Strengths-based Indicators of Success in Hispanic Undergraduates

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Abstract

By the year 2026, it is estimated that Hispanic students will make up the largest share of undergraduates enrolled in American colleges and universities. Despite increases in enrollment, this population is also one of the least likely to earn an eventual credential. Factors such as pre-college preparedness (e.g., SAT scores or high school grade point averages) and socioeconomic barriers are often cited as explanations for this attainment and persistence gap. In seeking to understand this issue, it is essential to go beyond the deficit-oriented conversation and instead shift the emphasis toward how higher education professionals can leverage students' strengths in supporting their academic success. It is essential to delve into the factors that impact Hispanic student achievement. Using data from the Beginning Postsecondary Students (BPS) study 12/14, this secondary data analysis study explores the impact of strengths-based variables such as highest credential expected, perceived likelihood of attaining a credential, level of connectedness with their institution, and gender on Hispanic students' outcomes with regard to credential attainment and/or persistence. Results showed that while gender and level of connectedness held no significant predictive value, students' academic self-efficacy (perceived likelihood of attaining a credential) and goal-setting (highest credential expected) did have an impact on three-year persistence and graduation rates. Implications for practice and recommendations for future research are discussed. *Keywords:* college, retention, Hispanic, persistence, strengths, BPS, secondary data analysis

Introduction

For many individuals, the attainment of a college degree is an integral part of the American Dream. The promise of an education provides the possibility of employment opportunities that would otherwise be out of reach. Community colleges are positioned as accessible options, both financially and academically, for those in pursuit of this goal. Graduation rates of undergraduate college students suggest, however, that there is a large gap between those who begin their educational journey and those who actually complete it. These gaps are noticeably wider for certain subpopulations of students. While researchers and colleges have acknowledged this central issue, there is no simple solution.

As a result of the increasing number of Hispanic students in higher education, this area of research regarding Hispanic undergraduates has gained traction in recent years (Contreras & Contreras, 2015; Murphy & Murphy, 2018; Samuel & Scott, 2014). The conversation regarding Hispanic student success includes research conducted on various interventions such as mentoring, restructuring developmental education (Crisp & Nora, 2010), course frameworks, and college policies (Darolia & Potochnick, 2015). This research is often directed at high-level college administrators focused on policy change, rather than individualized interventions. At the K-12 level, however, school counseling researchers acknowledge the role that school counseling has on Hispanic student outcomes (Sciarra & Whitson, 2007; Villalba et al., 2007). At the postsecondary level, however, counseling research appears primarily relegated to

clinical college counseling centers (Choi et al., 2010; Sharkin, 2004). Although clinical counseling has been explored as a successful retention initiative amongst college student populations (Schwitzer et al., 2018) and underprepared first-year students (Cholewa & Ramaswami, 2015), other studies suggest there is minimal impact (Illovsky, 1997). Counselors in programs accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP), beyond being trained in clinical mental health counseling, are trained in a wide variety of areas that make them well-positioned to serve undergraduate students (Cholewa et al., 2017)

This study examined the impact of students' strengths-based factors upon college persistence rates. In reviewing the literature, the following themes were identified: (a) the multifaceted definition of college completion, (b) the traditional demographic predictors of college completion, (c) the influx of Hispanic students in higher education, and (d) the utilization of strengths-based approaches to student retention and completion. After the literature related to these themes is explicated, the research questions that guided this study are detailed.

In conversations about higher education, success is often defined in terms of graduation rates. Colleges and universities that receive federal Title IV funding are required to provide accurate data to The National Center for Education Statistics repository, known as the Integrated Postsecondary Education Data System, or IPEDS (National Center for Education Statistics, n.d.-c). The data provided include aggregated student demographics, student enrollment, and outcomes data. IPEDS defined successful completion by stating that "graduation rates (GR) are reflective of full-time, first-time, degree-/certificate-seeking students who started and finished at the same institution" (National Center for Education Statistics, 2016, p. 1).

Therefore, while there is flexibility in the type of certificate or degree earned, there are limitations to who these often-publicized numbers truly represent. As a result, the American Association of Community Colleges went so far as to develop its own framework, the voluntary framework of accountability (American Association of Community Colleges, 2019). Despite those limitations, institutions struggle to keep pace with the demands to support an ever-changing collegiate population.

