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Students at Hispanic-Serving Institutions (HSI) in Texas and New Mexico: An In-Depth Profile of Their Backgrounds, Commitments, and Perspectives

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To cite this article:

Preuss, M. D., Sosa, E. M., Rodin, J. C., Dorsett, C. R., Ramos, J. D., & Burleson, C. R. (2021). Students at Hispanic-Serving Institutions (HSI) in Texas and New Mexico: An in-depth profile of their backgrounds, commitments, and perspectives. *International Journal of Research in Education and Science (IJRES), 7*(2), 287-326. https://doi.org/10.46328/ijres.1984

IJRES International Journal of Research in Education and Science
2021, Vol. 7, No. 2, 287-326 https://doi.org/10.46328/ijres.1984

Students at Hispanic-Serving Institutions (HSI) in Texas and New Mexico: An In-Depth Profile of Their Backgrounds, Commitments, and Perspectives

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Article Info

Article History

Received:
19 September 2020
Accepted:
05 January 2021

Keywords

Hispanic-Serving Institutions
Hispanic/Latinx
First-generation college students
Culture

Abstract

Hispanic-Serving Institutions (HSI) educate nearly two-thirds of the Hispanic/Latinx students who attend college. Yet little is known about the student populations they serve. Findings from two NSF-funded surveys completed with students at 14 HSIs in Texas and New Mexico in 2018 and four HSIs in TX in 2019 are presented. The combined sample was 1,293 students. A description of the backgrounds, commitments, experiences, and preferences of students at HSIs and differences found between responses from Hispanic/Latinx and non-Hispanic students are discussed. Primary topic areas are demographics, first-generation student standing, cultural orientation, primary language and fluency in Spanish, family and work commitments, relationship status, family support, living arrangements, means of financing college, course load, STEM identity, annual income of household of origin and of personal household, locus of control orientation, familism, and experience in college. The result is a thorough and up-to-date profile of the HSI student population in TX and NM. Statistical analysis revealed multiple significant differences between Hispanic/Latinx and non-Hispanic students attending the HSIs and the presence of several significant predictors for forms of activity and patterns of commitment. The findings are immediately applicable to process, program, student support, and instructional planning, implementation, and evaluation for over 120 HSIs in the region and, by extension, to hundreds more across the United States.

Introduction

The south-central and southwest United States has a high concentration of Hispanic/Latino residents (US Census Bureau, 2019a, 2019b, 2019c, 2019d, 2019e). In New Mexico and Texas, where the data for this study was gathered, the percentage of persons identifying as Hispanic is 49.3% and 39.7% respectively (US Census Bureau, 2019c, 2019e). It is 31.7% in Arizona (US Census Bureau, 2019a), 29.2% in Nevada (US Census Bureau, 2019d), and 39.4% in California (US Census Bureau, 2019b). While many people are aware that Hispanics make up a large portion of the population of the southwest United States and are the largest US

minority group, fewer are aware that they have the lowest average age of any segment of the US population and only the Asian population has been growing faster in recent years (Colby & Ortman, 2015; Flores & Park, 2015). In NM and TX, this is immediately evident in the public schools. In 2011, 59.4% of public-school-aged students in NM were Hispanic (Edweek.org, 2020). In the 2012-2013 school year, the percentage rose to 59.91% (Ballotpedia, 2020) and it was 61% by the 2016-2017 school year (NewMexicoKidsCAN, 2018). Recently, Albuquerque Public Schools, a district that educates over one quarter of the elementary and secondary aged students in New Mexico, reported 65.8% of their students were Hispanic (2020). Texas is not far behind. Over 52% of students in TX public schools were Hispanic in the 2017-2018 school year (Nagy, Whallun & Kallus, 2018). The situation is very similar in Arizona (de la Melena, 2017; Milem, Salazar & Bryan, 2016), Nevada (State of Nevada Department of Education, 2019), and California (The Campaign for College Opportunity, 2018). When one of every two future college students is Hispanic, or in the case of NM two of every three, understanding their background, commitments, and perspectives is imperative as they will be the majority of future enrollees.

HSIs educate nearly two-thirds of Hispanic students in the US (Revilla-Garcia, 2018), yet Hispanics are underrepresented in many of the professions in the United States which require college degrees (Arellano, Jaime-Acuna, Graeve, & Madsen, 2018; Bayer Corporation, 2012; Graf, Fry & Funk, 2018; Linley & George-Jackson, 2013). This is especially the case in science and engineering (S&E) fields. In a recent study, "Hispanics and Latinos accounted for 7% of the United States' S&E workforce, despite representing 16% of the total U.S. workforce (Pew Research Center, 2019). The statistics are even worse for females: in 2015, Hispanic and Latina women made up 1.8% of the US S&E workforce, despite representing 7.5% of the US residential population aged 21 or older (National Science Foundation, 2018)" (Clapp in Preuss et al, 2019). "As Hispanics make up an increasing percentage of the US population and, therefore, the available workforce, the underrepresentation of Hispanics in STEM studies…and in STEM professions…is a pressing concern. In fact, Arellano, Jaime-Acuna, Graeve, and Madsen (2018) characterized the situation in engineering fields as 'dismal'" (Preuss, et al, 2019). With two-thirds of Hispanic/Latinx students concentrated in 539 colleges and universities (HACU, 2019) but few of their peers advancing into STEM fields, understanding who is attending HSIs, their background, commitments, and perspectives is important for advancing programming and planning at HSIs to develop and maintain appropriate representation in the US workforce.

Yet, many Hispanic-Serving Institutions have limited programming targeting Hispanic/Latinx students, especially Latinas, and no initiatives to improve understanding of Hispanic culture on the part of faculty, staff, and administrators (Preuss et al, 2019). Many have not consciously institutionalized Hispanic-serving practices and patterns (Garcia, 2019) and are operating, intentionally or unintentionally, on a flawed paradigm. That belief is diversity in an institution's student population ensures the benefits of diversity will be actualized (Chun & Evans, 2016). This an inaccurate concept as any student of higher education can attest and many observers of current history would assert. The need to address this topic at HSIs was recently confirmed by other research completed by the authors (Preuss et al, 2019; Preuss et al, 2020a). Those data gathered from faculty, staff, and administrators at up to 60 HSIs indicated that the employees of Hispanic-Serving Institutions cannot be assumed to have an understanding of the background, experiences, preferences, and culture of their Hispanic students

(Preuss, et al, 2019; 2020a). With nearly two-thirds of Hispanic/Latinx college students attending HSIs and the pronounced need for them to be successful and move into professions across the United States, having actionable information about them, their backgrounds, perspectives, and needs will begin to fill the information gap among faculty, staff, and administrators at HSIs. This was highlighted by a survey of students at four HSIs in north Texas which confirmed that the Hispanic/Latinx students felt institutional representatives in the seven primary forms of engagement with students, including "instruction/teaching," did not understood their culture (Preuss et al, 2020a).

Relevant Literature

The count of Hispanic-Serving Institutions is increasing annually (HACU, 2019). Paralleling this, there has been an increase in the number of publications available about HSIs and their students. A Google Scholar search on October 7, 2020 returned 4,970 results (excluding patents and citations) for "students at HSIs" from all years with 842, 16.9% of the total, appearing since the first of the year in 2019. Fully 40.44% of all the listings, 2,010 sources, had been published since 2016. Similar patterns were found in searches with other key words and phrases on Google Scholar and using subscription database access provided by a university. Yet, even with this expanding volume of information detailed regional profiles of the student bodies at HSIs were lacking.

The United States government (NCES, 2018, 2019; National Science Board, 2018), states (Paredes, 2019; Texas Higher Education Coordinating Board, n.d.), university systems (The California State University System, n.d.; TAMUS, 2019), research centers (Milem, Salazar & Bryan, 2016), and private entities (Excelencia in Education, 2020; The Campaign for College Opportunity, 2018) issue reports with demographic profiles of student populations. Many also include general academic progress and success measures for future or current higher education populations. These often do not move past common and general descriptions based on information gathered about students by education providers although they occasionally include topics like English language learner standing (Milem, Salazar & Bryan, 2016). They rarely, if ever, include a wide range of information reported directly by the students under consideration and analysis that extends beyond the descriptive. The challenges inherent in completing human subject research that would provide sufficient volumes of the same forms of data at dozens of sites is likely one reason this limitation exists. Another is that some of the reports are formulated to address government mandated topics like affordability and access reporting in Texas (TAMUS, 2019; Texas Higher Education Coordinating Board, n.d.). There are many important concepts related to understanding student experience that are addressed in the various reports as isolated topics like work commitments (Body, Bonnal & Giret, 2014; Carenvale, Smith, Melton & Price, 2015) and student loan debt (Zhan, Xiang & Elliott III, 2018). But having the information without the ability to compare it to other characteristics of the same group of students has limited value. The greatest insights possible regarding the background, experience, and perspectives of students will be derived from large and integrated rather than isolated or simply descriptive data sets.

If not entirely unique, this account represents a rare compilation. The colleges and universities represented in the data set are not all from the same university system nor are they isolated to one state. They are in two states that

are at the forefront of the transition from the majority population in higher education being non-Hispanics to having student populations with Hispanic/Latinx majorities. The data set includes a broad variety of topics (see Table 1) facilitating comparisons and assessment of possible relationships between constructs. As such, this material represents a leading-edge consideration directly applicable to the southwest United States and information about a large group of students and a group of institutions in two states that can inform discussions at HSIs, Minority-Serving Institutions, and other colleges and universities across the country.

Research Focus

The surveys administered sought to understand the background, commitments, and experiences of undergraduates studying at Hispanic-Serving Institutions. A broad set of queries were deployed, 33 questions on the first survey, nine of which were matrices requiring a series of related responses, and 67 on the second survey with five matrix queries. Emphases selected for the second survey were informed by outcomes from the first and questions were removed to allow for use of others. This included adding the Latino Familism Scale (Steidel & Contreras, 2003) and Pearlin Mastery Scale (Pearlin & Schooler, 1978; Pearlin, Menaghan, Lieberman, & Mullan, 1981). These question sets were used with permission as means of deploying valid and reliable queries in specific topic areas in place of the questions generated by the project team for the first survey. The final difference between the first and second surveys was the use of Likert scales on the first and rating scales on the second. This change was enacted to facilitate more precise measures by shifting to a continuous rating scale. It was part of the reason the number of questions increased from the first to the second instrument. Several of the matrix questions were divided into sets of individual questions to facilitate use of rating scales. Table 1 lists the topics included in the two surveys.

Some questions and response sets were structured to enable aggregation of data points. For example, the responses possible for employment facilitated aggregation of responses as individuals who were working while attending college and those who were not. The combination of responses to form dummy variables is discussed in each topic area below as applicable.

Several of the topics listed in Table 1 have already been addressed in publications. These are role models and mentoring preferences (Preuss et al., 2020b) and cultural competence of faculty, staff, and administrators at HSIs (Preuss et al., 2020a). An article describing employment commitments of students at HSIs in Texas and New Mexico is under review by a journal's editorial board (Ramos, 2021) and conference presentations regarding familism (Rodin, 2018), locus of control (Dorsett, 2018), and profiling the student population of HSIs in Texas and New Mexico (Preuss & Sosa, 2020) have also been completed based the data gathered with the two surveys. Articles regarding locus of control orientation and the Pearlin Mastery Scale (see Table 1, items 14 and 21), familism (see Table 1, item 20), knowledge of and comfort with college-going practices (see Table 1, items 9, 10, 11, 12, 13, and 14), and a second article regarding work commitments using the 2019 data are in various stages of preparation. A number of these topics will be addressed in this presentation but full consideration of the data, which will not be possible in a profile like that developed here, will be published subsequently.

