Willett (2001) found community college students that were contacted by or visited a college counselor were more likely to persist than other students. Barr and Rasor (1999) found that first-year community college students who participated in

a variety of student services obtained higher grade point averages and completed more courses than first-year students who did not, which supports the presence of having socio-academic activities for international students. In addition, Pascarella and Terenzini (2005) suggested that academically underprepared students can be supported through advising, counseling, and adequate support services, which can strengthen academic and social integration among international students. These studies indicate the importance of counselors in getting students to persist by providing social integration and support of community college students. For international students, underprepared academically means possibly not being prepared to write academically or present orally in English. Thus, student services and faculty should provide support in reviewing writing assignments and providing safe spaces to review their oral presentations with staff/faculty members, which can increase socio-academic integration. That way, community colleges can provide opportunities to engage faculty and administrative staff to promote international students' socio-academic transition in community colleges. Indeed, our findings advocate for ample opportunities to engage faculty and administrative staff and the international students' perceptions that faculty/staff are "providing the support you need to help you succeed at this college" (survey item question) had a positive effect on sense of belonging.

Several studies have concluded international students often feel isolated (Lee, 2010; Lee & Rice, 2007; Treat & Hagedorn, 2013; Wortman & Napoli, 1996). Wortman and Napoli (1996) conducted a meta-analysis of six research studies conducted at community colleges and concluded that social integration to college significantly impacted persistence in a positive manner. Thus, the more welcomed a student feels at the college, the more likely the student will persist and do better academically. Therefore, socio-academic and social integration is paramount to persistence, and reducing college withdrawal, and academic success for international students.

Socio-academic programs and instruction can provide the support necessary to increasing persistence by international students by demystifying the American college-going culture by properly integrating both the academic and social environments that are critical for retention within community colleges. As previously stated, international students do well academically. However, language anxiety can pose as a barrier to social or socio-academic integration in relation to their English language proficiency, especially at campuses where students are more likely to attend part-time and commute.

CONCLUSION

International student enrollment will continue to rise at all levels of higher education including community colleges. Faculty and administrative staff within community colleges can better serve the growing number of international students by understanding the factors that promote a sense of belonging and student academic achievement to benefit recruitment and retention. Namely, the increase of academic, socio-academic, and social integration activities can contribute to an increase in sense of belonging and persistence, while decreasing the withdrawing from college. To contribute to the literature, this study has developed a conceptual model that considers three constructs that increase sense of belonging among international students (i.e., in the context of withdrawing and persistence) on how to serve this unique population of students who have not been served historically by community colleges. Our findings suggest that increasing not only the academic and/or social integrations, but their socio-academic integration as described by Deil-Amen (2011), can lead to higher levels of sense of belonging, persistence, and reducing withdrawal from college. Thus, community colleges should examine and identify the academic, socio-academic, and social integration components of their programs and services as a means to begin increasing support for international students. By focusing on international students, 2-year colleges can strive toward being global colleges rather than just community colleges.

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HUGO A. GARCIA, PhD, is a faculty member in the Department of Educational Psychology and Leadership, Texas Tech University. Email: hugo.garcia@ttu.edu

TIBERIO GARZA, PhD, is a faculty member in the Department of Educational Psychology and Higher Education, University of Nevada. Email: Tiberio.garza@unlv.edu

KATIE YEATON-HROMADA M.Ed., is a resident director at the University of Southern Maine. E-mail: katie.yeaton@maine.edu

Manuscript submitted: May 15, 2018

Manuscript revised: November 4, 2018

Accepted for publication: January 7, 2019