Much of the literature surrounding college completion focuses on traditional demographic information such as race, ethnicity, gender, and socioeconomic status (SES). Researchers have identified an achievement gap between students of color and White students (Howard, 2010). This disparity means that Latino and African American students earn degrees at a lower rate than their White peers (Baker & Robnett, 2012). Similarly, in addition to being less likely to attend college, males are even less likely than their female peers to graduate college (Perrakis, 2008). This achievement gap also extends to socioeconomic status. As Scott et al. (2006) suggested, students with additional non-academic responsibilities, such as working or familial responsibilities, often impact the success of these students. However, others have countered this research with findings that suggest there is a low predictive ability between SES and academic performance and retention (Lotkowski et al., 2004). Beyond trying to pinpoint a singular cause, what the data reflect is that there is a lack of equity in the American higher education system. For some populations, that disparity is more substantial than others.

As a greater number of students attend college, a large portion of these students are individuals of Hispanic descent. In the year 2016, 492 colleges in the United States were designated as a Hispanic-serving institution, meaning that at least 25% of the student population self-identified

as Hispanic (Hispanic Association of Colleges and Universities, 2018; U.S. Department of Education, 2016). Despite this large increase in college attendance, Hispanic students are the least likely to complete college compared to students in every other racial/ethnic group (Lopez, 2009). As the population of Hispanic students increases, this gap widens, and institutions have no choice but to attend to the needs of these students.

As colleges experience greater levels of diversity in both student demographics and academic preparedness, they have sought to identify strategies to foster student success. While much of the literature focuses on traditional academic predictors, there has been research focused on the non-academic variables impacting students' success. Krumrei-Mancuso et al. (2013) noted that factors such as academic self-efficacy were predictive of students' GPA when controlling for factors such as demographics. Similarly, factors such as hope (Seirup & Rose, 2011), goal-setting (Morisano et al., 2010), and institutional connectedness (Tinto, 1975) have shown promise for student retention and success. However, limitations still exist regarding the potential generalizability of some of these models with regard to more diverse and non-traditional populations of students (Davidson & Wilson, 2013), and there still remains a gap in understanding what truly works.

There is little consensus amongst the literature as to the predictive value of gender with regard to college persistence. Swecker et al. (2013) acknowledged that in their research on first-generation college students, gender did not appear to be a significant predictor of retention. However, Mertes and Hoover (2014) did find gender to be one of the significant predictors of persistence amongst two separate groups. DeNicco et al. (2015) noted that there was no statistically significant relationship between gender and one-year college retention. Given the lack of consistent results, more research is needed

to explore further the potential impact of this variable across various populations.

The review of the literature suggests there is still significant work to be done around minority student success within college and university settings. This study aims to explore the following research question: Do strengths-based factors have an influence on Hispanic undergraduate student graduation and persistence rates?

Method

Design

This study utilized an archival, cross-sectional design (Heppner et al., 2015). The variables identified for this study were: (a) race/ethnicity, (b) highest credential expected, (c) perceived likelihood of attaining a credential, (d) level of connectedness with their institution, (e) gender, and (f) continued persistence or completion of at least one credential within three years. Four variables were binomial (race/ethnicity, highest credential expected, gender, and persistence). One variable was ordinal (level of connectedness with their institution). One variable was continuous (perceived likelihood of attaining a credential).

The research questions involved examining differences in a binomial variable against three variables. Thus, a power analysis for logistic regression was conducted using G*Power 3.1 (Faul et al., 2009). The effect size for this analysis was an odds ratio (Heppner et al., 2015). The rationale for the given effect size was extracted from the average odds ratio in a study that examined the impact financial, academic, and environmental factors have on GPA and retention (Titus, 2006). The researchers used a logistic regression, to calculate the average impact that variables in each category had on students' likelihood to graduate. The power analysis was completed using the following input parameters: (a) test family = z tests, (b)

statistical test = logistic regression, (c) type of power analysis = a priori: compute required sample size- given α , power, and effect size, (d) tail(s) = two, (e) odds ratio = 1.711, (f) $\Pr(Y = 1/X = 1)H_0 = 0.2$, (g) α err prob = .05, (h) Power (1- β err prob) = .8, (i) R^2 other X = 0, (j) X distribution = normal, (k) X parm $\mu = 0$, and (l) X parm $\sigma = 1$. The G*Power 3.1 output included: (a) critical $z = 1.96$, (b) total sample size = 180, and (c) actual power = 0.801.