Table 1. Survey Topics

2018 Student Survey	2019 Student Survey
1. Demographics.	1. Demographics.
- State in which attend college.	
- Name of college/university.	- Name of college/university.
- STEM study.	
- Gender.	- Gender.
- Ethnicity.	- Ethnicity/Race.
- Racial identity.	
- Age.	- Age.
- Relationship status.	
- Residence (on or off campus with follow-up regarding form of off campus residence).	
- Co-residents (e.g., parents, siblings, roommate with follow-up question regarding caregiving responsibility when children were co-residents).	
	- First-generation college student.
	- Annual income of family of origin.
	- Annual income of own household.
2. Employment.	2. Employment.
- Yes or no (don't work, work on or off campus, worked in past, work on breaks).	- Yes or no (don't work, work on or off campus, worked in past, work on breaks).
- Hours of work each week (when applicable).	- Hours of work each week (when applicable).
3. Means of paying for college (select all that apply question).	3. Means of paying for college (select all that apply question).
4. College experience.	4. College experience.
- Years of college completed.	- Years of college completed.
- Positive or negative experience.	- Current credit hour load.
5. Personal background with Spanish.	5. Personal background with Spanish.
- English as a primary or secondary language.	- English as a primary or secondary language.
	- Level of fluency in Spanish.
6. Identification with Hispanic culture.	6. Identification with Hispanic culture.
7. Identification as a STEM student.	7. Identification as a STEM student.
8. Cultural understanding on the part of institutional representatives.	8. Cultural understanding on the part of institutional representatives.
9. Knowledge of college and college-going processes on part of family, friends, and the student.	9. Knowledge of college and college-going processes on part of family and the student.
10. Helpfulness of parents/family, spouse/partner, institutional representatives, and friends in various college-going processes.	10. Helpfulness of institutional representatives and family members in various college-going processes.
11. Family attitudes and expectations.	11. Family attitudes and expectations.
12. College experience with online resources, mentoring, and faculty.	12. College experience with online resources, mentoring, and faculty.
13. Perception of the value of college.	13. Perception of the value of college.
14. Attitude regarding success in college (who can succeed and level of personal confidence).	14. Attitude regarding success in college (who can succeed and cultural orientation).
15. College and Hispanic culture.	15. College and Hispanic culture.
16. Role models (who are and desired characteristics).	16. Mentors (who are and desired characteristics).
17. Value of speaking Spanish when in college.	17. Value of speaking Spanish when in college.
18. Relationship patterns (with peers, faculty/staff).	18. Relationship patterns (with peers, faculty/staff).
19. Cultural indicators of success.	19. Cultural indicators of success.
	20. Latino Familism Scale.
	21. Pearlin Mastery Scale.

Note: Words or phrases underlined in the left-hand column denote concepts eliminated on the 2019 survey and those in the right-hand column denote topics or question sets added for the 2019 survey.

Method

The development of the surveys, the identification of the audience, and the methods by which the surveys were distributed have been discussed in detail in Preuss et al., 2020a and 2020b. The process will be reviewed briefly here. Both surveys were developed as part of a study funded by the National Science Foundation (award # 1764268). All research patterns and materials were submitted to and approved by an Institutional Review Board at a state university.

The investigative process began at and continued after the Consejos Colectivos conference held in Dallas, Texas in late February of 2018. The conference was one of the primary activities in the NSF-funded project and data gathering for the study occurred during concurrent sessions. It took place as a series of focus groups with conference attendees all of whom were faculty, staff, or administrators at Hispanic-Serving Institutions. Following the focus groups at the conference, interviews were conducted with audiences under-represented or not included in the focus groups. This included students at HSIs, a group excluded from the conference focus groups as it was felt their presence would limit the discussion between faculty, staff, and administrators and the presence of institutional representatives would also inhibit student responses. All focus group sessions and interviews were recorded and transcribed. Open qualitative coding (Kolb, 2012) was completed by authors of this article who were also the members of the project's research team. The results of the coding, material from the literature, suggestions from conference team members, and the authors' professional experience and expertise were employed to create surveys that were distributed to 119 HSIs in a four-state region. There was one survey for faculty, staff, and administrators and a second for students. Results from the faculty, staff, and administrator survey were published in 2019 (Preuss et al.). The intention had been to survey persons at all HSIs in a seven-state region (AR, CO, KS, LA, NM, OK, TX) but it was discovered that there were no officially recognized HSIs in three of the states when distribution lists were prepared for the survey. That limited the actual region in which the survey was distributed to Colorado, Kansas, New Mexico, and Texas.

The initial student survey was distributed at the end of the spring semester in 2018. It consisted of 33 questions, many of which were multipart queries. It was distributed by sending e-mail announcements with an embedded link to over 1,500 faculty, staff, and administrators at the 119 HSIs in the four-state region. A similar e-mail was sent to 39 individuals who had volunteered at the Consejos Colectivos conference to assist with survey distribution. The Texas Association of Chicanos in Higher Education also distributed the survey link to their members. In each case, the e-mail asked the recipient to share the survey link with students at their institution, should they be in direct contact with students, or with their colleagues who were in direct contact with students. In addition, several members of the research team solicited participation in person at the dining commons and student center food court of their institution, through their personal network of faculty contacts, and through college groups at churches.

The 2018 survey was accessible for a three-week period from the end of April to the middle of May. Once closed, the responses were downloaded in an Excel spreadsheet. A total of 585 students in three of the four states, Colorado, New Mexico and Texas, accessed the survey. They attended 15 distinct colleges and

universities, "one university in Colorado, three four-year and two two-year institutions in New Mexico, and five four-year and four two-year institutions in Texas" (Preuss et al., 2020b, p. 62). The responses were reviewed for submission by a student from an HSI, completeness, and consistency. Student self-report regarding the college attended, a selection made from a pull-down list or a written response following the selection of "Other" in the list, was used to check that submissions came from students at HSIs. "The limited number of responses from the university in Colorado were not included [for analysis] as it was not an HSI" (Preuss et al., 2020b, p. 62). This action and removing incomplete responses left a total of 464 usable response sets from students at 14 HSIs in New Mexico and Texas.

In the spring of 2019, the research team revised the initial student survey.

> This involved removing some queries that had proven ineffective, adding a demographic marker, rephrasing some questions, shifting response patterns to 0 to 10 scales from select all that apply and five-point Likert scales, replacing the original familism and locus of control questions with valid and reliable question sets, and shifting the focus of a subset of questions from role models to mentors (Preuss et al., 2020b, p. 62).

The revised survey was deployed at four Hispanic-Serving Institutions.

> It was first deployed at a community college in the spring of 2019. The research team solicited student participation by approaching students in the dining commons and the student center. Faculty members were also asked to present in their classes that students had the opportunity to participate in the survey. After initiating solicitation at the community college, respondents were also sought at a state university in the region using the same methods. Following that effort, the focus shifted to a second community college. The research team solicited participation by working with faculty who distributed the link to the survey in their classes or via e-mail (Preuss et al., 2020b, p. 62).

The 2019 survey was also made available to students at a third community college. Faculty were encouraged by the administration to distribute the survey link to their students in class or via e-mail. At all four institutions, survey "solicitation processes were completed with the permission of the appropriate administrators" (Preuss et al., 2020b, p. 62).

By the fall of 2019, 912 students had accessed the second student survey.

> Six were found to be students who selected "Other" as the institution they attended but did not provide an institution's name in the associated data entry field. Eight more were students who identified themselves as attending an R01 institution in the region that became an HSI in 2017. The remaining…parties accessed the survey without completing it. Each of these groups of responses was excluded from data analysis as they came from outside the population of interest and/or were without usable information" (Preuss et al., 2020b, p. 62).

There were 829 usable submissions from the four HSIs in north Texas, one regional, comprehensive state university and three community colleges. These and the 464 response sets from the 2018 survey were subjected

to statistical analysis. Analyses were conducted using SPSS and methods appropriate to each form of data.

Limitations

Several limitations exist for the information being reported. All the survey prompts for the 2018 instrument and most for the 2019 instrument were developed by the project team and while they were reviewed for face validity by Hispanic/Latinx and non-Hispanic students and higher education professions and were piloted with a group of students, they cannot be seen as having demonstrated validity and reliability.

The usable data from the surveys is limited to New Mexico and Texas and the data was provided as informant self-reports. While the questions considered in this report requested easily quantifiable information in the units in which it is commonly considered, like credit hours being taken and family income, there was no means of checking the accuracy of the data. Some of the information requested is considered by some parties to be of a sensitive nature so it is possible, even though the responses were submitted anonymously, that informants felt a need to shield themselves by providing inaccurate information.

The findings are descriptive. The focus of the queries was what existed rather than why a pattern existed. This approach was necessary since the literature did not provide an up-to-date, broad, and consistent descriptive representation of the population under consideration.

Informants were not asked to classify themselves as attending college part-time or full-time or whether they were first-time college students on the first survey. Credit hours taken allowed sorting into full-time and part-time standing with the 2019 data and informants were asked whether they were first-generation college students on that survey. Having information in these areas with the 2018 survey would have made different forms of and greater detail in analysis possible for some responses.

"Several response categories were combined to create dummy variables for working and not working, part-time and full-time work, traditional versus non-traditional aged students, and persons sharing a residence with a partner (married and cohabiting) versus respondents who were single" (Ramos et al., 2021, p. 5). While these facilitated some forms of analysis, they also limited the granularity of some comparisons and might have prevented identification of some patterns.

Findings

Sample

Responses Received

A total of 585 students from 15 colleges and universities in Colorado, New Mexico, and Texas accessed the 2018 survey. Following removal of incomplete responses and submissions from students who were not attending HSIs, there were 464 usable sets of responses. They came from students at institutions in New Mexico and Texas as all the submissions from Colorado were from students who did not study at HSIs. The usable

responses came from two four-year and three two-year institutions in New Mexico and five four-year and four two-year institutions in Texas. The 2019 survey was accessed by 912 students. The population of interest was undergraduates from one state university and three community colleges in the Texas Panhandle. Incomplete responses, responses from students who did not identify the institution they attended, and submissions from eight students who attended an R1: Doctoral University (Center for Postsecondary Research, n.d.) in the region were excluded. A total of 829 usable submissions remained.

Relationship of the Sample to Population

Table 2 contains demographic summaries for the two informant groups and for the institutions from which they were drawn. The demographic information for the various institutions was compiled using online resources.

> "An approximate total student headcount for the 14 institutions represented in the 2018…survey was calculated by accessing quick facts pages and fact books on institutional websites, data on the US News & World Report Best Colleges webpages, and data from collegefactual.com. The most recent headcount of undergraduate students at each institution was employed to calculate an estimated count of the potential respondent pool. Headcounts from fall of 2016 were the oldest used in the process. The combined total of undergraduate students at the 14 institutions was calculated to be 172,271. The 464 usable responses exceed the threshold needed for a 95% level of confidence with a 5% margin of error for a population of that size" (Preuss et al., 2020b, p. 63).

A similar process was undertaken for the 2019 survey and the four institutions represented in it. "The total count of possible respondents for the 2019 student survey, [was] compiled from…institutional fact books and one communitycollegereview.com profile page (oldest count was from fall of 2017)" (Preuss et al., 2020b, p. 63) and the figure was restricted to undergraduates. The total undergraduate enrollment calculated for the four institutions was 28,258. The 829 usable responses received exceed the threshold needed for 99% level of confidence with a 5% margin of error.

The alignment of the samples with the gender and ethnic ratio as well as the racial diversity at the institutions was also checked. The same online sources used to identify the overall student count were employed to gather counts of female and male students, Hispanic and non-Hispanic students, and to understand the racial diversity at the institutions. Table 2 provides a comparison of the gender and ethnicity patterns in the sample to those in the overall population. Figures 1 and 2 provide a graphic representation of the same information. Individuals identifying as Hispanics/Latinx were slightly oversampled while non-Hispanics were slightly under sampled.

The racial identities of students attending the informants' institutions and those reported by the informants were also compared (see Figure 3). They were found to be remarkably similar except for the number of persons identifying as White. That difference can be explained. The 2018 institutional data, from 14 distinct colleges and universities, did not consistently include the option for individuals to identify with more than one racial group while the other three data sets did. As it is not uncommon for Hispanic/Latinx individuals to identify a multi-racial with one of the categories being White, the 2018 institutional data did not accommodate this pattern and

likely undercounted the number of parties in that category.

Table 2. Gender and Ethnicity Patterns in Samples and Overall Population

Characteristic	Categories	2018 Survey	2019 Survey	Institutions in Sample	
				2018	2019
Gender	Female	61.0%	61.0%	59.4%	58.8%
	Male	38.1%	37.7%	40.6%	41.2%
Ethnicity	Hispanic/Latino	45.9%	40.4%	36.8%	34.2%
	Non-Hispanic	54.1%	59.6%	63.2%	65.8%

Note: Survey gender percentages do not total 100% for 2018 because 1% of respondents selected non-binary/unspecified and for 2019 because 1.3% or respondents selected gender fluid or other.

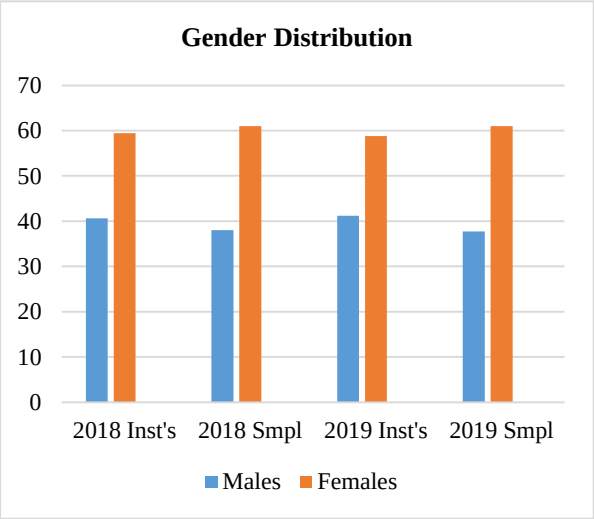

Figure 1. Gender Distribution

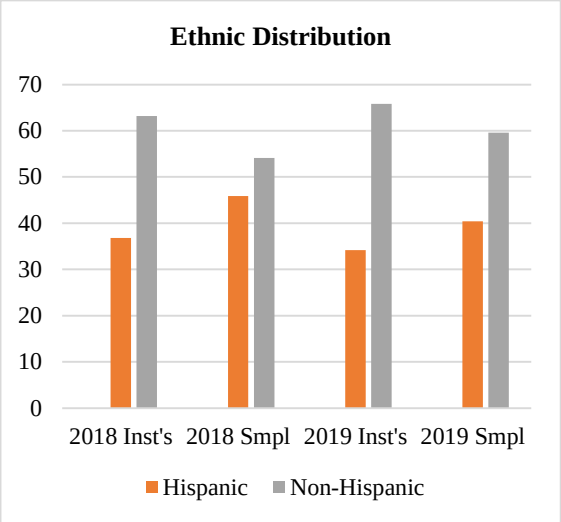

Figure 2. Ethnic Distribution

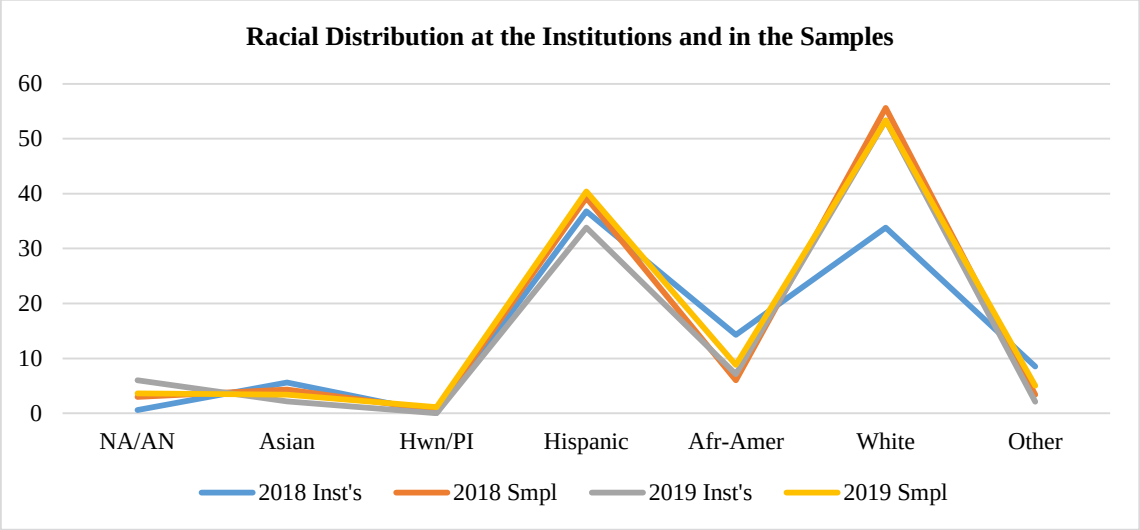

Figure 3. Racial Distribution

Years in College

Informants were asked on both surveys to provide information regarding the number of years they had attended college. A multiple-choice query with five possible responses was used in 2018. The options were: (1) less than one year, (2) more than one year but less than two years, (3) two years but less than three years, (4) three years but have yet to graduate, and (5) more than four years but have yet to graduate. In 2019, the same question was asked but informants provided responses on a sliding scale ranging from 0 to 20. Figures 4 and 5 display the response patterns.

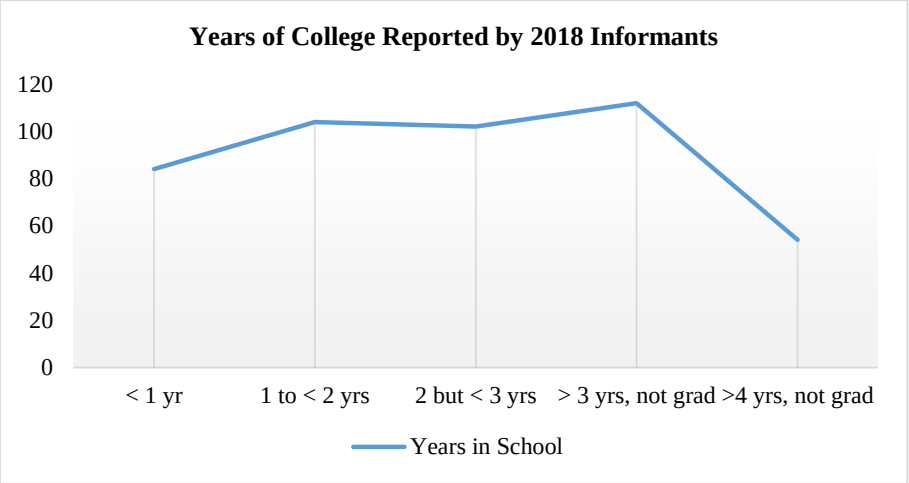

Figure 4. Years of College Reported by 2018 Informants

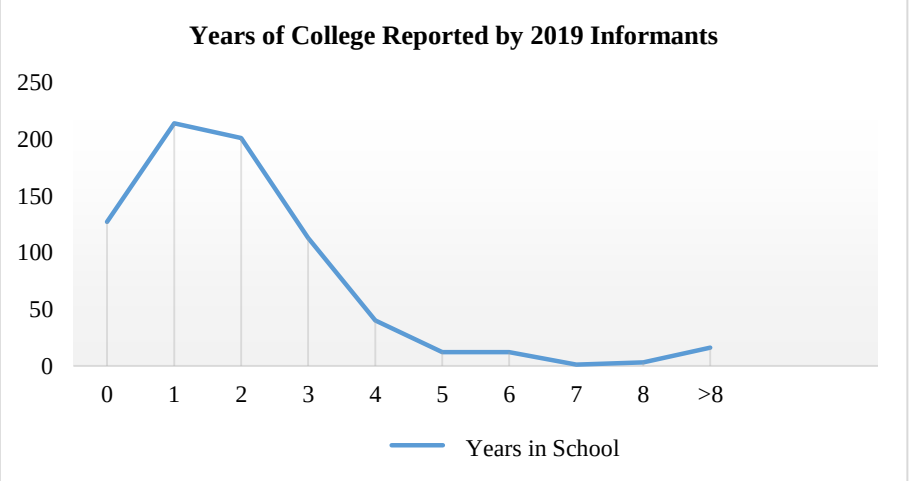

Figure 5. Years of College Reported by 2019 Informants

For Figure 5, the number of respondents was 739 out of a possible 829 and all responses of above eight years (n = 20) were combined as one category. The mean response in 2018 was "two but less than three years." For 2019, it was 2.04 years with a median of 2.0 and a mode of 1.0. Both samples included a broad distribution of college-going experience, extending from first year students to persons reporting eight or more years of college, with many students who had completed several years of college responding. One hundred and sixty-six of 456 respondents in 2018 had three or more years in college and 137 in 2019 had three or four years, while 25

reported five, six or seven years, and 20 reported eight years or more. The comparisons made and calculations completed indicate that the samples are representative of the overall undergraduate population at the institutions in respect to gender, ethnicity, and racial identity. They also represent a sampling across all levels of college experience (Figures 4 and 5) that does not appear to have been skewed and include informants from all age categories (Table 4). Finally, the counts of usable submissions can be viewed, at a minimum, at a 95% confidence level with a 5% margin of error. These characteristics make the material that follows directly applicable to the 120 HSIs in Texas and New Mexico as of the 2018-2019 school year (HACU, 2019) with the potential for generalization to institutions across the south-central and southwest United States and the capacity to inform discussion at over 500 HSIs across the nation.

Profile of Undergraduates Studying at HSIs Represented in the Sample

Identification with Hispanic Culture

On both surveys, the students were asked about their identification with Hispanic culture. The prompt was "I identify with Hispanic culture" followed by a five-point Likert scale in 2018 and "I identify with the following cultures" followed by six options in 2019. Respondents could select any of the options on the 2019 survey and use a ten-point rating scale to indicate their level of identification. The six options were: (1) Asian/Middle Eastern, (2) Black/African American, (3) Hawaiian Native/Pacific Islander, (4) Hispanic/Latinx, (5) Native American/Alaska Native, and (6) White/European American. Table 3 summarizes the responses for identification with Hispanic culture.