Participants

The population studied was students who enrolled at a United States postsecondary institution during the 2011-2012 academic year. Participants were selected through the 2011-2012 National Postsecondary Student Aid Study database in order to create the most accurate sample of students who were attending college for the first time (Hill et al., 2016). This study was intentionally oversampled in order to identify other eligible students for the BPS:12/14 study. The sampling framework from the NSPAS:12 uses two layers of sampling. First, institutions are sampled, and then students are sampled from the identified institutions (National Center for Education Statistics, n.d.-b). In addition to students utilized in the NSPAS:12 study, additional eligible students were pulled into the sample to create the final BPS:12/14 sample.

The researchers gained access to this population by utilizing information freely available on the National Center for Education Statistics (NCES) DataLab Website. Data were collected via the BPS:12/14 segment of the PowerStats tool. The estimated total number of students was 4,900. The exact number of students was intentionally obscured through PowerStats to preserve student privacy; thus, a coarsened number of cases is provided within the regression output (Seastrom, 2002). When any calculation results in less than 30 cases, it is not possible for a reliable estimate to be given, so PowerStats

instead displays a symbol rather than a calculation (Chen et al., 2019).

Measures

Data were collected from the NCES database through the PowerStats tool. Demographic data collected consisted of students' race and ethnicity. When selecting strengths-based factors, the authors selected variables both that were present within the extant literature, as well as those which the first author identified as relevant from her own work with Hispanic students in higher education.

Race and Ethnicity

As part of the Higher Education Act of 1965, all postsecondary institutions receiving Title IV funds must complete the Integrated Postsecondary Education Data System (IPEDS) survey each year (National Center for Education Statistics, n.d.-c). Students must be given an opportunity to self-report their race and ethnicity, but they are not required to do so (The Integrated Postsecondary Education Data System, n.d.). IPEDS collects race and ethnicity as two separate questions and provides a framework for institutional reporting as a singular demographic item. As this study was focused on the experience of students who identify as Hispanic or Latino, the BPS:12/14 variable used for race and ethnicity was HISPANIC.

Expected Education Level

During their BPS: 12/14 interview, students were asked what was the highest degree or credential they ever hoped to earn. This categorical value was asked of all respondents but was later collapsed to a binary variable. This variable was used as a proxy for goal setting. Within the literature, an emphasis on hope and goal-oriented thinking has been shown to positively impact various indicators of success,

such as GPA and retention (Snyder et al., 2002), therefore this variable was selected to align with this concept. The BPS:12/14 variable used for expected education level was HIGHLVEX.

Likelihood to Complete Degree

Students were asked during their NPSAS:12 interview how likely they believed that they would attain their desired credential or degree on a zero to 100 scale. This continuous variable was used as a proxy for self-efficacy. Given that self-efficacy has been shown to have a positive outcome on student success (Vuong et al., 2010), and more specifically, Latino success (Torres & Solberg, 2001) this variable was selected for inclusion within the current study. The BPS:12/14 variable used for likelihood to complete degree was DEGEVR.

Gender

Students were asked during their initial interview to identify their gender, with the only choices being male or female. If this was not available for some reason, their Free Application for Federal Student Aid (FAFSA) application information was used. If both the initial interview and the FAFSA information were not available, additional student information was utilized to indicate gender (Hill et al., 2016). Gender was selected for inclusion given that existing research suggests that gender may impact persistence (Mertes & Hoover, 2014). The BPS:12/14 variable used to indicate gender was GENDER.

Institutional Belonging

During their NPSAS:12 interview, students were asked whether or not they felt like a part of the institution. Students rated belongingness on a scale of 1 (Strongly disagree) to 5 (Strongly agree). This categorical variable was utilized as a proxy for belongingness. Tinto's (1975) seminal research highlighted the impact of

students' feelings of belongingness on college retention. Given this variable's frequent usage within higher education research (Tight, 2019), it was selected for inclusion. The BPS:12/14 variable used for institutional belonging was BELONG.

Persistence

This variable was derived from a series of data sources: BPS:12/14 interview, National Student Clearinghouse (NSC), NPSAS:12 Student Records, NPSAS:12 interview, NSLDS:14. Information collected included what degree or credential students had earned by 2014, or whether they were still enrolled. This categorical variable identified whether or not students had earned a degree within three years of beginning their studies, were still enrolled, or had left college without a credential and were no longer enrolled. Three years is the selected time frame for the scope of this study as it was the most updated information available at the point of inquiry. This variable was selected with respect to the non-traditional enrollment trends many students experience throughout their college career. The selected variable was later converted to a binary variable. The BPS:12/14 variable used for persistence was PRAT3Y.