Table 3. Identification with Hispanic Culture

Survey	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	No Response
2018	17.9%	16.4%	18.3%	19.8%	26.7%	0.2%
		No Rating			Rating	
2019		52.9%			47.1%	
Note: 463 of 464 informants responded to this question in 2018 and 815 of the 829 in 2019.						

Approximately 47% of the respondents on both surveys identified at some level with Hispanic culture. That figure is slightly above the percentage of respondents who indicated Hispanic ethnic identity in 2018 (45.9%) and almost seven percentage points above the figure for the 2019 survey (40.4%). This was the case as some informants who did not claim Hispanic/Latinx backgrounds stated an affinity with Hispanic culture. The 2019 data facilitated a more nuanced analysis which indicated existence of two strongly held ethnic identities among the respondents in north Texas. These were Hispanic/Latinx and White/European American. They were the two groups with the highest median and mode values. When considering all respondents who provided a rating in each of these categories, the median and mode responses for both Hispanic/Latinx (n = 384) and White/European American (n = 520) were the highest possible scores, ten. Identification as Black/African American was the next strongest with a median rating of six and a mode of ten with Native American/Alaska Native as the fourth highest, median of three and mode of two.

Years of College

Years of college completed has been discussed above in the description of the sample. It is, though, also an item of interest in understanding influences on the student population. For instance, is there a connection between gender and the number of years completed in college? A regression analysis was completed with age, gender, first-generation student status, and cultural identity as the independent variables. Student age was the only significant predictor for years of college completed ($p < .001$, adjusted R squared = .22). As might have been anticipated, older students had finished more years of college. Each year of age was associated with an additional 0.141 years of college completed.

English as a Second Language and Fluency in Spanish

Informants were asked about their first language on both surveys and their fluency in Spanish on the 2019 survey. The prompt for first language was "I learned English as a _____ language" on both surveys with two possible responses, primary and secondary. Some of the students did not answer this question, two in 2018 and 38 in 2019. The response patterns were similar, 19.5% responding English was their secondary language in 2018 and 17.8% in 2019, even though 2018 data included 14 institutions in New Mexico and Texas and the 2019 data was from four institutions in the Texas Panhandle. When disaggregated by ethnicity, 36.8% of the Hispanic/Latinx students reported learning English as a second language (ESL) while 4.8% of the non-Hispanics did. The second percentage is consistent with the level of non-White informants who might have another language as their primary tongue (see Figure 3).

The survey takers were also asked to rate their fluency in Spanish in 2019. The question stem was "My fluency in Spanish is…" followed by an explanation of how to view the rating scale, "no Spanish (0) through fluent Spanish (10)." The responses were considered overall and disaggregated by ethnicity.

- For the entire sample, the median was 3.0, mode was 1.0 (20.2% of responses) and the highest and lowest possible ratings were submitted by 13.4% and 11.4% of the informants respectively. Sixty-six of the 72 persons who reported no proficiency in Spanish were non-Hispanics and six identified as Hispanic/Latinx. One of the 80 persons reporting fluency in Spanish identified as Black/African American, five as White/European American, four as multi-racial (all were Hispanic/Latinx and White/European American), and the remaining 70 identified as Hispanic/Latinx.
- Informants with a Hispanic/Latinx ethnic identity had a median rating of 7.0 and mode of 10.0 (26.1% of Hispanic/Latinx submitted the mode value).
- Non-Hispanics had a median value of 2.0 and mode of 1.0 (29.8% of non-Hispanics submitted the mode value) with 69.9% of persons in this group submitting a response of 3.0 or lower.
- There was also a group of people identifying as Hispanic/Latinx who reported low proficiency in Spanish defined as persons providing a rating of three or below. This was a group of 69 persons approximately a third of whom identified as multi-racial (n = 24).
- 82.0% of persons identifying as Hispanic/Latinx reported moderate or better proficiency in Spanish, a rating of four or above.

Age and Relationship Status

Informants were asked about their age on both surveys and their relationship status on the 2018 survey. The prompt for age in 2018 was "I am…" followed by five categories often used in higher education: (1) less than 18 years of age, (2) 18 to 24 years of age, (3) 25 to 29 years of age, (4) 30 to 40 years of age, and (5) 41 or more years of age. For the 2019 instrument the prompt was "My age is…" and responses were submitted using a rating scale that extended from zero (0) to 100. "My relationship status is…" was a query on the 2018 survey for which there were five possible responses. They were: (1) single, (2) cohabiting with a partner, (3) married, (4) separated or divorced, and (5) widow/widower. The age distribution of respondents was nearly the same for both surveys (see Figure 6 and Table 4) with the majority of respondents, approximately 84%, in the traditional age category for college students.

Table 4. Age Distribution and Relational Status as Counts and Percentages

		18-24	25-29	30-40	Over 40
2018 Overall		388 (84.0%)	36 (7.8%)	23 (5.0%)	15 (3.2%)
By relational status	2018 – Single (72.8%)	317 (93.8%)	14 (4.1%)	7 (2.1%)	0
	2018 – Cohabiting (13.1%)	53 (88.3%)	5 (8.3%)	2 (3.3%)	1 (1.7%)
	2018 – Married (10.8%)	16 (32.0%)	12 (24.0%)	11 (22%)	11 (22%)
	2018 – Separated or divorced (2.8%)	2 (15.4%)	5 (38.5%)	3 (23.1%)	3 (23.1%)
	2018 – Widow/widowed	0	0	0	0
2019 Overall		679 (83.7%)	49 (6.1%)	42 (5.2%)	38 (4.7%)

Note: The n for 2018 was 462 and for 2019 it was 808. The 2019 mean was 22.42 years of age with a median value of 20.0 and a mode of 19.00.

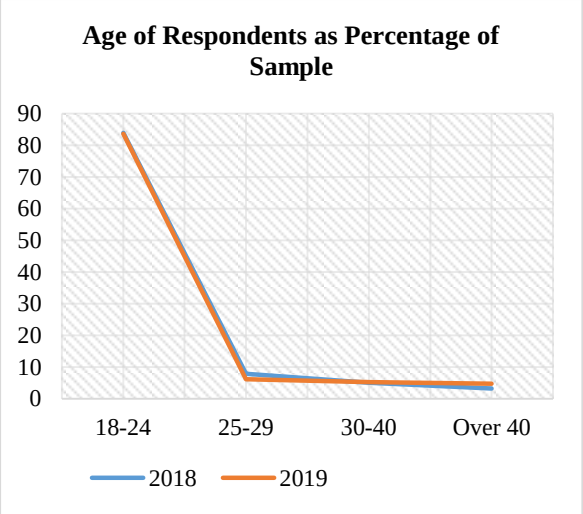

Figure 6. Age of Respondents

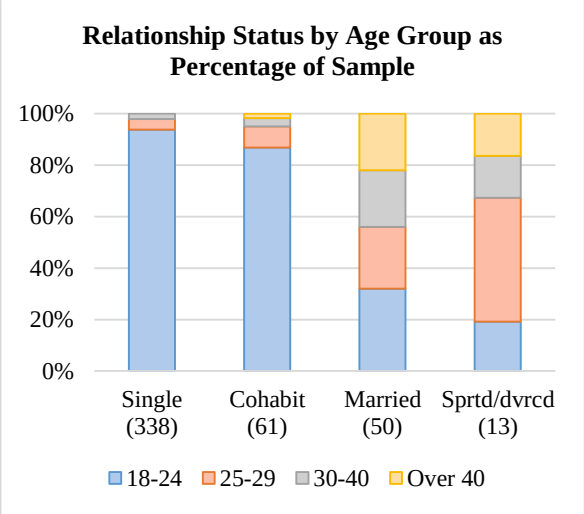

Figure 7. Relationship Status

There were persons from every age group in four of the five relationship categories. There were no widows or widowers who responded to the surveys.

Current Credit Hour Load

The students were asked on the 2019 survey about the number of credit hours they were taking. Replies were submitted on a sliding scale that allowed answers from zero (0) to 20 but have been grouped in seven categories in Figure 8. Eight hundred and five persons responded to this question.

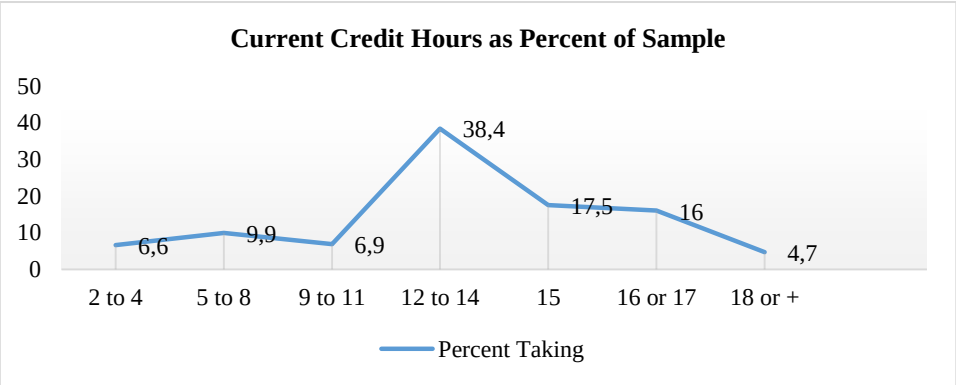

Figure 8. Current Credit Hour Load

The mean for current credit hour load was 12.55 hours, the median was 13.0, and the mode was 12.0. Regression analysis with student age, gender, first-generation status, and cultural identity rating as independent variables was performed. Fourteen percent of the variance is accounted for with the combination of age, gender, and ethnic identity but age and identification with Hispanic culture were the only independent variables found to be significant predictors for credit hour load. Older individuals were taking fewer hours ($p < .001$, adjusted R squared for the model = .151) with every additional year accounting for a decrease of 0.21 credit hours. Hispanic students were also significantly likely to take fewer hours ($p = .001$, adjusted R squared for the model = .151) with Hispanic/Latinx identity accounting for .937 fewer credit hours taken per semester during the spring and fall of 2019.

First Generation Student Status

The 2019 survey of students at four HSIs in the Texas Panhandle included a question about first generation student standing. With a sample drawn from community colleges and a four-year institution, the Higher Education Act of 1965 definition of first-generation students as individuals "whose parents did not complete a baccalaureate degree" (US Department of Health, Education, and Welfare, 1965, para. 19) was insufficient.

> The research team sought to accommodate the most restrictive definitions of first-generation college students while also including an Associate's degree as a completed college credential. The first of the descriptions offered to students was "I am the first person in my family to attend college," the most restrictive definition. The two others were "One or more family members have attended college but I will be the first to finish a two-year degree" and "One or more family members have attended college but I will be the first to finish a four-year degree." The remaining options were "One or more family members have graduated college and received their degree" and "I don't know the college attendance history of my family members" (Preuss et al., 2020a, pp. 222-223).

Table 5 summarizes the responses received. Over 50% of all the respondents indicated they fit one of the three definitions of a first-generation college student. Several statistically significant differences were also found. Students identifying as Hispanic/Latinx were much more likely to be first generation college students than non-Hispanics, 65.4% to 39.4% ($p < .001$, phi = .250), with weak moderate effect. Hispanic/Latinx individuals were also much more likely to be the first in their families to complete a four-year degree with a moderate effect ($p < .001$, phi = .281).

Table 5. First Generation College Student Standing

	First to attend	First finish 2YR	First finish 4YR	Not first	Don't know
2019 Overall	26.3%	9.8%	14.1%	47.6%	2.2%
Non-Hispanic	19.5%	5.8%	14.1%	59.0%	1.6%
Hispanic/Latinx	36.8%	14.0%	14.6%	31.6%	3.0%

Identification with STEM

As was noted in the introduction, Hispanics are underrepresented in many professions in the United States, but they are markedly underrepresented in STEM fields (Arellano, Jaime-Acuna, Graeve, & Madsen, 2018; Pew Research Center, 2019). The 2018 survey included a question about identification as a STEM student to gauge the respondents' interest in these fields. The prompt was "I identify as a STEM student" with a traditional five-point Likert scale for responses (see Table 6).

Table 6. Identification as a STEM Student

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	No Response
2018	63 (13.6%)	69 (14.9%)	114 (24.6%)	76 (15.7%)	138 (29.7%)	4 (0.9%)

Statistical analysis, a Mann Whitney *U* test, revealed that there was no significant difference by ethnicity ($p = .754$, Hispanic/Latinx MR 230.44, non-Hispanic MR 234.25, Pearson's $r = 0.01$). There was, though, a significant difference by gender ($p = .04$, female MR 220.48, male MR 246.51, Pearson's $r = 0.10$) with females less likely than males to identify as a STEM student with weak effect. A separate question was asked about Hispanic students, it was "There are few Hispanic students in my degree program." A traditional five-point Likert scale extending from Strongly Disagree to Strongly Agree was employed for responses. The data were disaggregated into informants who identified as STEM students and those who did not. Responses regarding the presence of Hispanics in degree programs from parties who either agreed or strongly agreed that they were STEM students were inconclusive (see Table 7).

Table 7. STEM Student Reports of Few Hispanics in "My Degree Program"

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	No Response
2018	9.0%	22.8%	34.4%	24.9%	9.0%	11.0%

Roughly one-third of the persons who identified as STEM students felt there were few Hispanic/Latinx students in their degree program, another third neither agreed nor disagreed, and the final third agreed or strongly agreed.

Place of Residence and Co-Occupants

The 2018 survey, which had responses from 14 institutions in New Mexico and Texas, asked a series of questions about pattern of residence. The first question was "I live…" followed by "on campus" and "off campus." If the informant selected "off campus," they were presented with a follow-on question. It was "I live in a…." There were four possible responses: (1) house, (2) apartment, (3) mobile home/trailer, and (4) other. If "other" was selected, the respondent was provided the option of submitting a short, written description. The next question on the survey, available to all parties, was "Who lives in your home? Select all that apply." There were seven possible responses: (1) single parent or guardian, (2) multiple parents or guardians, (3) my spouse/partner/significant other, (4) siblings, (5) cousins/members of extended family, (6) non-familial roommates, and (7) children. If the option "children" was selected, a follow-on question was displayed. It was "Are you a caregiver for the children?" Responses possible were "Yes," "I share childcare responsibility," and "No." Table 8 contains the responses to this series of questions. Over 63% of the students reporting living off campus although this may have been impacted by three of the seven community colleges not offering on campus housing (two of the three CCs in NM and one of the four in TX offered on campus residence halls). All the students living off campus reported traditional domiciles with many of them occupied by more than one person. These included individuals in each of the categories available on the survey. While this was a select all that apply question, most respondents did not provide multiple responses and over 35% of them lived with their parents. A little less than 20% lived with roommates who were not members of their family and slightly more than 10% (n = 49) lived in a home with children with 92% of those individuals being caregivers for the children.

Table 8. Residence Patterns Reported

	On Campus	Off Campus	Other				
I live…	36.7%	63.3%	0.0%				
		House	Apartment	Mobile Home/ Trailer	Other		
I live in a …		39.7%	20.6%	2.4%	0.0%		
	Single Parent/ Guardian	Multiple Parents/ Guardians	Spouse/ Partner	Siblings	Members Extended Family	Non-familial Roommates	Children
Co-occupants	12.0%	23.6%	13.9%	20.2%	2.7%	19.7%	7.9%
Caregiver for children?					Yes	Share Resp.	No
					63.3%	28.6%	8.2%

There was no significance difference by gender or ethnicity for responsibility to care for children but when the group was disaggregated by age, none of the traditional aged college students provided care to children and 100% of the non-traditional aged students did.

Responses for housing type were disaggregated by state and ethnicity but not by institution type as four of the seven community colleges did not offer on campus housing. There were no marked differences by ethnicity but 39.9% of the informants from Texas lived on campus while 15.1% from New Mexico did. This difference was significant but suspect due a large difference in the number of persons in the two groups (n = 53 for NM, n = 404 for TX). The residence patterns were also broken out into type of domicile by state (see Table 9) but this information should be viewed with caution due to the low number of respondents in New Mexico.

Table 9. Domicile Types Reported by State

	House	Apartment	Mobile Home/ Trailer	On Campus
New Mexico	60.4%	18.9%	5.7%	15.1%
Texas	37.1%	21.0%	2.0%	39.9%

Employment Patterns

Both the 2018 and 2019 surveys addressed student employment patterns. Topics considered were: (1) whether the informant was employed, (2) if employed persons worked on or off campus, and (3) hours of work completed per week. With the ability to create subsets for comparison, like parties employed part time and full time, and to disaggregate by age, gender, ethnicity, race, residence patterns, relationship status, state in which the student was attending college for the 2018 data set, plus income of household of origin and the individual's household for the 2019 data, an extended consideration of this topic was required. The material that follows will summarize responses for both surveys but a more extended consideration of employment patterns using the 2018 data has been prepared separately (Ramos et al., 2021).

The information gathered regarding employment and whether work was on campus or off campus was from a single query. Informants encountered the prompt "I am employed…" and five possible responses. The potential answers were: (1) on campus, (2) off campus, (3) I don't work while attending college but might/do during breaks, (4) I am not working now but did in the past while attending college, and (5) I won't work while in college. These allowed consideration of two basic forms of employment, on and off campus, and the formation of two composite groups, actively employed informants (working on or off campus) and parties who were not working (the other three options). Figure 9 portrays the response patterns for this comparison in both years.

For the 2018 informant group that included students from NM and TX, 46.1% of the students worked off campus, 23.3% worked on campus, and the remaining 30.5% had placed themselves in one of the "not presently working" categories. In 2019 the figures were 48.9% of the students working off campus, 15.7% working on campus, and 35.4% not working at the time they completed the survey. Statistical analysis revealed similar significant differences between on campus and off campus employment for both samples. In 2018, a Mann Whitney *U* test returned a finding of $p < .001$ with a mean rank of 123.9 for on campus work and 180.4 for off campus work. The Pearson's r value was 0.30 indicating moderate effect. The students were asked to report their hours of work differently in 2019, as values on a continuous scale rather in discrete categories, but several

assumptions for use of a *t* test could not be met and a Mann Whitney *U* test was completed. The p value was also < .001with a mean rank of 165.53 for on campus work and 260.76 for off campus work. The value of r was .30 indicating a moderate effect.

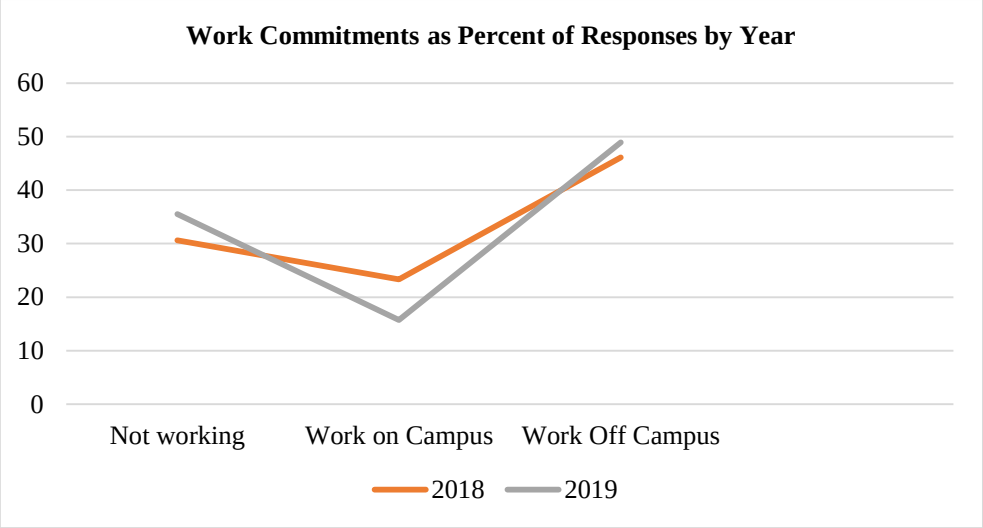

Figure 9. Work Commitments

A query regarding the number of hours worked each week by the persons who indicated they were employed was also present. In 2018, there were five possible categories: (1) 10 or fewer hours a week, (2) 11 to 20 hours a week, (3) 21 to 30 hours a week, (4) 31 to 40 hours a week, and (5) more than 40 hours a week. The 2019 survey asked for an average number of hours worked each week with a sliding scale from zero (0) to 50. Figure 10 displays the overall response patterns.

Table 10 provides the reported workload of students broken out as the percent of students who reported a work commitment. The responses from 2019 were converted from numeric estimates to the five-category pattern used in 2018 to facilitate comparison and reporting.

Table 10. Hours Worked per Week

	10 or Less	11 to 20	21 to 30	31 to 40	41 or More
2018	18.3%	32.8%	24.6%	14.5%	9.8%
2019	19.1%	32.6%	24.3%	16.4%	7.5%

The category with the highest number of responses in 2018 was working 11 to 20 hours a week. When the values from 2019 were converted to the pattern used in 2018, the same category had the highest number of responses. The mean value for the 2019 submissions was 24.76 hours of work a week with a median value of 25.0 hours and a mode of 20.0. Analysis of the 2018 data revealed significant differences existed based on the age, relationship status, and the state in which the informant attended college (Ramos et al., 2021). Non-traditional aged college students, married/cohabiting students, and students in New Mexico reported more hours worked each week at statistically significant levels than traditional aged students, single students, and persons

attending college in Texas ($p < .001$, $p = .006$, $p = .008$ respectively; see Ramos et al., 2021 for further details). Regression analysis with the 2019 data considering age, gender, ethnicity/race, identification with Hispanic culture, first generation college student status, ESL status, and fluency in Spanish showed only student age was a significant predictor ($p < .001$, adjusted R squared = .168). Like was the case with the 2018 data, the older students worked more hours, an additional 0.618 hour for each year of age.