Data Analysis

Descriptive statistics for all variables were calculated and reported. The logistic regression was completed using the PowerStats tool on the NCES website. The variables were entered into the regression model simultaneously, given that the PowerStats tool does not allow for alternative entry methods.

Upon running the initial regression, PowerStats reported an error message regarding collinearity and further explicated that one of the categorical independent dummy variables consisted of fewer than 30. The categorical values

were thus revised and collapsed in response to this error while remaining in alignment with the research question. Similarly, logistic regression was chosen to reflect the dependent variable of degree attainment. In its original form, the variable was ordinal in nature. This variable was collapsed to align with the research question, which is only interested in whether students attained a credential or not. The final regression attempt reported no errors.

Results

This study included roughly 4,900 students who identified as Hispanic or Latino and who began their postsecondary education at an institution within the United States. Logistic regression was used to determine whether or not there is a relationship between students' expected education level, likelihood they intend to complete their degree, level of institutional belonging, gender, and their persistence/completion within a three-year period.

The first independent variable studied was students' feelings of belongingness and its impact on whether or not students persisted or earned a credential through 2014. Within this variable's analyses, no significant findings were encountered.

The second independent variable studied was the students' expected education level. The results for the second independent variable are as follows. Holding all other variables constant, if a student expects to earn a degree beyond their bachelor's degree, the odds of persisting or completing within the three-year timeframe are 57.4% higher (i.e., $OR = 1.574$) than a student who is seeking a bachelor's degree or lower. This result was significant at the $p < .01$ level. With regard to the magnitude of the result, the effect size for this variable would be considered less than a small effect size (Chen et al., 2010) and

comparable to a Cohen's d of 0.2406 (Lenhard & Lenhard, 2016).

The third independent variable studied was the students' perceived likelihood that they would ever complete their degree. Holding all other variables constant, as students' perceived likelihood of completing a degree increases by one unit, their odds of persisting or completing also increases by 28.7% i.e., $OR = 1.287$). This result was significant at the $p < .01$. With regard to the magnitude of the result, the effect size for this variable would be considered a small effect size (Chen et al., 2010), and comparable to a Cohen's d of 0.1365 (Lenhard & Lenhard, 2016).

The fourth independent variable studied was gender and whether this impacted students' persistence or whether they earned a credential through 2014. Within this variable's analyses, no significant findings were encountered.

Discussion

Overall, the results suggest that some factors may impact Hispanic undergraduate student graduation and persistence rates in a statistically significant way. The findings did not demonstrate that belongingness or gender were statistically significant in students' persistence. However, both students' expected education level and likelihood of completing their degree did suggest there was a predictive relationship, with varying levels of significance between each of those variables and students' persistence.

With regard to the first variable (belongingness), there exist four explanations for the results encountered. First, the lack of relationship between persistence and engagement is in line with prior research challenging Tinto's (1975) applicability of Tinto's model of student attrition with regard to more racially and ethnically diverse student populations (Gonzalez & Morrison, 2016; Nora, 1987). Second, despite

the preponderance of this model within higher education literature (Tight, 2019), the original research focused solely on four-year colleges. Excluding two-year institutions has garnered significant criticism because they often enroll higher rates of Hispanic students than their 4-year counterparts (Adelman, 2005). Third, Tinto's model focused solely on traditional college-aged students. Contemporary college students are continuing to represent a more diverse cross-section of individuals. Lastly, it is also possible that concerns related to instrumentation are what led to this variable's lack of significance within this sample. The question, as framed, focuses on institutional belonging, which may not be truly reflective of belongingness as a whole. Students may experience belonging at other ecosystemic levels not represented within institutional belongingness. Amongst these, it is likely a combination of each of these factors that led to this variable's lack of impact. This variable was included for its popularity within higher education literature, but when evaluated against more diverse populations, there is less potential applicability. This may even be extended to how belongingness is conceptualized within different cultural groups.

The outcome related to the second variable—students' expected education level—suggests two potential explanations. First, the result obtained may have some relationship to students' first-generation status, which is an often-cited risk factor within the persistence literature (Ward et al., 2012). Although first-generation status was not a variable directly explored within the current study, Hispanic students enrolled at four-year colleges are more likely to be first-generation college students than any other demographic group (Saenz et al., 2007). Relatedly, first-generation status has also been shown to impact students' level of educational aspiration (Martinez et al., 2009). Therefore, it is possible that the variance may be impacted by

another moderating variable such as first-generation status. Another possibility is that the results are explained simply by the fact that students pursuing careers that necessitate further education, such as medicine and law, are often more grounded in their career decision-making and thus more likely to persist at the undergraduate level. This finding aligns with the existing research on career decision-making and its impact on student academic outcomes (Peterson & Delmas, 2001; Wright et al., 2013). Of the two, the most likely rationale is the latter. Within higher education, much attention is paid to undergraduate students' career development through courses (Gordon & Steele, 2015), assessments (Roberts-Martin, 2019), and university-level support (Smith, 2014). Thus, it is reasonable to suggest that there is merit in this career-focused work.

With respect to the third variable—students' perceived likelihood of completing their degree—there are two potential reasons for this outcome. One is the potential cultural impact of familismo, or familial values, on students' intentions to persist. This is in line with existing research and suggests that this may serve as a protective factor for Hispanic students in higher education (Morales, 2010; Ojeda et al., 2011). Secondly, logic would suggest that the more confidence an individual has in their ability to achieve a goal, the more likely they are to attain that goal. This argument aligns with the research on academic self-efficacy and its impact on student persistence (Hsieh et al., 2007; Torres & Solberg, 2001). While more literature exists to support academic self-efficacy, as that is a variable that is studied across racial and ethnic lines, the most reasonable rationale for this result is the impact of cultural values, such as familismo. This aligns with prior research by Aguayo et al. (2011), who noted, for instance, that higher levels of enculturation, or the extent to which one connects to their own heritage, was positively and significantly related to higher

grade point averages. Given that familismo is common amongst Hispanic college students (Campos et al., 2014), it is most likely that this influences other variables, such as academic self-efficacy, and thus is the likely reason for such an outcome.

The final variable, gender, did not yield significant results. As such, there are two likely explanations. First, the possibility exists that gender may have an impact on persistence but not within the time constraint explored within this study. As gender has shown to have a variable effect on outcomes over time (Joensuu et al., 2013), it is possible that its effect on persistence was not captured within the three-year scope of the current study. Secondly, gender itself can be viewed as a problematic variable to examine in isolation. As Calasanti and Slevin (2001) articulated, gender as a standalone variable does not adequately capture the way in which societal structures impact individuals. Thus, it is possible that any variation due to gender, while not reflected in persistence, may be explained by gender-oriented beliefs captured within study variables. Prior research has indicated that other variables, such as academic self-efficacy, do vary by gender (Huang, 2013). Given these two potential rationales, the second outcome is the more likely one. Gender is a complex variable with a number of layered social implications. While no significant results were encountered within the scope of this study, it is likely that other variables may indirectly account for potential variation due to gender within undergraduate persistence.

There are two distinct limitations that should be noted within this study. With the use of the PowerStats module rather than a raw dataset, there are concessions that the researchers must acknowledge. Exact numbers such as precise sample size and specific breakdowns are intentionally obscured by design. Given the granularity of the data collected, in order to

ensure student confidentiality, access to raw data was limited to Principal Project Officers (PPO) and to researchers under their direct supervision. While PowerStats intentionally obscures some exact data, analyses provided are accurate within these constraints. While this was intentional to preserve student privacy, there is an opportunity for further research using the raw data. Secondly, the data captured only first-time, full-time students. While the results are valuable and generalizable to a large part of the American college population, there is an increasing number of non-traditional students attending college, and not all were captured by the criteria established by the BPS study (Hill et al., 2016). Future researchers may then have an opportunity for expanded analyses with raw data sets.

The foregoing results and discussion provide grounding for future research in the area of Hispanic undergraduate persistence. Given that the research in this arena is still emergent, this study hints at some areas of further inquiry for professionals who work with Hispanic undergraduate students. Opportunities for further research include the role of goal-setting and academic self-efficacy with Hispanic undergraduates. Within higher education, there are many practical applications for these findings. For instance, higher education professionals who seek to support the persistence rates of Hispanic students can consider emphasizing discussions surrounding goal setting and academic self-efficacy within first-year seminars or academic counseling sessions. Additionally, institutions may consider identifying these strengths in incoming students and providing scaffolding to support students who enter college with lower levels of efficacy or goal orientation. In sum, the findings suggest that there is much more research needed with regard to strengths-based predictors of Hispanic undergraduate persistence. As the demographics of the country continue to change, the makeup of our colleges and universities will

continue to diversify; therefore, more research that delves into these issues is warranted.

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