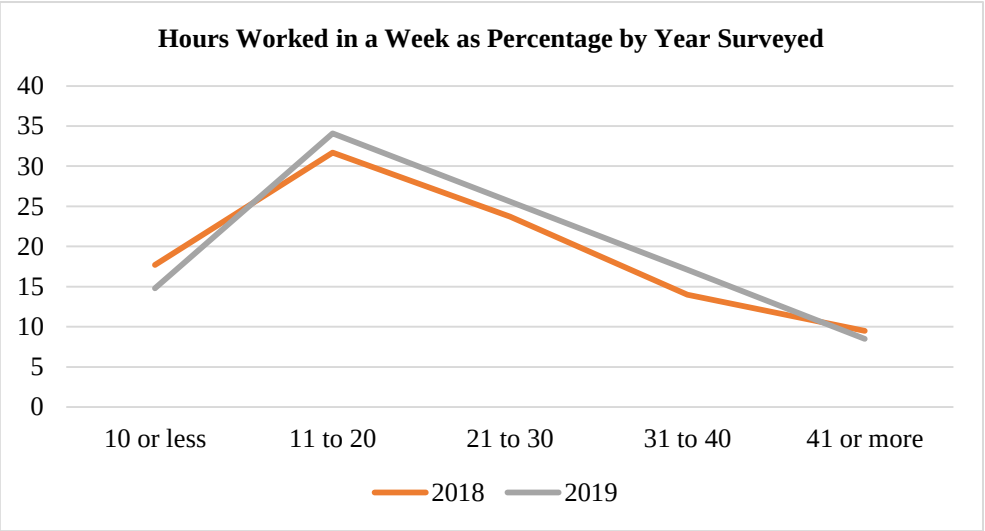

Figure 10. Hours Worked in a Week

Means of Paying for College

The students at HSIs were asked on both surveys how they were paying for college. This was a select all that apply question and there were ten possible responses (see Table 11).

Table 11. Reported Means of Paying for College

Prompt	2018	2019
My family helps me pay for college.	43.9%	47.7%
My spouse or partner helps me pay for college.	3.5%	3.1%
With money I earn.	41.7%	33.7%
With a Pell Grant.	39.6%	34.8%
With Scholarships.	49.1%	45.9%
With Loans.	35.2%	34.7%
With a work study position.	6.5%	5.2%
My employer is contributing.	1.5%	1.7%
I am tuition exempt or using veteran's benefits.	5.7%	4.7%
Other.	3.3%	2.7%

Like was the case for employment patterns and hours worked, these data could be disaggregated and analyzed in ten or more different ways. That detailed analysis is a part of Ramos et al. (2021). For this broad profile of students attending HSIs, findings from the detailed analysis are summarized. Figure 11 graphs both sets of responses.

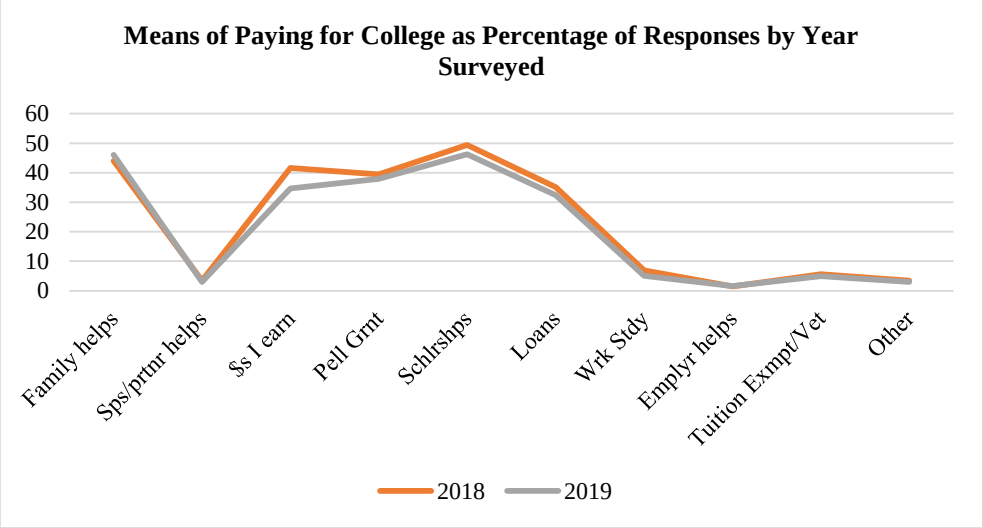

Figure 11. Means of Paying for College

As reported in Ramos et al. (2021), there were 14 statistically significant differences found when analyzing the 2018 data. Table 12 summarizes those findings.

Table 12. Reported Means of Paying for College (2018)

Comparison	Category with Significant Difference	Details
Gender	a. My spouse or partner helps me pay for college.	Females more likely ($p = .007$, phi = -.126).
Ethnicity	a. With a Pell Grant.	Hispanics more likely ($p < .001$, phi = .212).
	b. With a work study position.	Hispanics more likely ($p = .020$, phi = .108).
Age	a. My family helps me pay for college.	Traditional age students more likely ($p < .001$, phi = -.280).
	b. With Scholarships.	Traditional age students more likely ($p = .010$, phi = -.122).
	c. My spouse or partner helps me pay for college.	Non-traditional age students more likely ($p < .001$, phi = .234).
	d. My employer is contributing.	Non-traditional age students more likely ($p = .045$, phi = .095)
Relationship status	a. My family helps me pay for college.	Single persons more likely ($p < .001$, phi = -.274).
	b. My spouse or partner helps me pay for college.	Married/cohabiting more likely ($p < .001$, phi = .308).
State	a. My family helps me pay for college.	Texans more likely ($p < .001$, phi = .178).
	b. With Loans.	Texans more likely ($p = .012$, phi = .117).
Ethnicity and gender	a. With money I earn.	Male Hispanics (Latinos) more likely ($p = .021$, phi = .175).
	b. With a work study position.	Male Hispanics (Latinos) more likely ($p < .001$, phi = .296).
	c. With a Pell Grant.	Significant overall ($p < .001$, phi = .218), with Latinas ($p < .001$, phi = .234) and Latinos ($p = .010$, phi = .187) more likely.

Due to the summary nature of this presentation and the wide variety of potential predictive variables for analysis with the 2019 data, a second article detailing means of paying for college from that data set will be prepared for publication.

Income of Household of Origin and Personal Household

Income level of household of origin and level of personal income of students is a matter of interest whether or not they live independently of their families. Income of the household of origin is relevant to federal and institutional financial aid and for scholarship applications but has also been found to be associated with children's educational success (Thomson, 2017), preparation for mathematics in college (Niu, 2017), choice of major (Quadlin, 2017), and choosing to pursue a STEM degree (Niu, 2017). The patterns just noted, the need for Hispanic/Latinx college students to fill roles in the US economy that require college degrees and the large percentage of the Latinx college population that attends HSIs, made identifying the socioeconomic status of respondents desirable. This is especially the case as Hurtado, Ramirez and Cho (2018) reported that "Hispanic first-year students at four-year colleges and universities were about 2.5 times more likely than non-Hispanic White students to express a concern about financing college and came from families that earned 54 cents for every dollar earned by the parents of non-Hispanic White students" (2018, p. 10).

On the 2019 survey administered to students at HSIs in the Texas Panhandle, two questions were asked about socioeconomic status. The first was "The annual income of my family of origin is about (in thousands of dollars)…." Responses were submitted on a sliding scale that extended from zero (0) to 250. The second question was "The annual income of my household is about (in thousands of dollars)…." The same sliding scale was employed with this query. Regression analysis was completed with responses for both questions.

For household of origin, the total number of responses was low, 326 or approximately 40% of informants. A response rate at this level has the potential to impact generalizability of the findings. The regression analysis completed included age, ethnic identity, gender, ESL standing, and level of fluency in Spanish as independent variables. The overall model was found to be significant ($F = 10.13$ [5, 246], $p < .001$) as were ethnicity, gender and ESL standing. Ethnicity was significant at $p < .001$ with Hispanics reporting, on average, $33,697 less income per year for their household of origin than non-Hispanics. Males were significantly likely ($p = .008$) to report their family had a higher income ($17,776 more per year) and students with ESL standing were significantly more likely, $p = .010$, to come from homes with lower income ($28,991 per year). The adjusted R squared for these findings was .154.

A similar analysis was completed for informant reports for the income of their own households. Age, gender, first-generation student standing, ethnic identity, ESL standing, and fluency in Spanish were employed as independent variables but only ethnicity proved to be a significant predictor ($p = .004$). Hispanic students reported, on average, $23,246 less per year in income for their personal households. The R squared value was .105.

Both income of household of origin and that for personal household followed the patterns noted by Hurtado, Ramirez and Cho (2018), reported by the The Texas Tribune (2010), and the Federal Reserve Bank of Dallas (Orrenius, Zadovny & Kerr, 2009). Hispanic/Latinx families and individuals have, on average, lower incomes than their non-Hispanic peers. They also clearly align with the findings for means of paying for college in which

Hispanic/Latinx students were significantly more likely to be financing college with processes designed to assist lower income individuals, Pell Grants and work study (see Table 12).

Understands My Culture and Hispanics as Outsiders

Previously reported finding (Preuss et al., 2019; 2020a) demonstrate the degree to which Hispanic/Latinx students attending Hispanic-Serving Institutions encounter acculturative stress. Preuss et al. 2019 discusses findings from a survey of faculty, staff, and administrators at up to 60 HSIs in a four-state region. That investigation found regular and statistically significant differences of opinion between college and university employees who identified as Hispanic and their non-Hispanic peers regarding the elements of Hispanic culture and the background and commitments of Hispanic students attending the HSIs. Since Hispanics represented 22.6% of all employee respondents at the HSIs and 17.7% of faculty, approximately 80% of the institutional representatives Hispanic/Latinx students encountered were non-Hispanic and these individuals had a significantly different perspective of Hispanic culture and their institution's Hispanic/Latinx students than the Hispanic employees did.

> The findings suggest that there is more conflict around Hispanic culture and the potential for more acculturative stress for Hispanic students at HSIs than might be anticipated. As noted by Sue et al. (2007), Keller and Galgay (2010), and Storti (2007), even when people have the best of intentions, operating across cultures without clear and accurate perspectives can result in misunderstanding and insult (Preuss et al., 2020a, p. 225).

Information gathered from students with the 2019 survey confirms that this divide in understanding of Hispanic culture was perceived by Hispanic/Latinx students attending the HSIs.

On the 2019 survey, students were asked to rate the degree to which institutional representatives at seven key points of interaction understood the informant's culture. Those areas were: (1) advising/mentoring, (2) instruction/teaching, (3) financial aid office, (4) tutoring service/lab, (5) student organizations, (6) scholarship office, and (7) career services. Ratings were requested on a ten-point scale. In every case there was a statistically significant difference in responses from Hispanic/Latinx students and non-Hispanics and the p value for each was < .001 (Preuss et al., 2020a). The effect sizes were moderately small to moderate.

> That this consistent and broad pattern occurred demonstrates extended breadth of culturally related difficulties for Hispanic students within the HSIs represented in the sample. These are likely to include "verbal, behavioral, or environmental indignities" (Sue et al., 2007, p. 271), called microaggressions, that can occur both intentionally and unintentionally in cross-cultural interaction. At its root, these are based in differences in understanding of what are "normal" appearance, behavior, expectations, and values (Keller & Galgay, 2010) which is common in and can present significant challenge for inter-racial and inter-cultural settings (Storti, 2007) (Preuss et al., 2020a, p. 222).

There were two related findings. Hispanic/Latinx informants were "more likely than their non-Hispanic peers to [report] alter[ing] their behavior when interacting with faculty and staff" (Preuss et al., 2020a, p. 222) and 23.0% of the Hispanic/Latinx students in the 2018 sample from 14 colleges and universities agreed or strongly

agreed with the statement "Hispanics feel like outsiders in college." It appears while

> All Hispanic students may not feel like outsiders in higher education…they do feel, at least for the 2019 sample, that their culture in not understood by the representatives of the[ir] institution. This is a significant concern given the emphasis on cultural congruity and limiting acculturative stress (Castellanos & Gloria, 2007; Chun, Marin, Schwartz, Pham & Castro-Olivo, 2016) in student support theories that focus on serving Hispanic students (Preuss et al, 2020a, p. 222).

Locus of Control Orientation

When seeking to understand individual or group perspectives, locus of control orientation can be helpful. Locus of control is defined as a

> generalized enduring expectancy or belief about how responsive and controllable the environment is. According to this concept, people can be categorized into two types: internal control and external control. People with an *internal locus of control* believe that the environment is responsive to their own relatively permanent characteristics and that rewards are contingent on personal actions, whereas for those with an *external locus of control* the environment and external rewards are seen as uncontrollable (Wang & Lv, 2020).

Thus, a person with high internal locus of control has a sense that s/he can act in a way that will influence circumstances or impact situations. This understanding tends to be emphasized in individualistic cultures like the United States, Australia, and Canada (Cheng, Cheung, Chio & Chan., 2013). A high external locus of control indicates a lower sense that one can alter circumstances or change his/her situation as outside forces are seen to be pivotal in the determination of outcomes. An orientation toward external locus of control is commonly found in collectivistic cultures like China, Japan, and Korea (Cheng, Cheung, Chio & Chan, 2013). This information is directly applicable to consideration of the characteristics, experiences, and outcomes of Hispanic/Latinx students as Hispanics are generally characterized as familial or convivial collectivists (Champagne et al., 2016; Ruiz, Sbarra & Steffen, 2018).

Health and wellness studies have found that Hispanics in healthcare settings exhibit high external locus of control (Bollini, Walker, Hamann & Kestler, 2004; Champagne et al., 2016; Ruiz, Sbarra, & Steffen, 2018). While consideration of this has extended to health impacts of acculturative stress in higher education for Hispanics (Jardin et al., 2017), there is little other research concerning Hispanics and their locus of control orientation in higher education settings. Yet understanding this baseline orientation and how it might impact decision-making, actions, sense of belonging, and potential for success is important especially given the findings in health and wellness studies that suggest Hispanic/Latinx students would be likely to have a sense that they cannot perform in a manner that will influence their situation and circumstances.

Four questions were asked on the 2018 survey regarding this construct. They were all generated by the project team and, while having been reviewed for face validity by Hispanic/Latinx students and adult professionals in higher education from a variety of ethnic and racial backgrounds, they cannot be said to be valid and reliable. The prompts were: (1) I feel confident I can achieve my goals in college, (2) If I work hard I can reach my goals

in college, (3) I am in control of my own success, and (4) There are obstacles to my success that are outside my control. The same five-point Likert scale extending from Strongly Disagree to Strongly Agree used with other queries on the 2018 survey (see Tables 3 and 6) was employed. Mann Whitney *U* analysis was completed and the results appear in Table 13.

Table 13. Locus of Control Response Patterns

Prompt	Hispanic MR	Non-Hispanic MR	p value	Pearson's r
I feel confident I can achieve my goals in college.	223.19	185.13	$p < .001$	0.18
If I work hard I can reach my goals in college.	221.14	186.15	$p < .001$	0.18
I am in control of my own success.	225.86	182.63	$p < .001$	0.21
There are obstacles to my success that are outside my control.	216.16	191.57	$p = .027$	0.11

All of the comparisons were statistically significant. Three at the $p < .001$ level with moderately small effect (Pearson's r values of ~ 0.20) and one with a p value of .027 and a small effect (Pearson's r value of 0.11). It appears, at least for the 2018 sample, that the Hispanic/Latinx students had both a stronger internal locus of control, the first three prompts, and stronger external locus of control, the last prompt, than their non-Hispanic peers attending the same HSIs. While this might seem to be a conundrum, it is consistent with several key values in Mexican American culture which represents the cultural background of the vast majority of Hispanics in the region in which the sample was gathered. The values are as follows and each was recently verified as an acknowledged element of Hispanic culture by Latinx individuals working and studying at HSIs in New Mexico and Texas (Preuss et al., 2019; 2020a).

- Emphasis on working hard and its benefits (internal locus orientation) (Aoki, 2010; Duda, 1985; Luzzo, 1997).
- Confidence in one's ability to succeed (internal locus of control orientation) (Arellano & Padilla, 1996; Knight et al., 2010).
- Accepting uncertainty in life (external locus of control orientation) (Cuellar, Arnold & Gonzalez, 1995; Schwartz, 1971; Scott, 2001).
- Taking each day as it comes (external locus of control orientation) (Curry & Luque-Ekrich, 1995; Schwartz, 1971).
- Belief that events are predetermined (external locus of control orientation) (Cuellar, Arnold & Gonzalez, 1995; Schwartz, 1971; Scott, 2001).

Thus, finding both a higher internal and external locus of control for Hispanic/Latinx students than for their non-Hispanic peers is a confirmation of the prevalence of Mexican American culture in this arena of perception. That is a "can do" approach that is coupled with a sense that at least some important circumstances cannot be influenced by individual action.

Family Support and Expectations

Another series of questions on the 2018 survey focused on the expectations of the families of students who attended HSIs and the types or level of support they received from their family. This is an important topic for several reasons. First, HSIs educate nearly two-thirds of the Hispanic/Latinx students in higher education (Revilla-Garcia, 2018) and minority students are disproportionately likely to be first-generation students (Zalaquett, 1999). As a case in point, 65.3% of the Hispanic/Latinx students at the HSIs in this study were first-generation college students and 39.9% of their non-Hispanic peers were. First-generation students are considered to be at a higher risk of poor academic performance and have been shown to have significantly different college experiences than traditional students (Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996; Wibrowski, Matthews & Kitsantas, 2017). While factors with potential to impact the academic performance of first-generation students have been explored, there has been a gap in the literature regarding minority students as a collective (Dennis, Phinney, & Chuateco, 2005) and minority students studying at HSIs in particular (Preuss et al., 2019).

Minority students face many of the same obstacles in college as traditional students and a variety of additional stressors (Hurtado, Carter & Spuler, 1996) that can include family expectations (Batista, Collado & Perez II, 2018). Cultural backgrounds that emphasize family interdependence may present students with obligations to the family that can interfere with college responsibilities (Tseng, 2004). That was the general belief of the faculty, staff, and administrators at up to 60 HSIs in Colorado, Kansas, New Mexico, and Texas in 2018 (Preuss et al., 2019). Yet, parental support has been shown to help Mexican American students navigate the effects of acculturative stress (Crockett et al., 2007) and insulate them from symptoms of anxiety and depression. Torres and Solberg (2001) also reported that there was a positive association between familial support and self-efficacy so that those who reported the strongest feelings of familial support also reported stronger feelings of self-efficacy. In fact, Solberg and Villarreal (1997) were able to account for 33% of the variance in the college adjustment of 164 Mexican American and Latin American undergraduates when combining self-efficacy and social support as predictor variables.

The reported potential for challenges and positive assistance caused the research team to include 12 questions about family expectations and support on the 2018 survey and to secure permission to use the Latino Familism Scale (Steidel & Contreras, 2003) as part of the 2019 survey. Results from the 2018 data will be presented here. That set of questions was developed by the project team and underwent the same face validity checks as the rest of the survey, including by Hispanic/Latinx students and higher education professionals, but the data cannot be considered to have been derived from a valid and reliable instrument like the Latino Familism Scale. All the questions related to family support and expectations employed a five-point Likert scale that ran from Strongly Disagree to Strongly Agree (see Tables 3, 6, 7, and 15).

The results of statistical analysis, both the significant findings and the non-significant findings, provide insight into the background and experience of the students from the 14 HSIs represented in the 2018 sample. The primary concern was whether Hispanic/Latinx students submitted significantly different responses than their

non-Hispanic peers. For seven of the prompts this was not the case while for five others it was. The statements for which no significance difference was found along ethnic lines were as follows.

- I feel supported by my family in my educational goals.
- My family expects their concerns to take priority over college.
- I am expected to put family events and activities ahead of college.
- My family's finances impact my ability to stay in college.
- I believe family needs take precedent over college.
- My family expects me to contribute financially.
- My family supports my decision to go to college.

That there were no significant differences between responses from Hispanic/Latinx students and their non-Hispanic peers for these prompts contradicts commonly held beliefs about Hispanic students. Those are college is considered by their families to be a lower priority than family concerns and employment, that they may not be supported in their educational endeavors, and that family finances and a need to contribute funds to the family impact ability to attend college (Batista & Collado, 2018; Hurtado, Ramirez & Cho, 2018; Perez II, Garcia-Louis, Ballysingh & Martinez Jr., 2018; Preuss et al., 2019).

Answers submitted by Hispanic/Latinx students were not significantly different than their regional peers in respect to familial expectations regarding involvement with family events and concerns, financial support, and the impact of family income on college attendance. Thus, the general finding was that Hispanic/Latinx students felt as supported by their families regarding their educational goals and decision to attend college as their non-Hispanic peers and that they did not face significantly different financial expectations from their families than their non-Hispanic peers. The statements for which there were significant findings portray a strong commitment to family, several distinct forms of involvement, familial expectations many non-Hispanics would not have anticipated, and a familial/collectivistic orientation to outcomes associated with completing a college degree (see Table 14).

Table 14. Statistically Significant Differences along Ethnic Lines for Family Support and Expectations

Prompt	Hispanic MR	Non-Hispanic MR	p value	Pearson's r
I feel strongly attached to my family.	233.96	184.22	< .001	0.19
My academic outcomes impact others in my family.	232.05	189.47	< .001	0.18
I am expected to help family members understand how to get ready for, apply to, or navigate college.	239.94	169.15	< .001	0.31
My family expects me to have time to help at home when I am attending school.	233.08	188.72	< .001	0.19
My family will greatly benefit from my time and effort in college.	229.28	192.40	= .001	0.16

The Hispanic/Latinx students responses followed contours of familism described by Hurtado, Ramirez and Cho in their review of the "landscape of enrollment and success" (p. i in Batista, Collado, & Perez II, 2018) for Latinx students, Pertuz in her review of "identity, cultural values, and success in higher education" (p. ii in Batista, Collado, & Perez II, 2018), and Perez II, Ballysingh, Garcia-Louis, and Martinez's "framework of Latinx/a/o college students" (p. iii in Batista, Collado, & Perez II, 2018). The students reported stronger attachment to their families than their peers, the sense that their academic outcome will impact their family, that their family will "greatly benefit" based on their time and effort in college, an expectation that they would use their college experience to aid family members, and a stronger expectation that they would help at home while in college than their peers. An entirely familial collectivist viewpoint (Champagne et al., 2016; Ruiz, Sbarra & Steffen, 2018) that may be foreign to non-Hispanics, especially as regards the degree to which a connection between "personal" accomplishments and the good or benefit of the family is concerned and the use of personal experience to build out family capability.

Viewing College as a Positive or Negative Experience

Another topic addressed as part of the 2018 survey in a six-prompt matrix question covering student experience in college was whether college had been a positive or negative experience for the informant. Two statements existed in the matrix regarding this topic. One was "Attending college has been primarily a positive experience." The other was "Attending college has been primarily a negative experience for me." The rating scale for both was a five-point Likert scale extending from a lowest rating of "Strongly Disagree" to a highest rating of "Strongly Agree" (see Table 15). Ideally, the response patterns would be polar opposites as strongly disagreeing with the positive statement should be the same as strongly agreeing with the negative statement.

Overall, informants reported that college had been a positive experience. When asked to affirm it as a good experience, 83.3% agreed or strongly agreed. When the same parties were asked if it had been a negative experience, 75.5% disagreed or strongly disagreed. Most of the individuals whose responses shifted chose "Neither Agree nor Disagree" for the negatively formulated statement, nearly six percent more than for the positively worded statement.

Table 15. College as a Positive or Negative Experience

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Positive experience	1.2%	5.3%	9.7%	43.2%	40.1%
Negative experience	39.2%	36.3%	15.3%	6.1%	3.2%

The responses were disaggregated by age, ethnicity, and gender. No significant difference was found for ethnicity and gender for either prompt but a significant difference for the negatively worded prompt was found for age. Non-traditional aged students were not more likely than traditional aged students to say college was a positive experience but they were more likely to disagree that it had been a negative experience with weak effect ($p = .012$, $r = -.12$).

Discussion

The material presented above provides an in-depth and nuanced perspective of the student population at Hispanic-Serving Institutions in New Mexico and Texas. Comparison of the characteristics of the sample and population found both samples to be representative and to be of sufficient size for a minimum of a 95% confidence level with a 5% margin of error. In addition, the 2018 and 2019 samples align well with each other. These factors make the results directly applicable to the 120 HSIs recognized in New Mexico and Texas as of the 2018-2019 school year (HACU, 2019) and generalizable to many others. A summary and brief discussion of the findings that had substantial evidence appears below grouped as topics related to demographics and general characteristics, acculturative stress, and culture-based understandings.

Demographics and General Characteristics

The ratio of females to males at the HSIs in the sample was approximately 60% to 40%, just slightly above the 2017 national average for females in college and below it for males (NCES, n.d.). The students in the samples were predominantly single and of traditional college age. Hispanic/Latinx students made up approximately 35% of the student populations of the HSIs while non-Hispanics accounted for approximately 65%. The two largest racial groups were White/European Americans and Hispanic/Latinx individuals approximately 53% and 35% respectively. Approximately 63% of the students lived off campus. Less than 20% of all respondents indicated they had English as their second language, but that figure was 36.8% for persons identifying as Hispanic and 4.8% for non-Hispanics. Over 50% of the respondents were first-generation college students but Hispanics were significantly more likely to be the first in their family in college, 65.4% to 39.4% for non-Hispanics. Approximately 70% of the students were actively employed paralleling nationally reported figures (Carnevale, Smith, Melton & Price, 2015) with off campus work significantly more likely than on campus employment. These descriptive patterns will not surprise persons familiar with US higher education and the NM/TX region but having more than one-third of Hispanic/Latinx students note ESL standing as well as 4.8% of non-Hispanics has implications for programming and interaction with students. ESL support programming at colleges and universities in the region should not anticipate an entirely Hispanic population and, given the reported volume of ESL students, HSI personnel in all departments should be trained in effective interaction with persons whose first language is not English. This is also a concern in advising and mentoring assignments as students at the HSIs who identified strongly with Hispanic culture or had ESL standing noted significantly different preferences for mentors than their Hispanic/Latinx peers without these characteristics (Preuss et al., 2020b). In addition, making faculty and staff aware that 70% or more of their students are likely to be actively employed and encouraging practices that increase flexibility in instruction to facilitate success in study and work is recommended. Among the students at the HSIs, the two most prevalent and strongly held ethnic identities where Hispanic/Latinx and White/European American. Yet, ethnicity did not prove significant in consideration of the number of years of college completed. Age was the only significant predictor with each additional year accounting for 0.141 years of college completed. Older students were also taking significantly fewer hours with every additional year accounting for a decrease of 0.21 credit hours.

There are a number of possible explanations for this but it is likely related to the higher percentage of married and cohabiting students in the non-traditional student group. Married students reported significantly more hours of work than single students. Older students, the non-traditional group, reported working significantly more hours than younger students (an additional 0.618 hour for each year of age). And, every non-traditional age student who reported having a child in their home also reporting being a caregiver for that child.

Findings that were statistically significant based on ethnicity highlighted patterns that have been associated with decreased persistence and success in college as being present for many of the Hispanic/Latinx students. As has already been stated, Hispanic/Latinx students were far more likely to report having English as a second language. They were significantly more likely to take fewer hours with Hispanic/Latinx identity accounting for .937 fewer credit hours taken per semester. Hispanic/Latinx individuals were much more likely to be first-generation college students and the first in their families to complete a four-year degree. They also were more likely to rely on Pell Grants and work study positions and come from households with lower incomes. There also appeared to be a connection between work commitment and the economic conditions of the state in which the students attended college. Students in New Mexico reported working more hours per week than their counterparts in Texas (Ramos et al., 2021) which is likely related to NM having more persons at or below poverty level than Texas (Moskowitz, 2019; Center for American Progress, 2020), having the highest child poverty rate in the nation in 2017 (New Mexico Voices for Children, 2017), having more Hispanics living in poverty than non-Hispanics (Moskowitz, 2019), and having posted the highest rural poverty rate in the nation (Sapin, 2016). When the areas in which significant differences were found along ethnic lines are combined they form a substantial set of experiential, participation, and economic challenges that should encourage faculty, staff, and administrators at HSIs in the region to establish or reinforce institutional efforts to employ best practices for aiding minority, first-generation, and low-income college students.

Several traditional patterns were found at the HSIs when considering means of paying for college like females, married persons, and non-traditional aged students being significantly more likely to receive assistance from their spouse or partner in funding study and single and traditional aged students being significantly more likely to receive assistance from their families (see Table 12). These analyses also confirmed that Hispanics/Latinx students were significantly more likely to employ Pell Grants and work study even when comparison of Latinas to non-Hispanic females and Latinos to non-Hispanic males were completed. That form of analysis also revealed that male Hispanics were more likely than male non-Hispanics to be working to pay for college. These findings aligned with the reports of income for household of origin and personal household. Hispanics and ESL students reported significantly lower income for their household of origin (persons with ESL standing were predominantly Hispanic/Latinx individuals in the sample). Hispanic students also reported significantly less personal income. This should also be a substantial concern for college administrators and personnel. When more than one of every two prospective students is more likely to come from an ESL background, be a first-generation college student, and come from a household of origin and personal household with lower income than their non-Hispanic peers at the same HSI, radically different patterns of reaching, informing, interacting with, and aiding students will be required.

Findings for identification as a STEM student ran counter to employment trends in terms of ethnicity but aligned for gender. There was no significant difference by ethnicity for identification as a STEM student even though Hispanic/Latinx individuals are underrepresented in those fields (Arellano, Jaime-Acuna, Graeve & Madsen, 2018; Pew Research Center, 2019). There was, though, a significant difference based on gender with females less likely than males to identify as a STEM student which does align with national employment patterns (Pew Research Center, 2019). While the first result may be seen as an encouraging finding, the pronounced need for workers in all STEM fields and having nearly two-thirds of Hispanic/Latinx college students educated at HSIs makes continuous and vigorous efforts in recruiting and training STEM graduates at HSIs essential especially since few HSIs offer STEM support programming targeted to serve Hispanic/Latinx students (Preuss et al., 2019).

Acculturative Stress

The Hispanic/Latinx students at the HSIs in New Mexico and Texas indicated with significantly greater strength than their non-Hispanic peers that every category of institutional representative listed on the survey did not understand their culture, including those with instructional responsibility. This is surprising even when one realizes that most of the persons working at HSIs in the region are not Hispanic (Preuss et al., 2019). The same students were also found to be statistically more likely to alter "their behavior when interacting with faculty and staff" (Preuss et al., 2020a, p. 222) and fully 23.0% of the 2018 respondents from 14 different HSIs agreed "Hispanics feel like outsiders in college." These findings indicate far more potential for acculturative stress for Hispanic/Latinx students at HSIs in NM and TX than might be anticipated. This is a substantial concern because of the large number of Hispanic/Latinx students who attend HSIs and because a welcoming environment has been recognized for decades to be a key component in student retention and academic success (Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996; Tinto, 1987). It is a clear example of the "common disconnection between institutional diversity mission and the lived experience of students on campus" (Chun & Evans, 2016, p. 9) and represents a call for immediate action on the part of the administrators, faculty, and staff of HSIs across the region. It will be necessary to move beyond "the assumption that the attainment of a diverse student body automatically leads to realization of the educational benefits of diversity" (Chun & Evans, 2016, p. 9) to "reframing the HSI narrative" as described by Garcia (2019, p. 115) and other authors (Castellanos & Gloria, 2007; Santiago, Taylor & Calderone, 2015).

Culture-Based Understandings

To be able to reframe an HSI, a framework will be necessary. This will, of necessity, include an orientation toward Hispanic culture. As was described above, Hispanic/Latinx students at the HSIs represented in the 2018 sample exhibited both a higher internal and external locus of control than their non-Hispanic peers. This is consistent with persistence and prevalence of Mexican American culture among Hispanic/Latinx college students at Hispanic-Serving Institutions in New Mexico and Texas as the higher internal locus aligns with a cultural emphasis on hard work, personal responsibility, and confidence in one's ability to succeed present in Mexican American culture (Aoki, 2010; Arellano & Padilla, 1996; Knight et al., 2010; Luzzo, 1997). These

were also recently confirmed as Hispanic cultural values by Hispanic/Latinx students, faculty, staff, and administrators at HSIs in NM and TX (Preuss et al., 2019; Preuss et al., 2020a). The higher external locus of control rating also aligns with values Hispanic/Latinx and non-Hispanic faculty, staff, and administrators at HSIs felt characterized Hispanic culture (Preuss et al., 2019; Preuss et al., 2020a) and studies in psychology (Diaz, Blanco, Bajo & Stavraki, 2015) and health (Roncancio, Ward & Berenson, 2011) that confirm fatalistic outlooks among Hispanics. The presence of both higher internal and external locus of control illustrates the need to move beyond common or even stereotypic understandings (Arciniega, Anderson, Tovar-Blank & Tracey, 2008; Falicov, 2010) to facilitate culturally relevant and educationally advantageous interaction with Hispanic/Latinx students.

A second key value confirmed as persisting among the students, familism (Preuss et al., 2019; Preuss et al., 2020a), should be a consideration in institutional orientation to Hispanic cultural. As shown above, the familial orientation of current Hispanic/Latinx students is less formulaic than is the common conception and should be viewed as the outworking of a central value rather than a set of dictates. The students reported stronger attachment to their families than their peers, the sense that their academic outcome will impact their family, that their family will "greatly benefit" based on their time and effort in college, an expectation that they would use their college experience to aid family members, and a stronger expectation that they would help at home while in college than their peers. That is a familial collectivist viewpoint (Champagne et al., 2016; Ruiz, Sbarra & Steffen, 2018) rather than a set of expectations and demands. The more explicit and limiting statements of expectations of and demands from family listed on the survey, expectations regarding involvement with family events and concerns, financial support, and the impact of family income on college attendance, showed no significant difference by ethnicity. Thus, there was also a general finding that Hispanic/Latinx students felt as supported by their families regarding their educational goals and decision to attend college as their non-Hispanic peers and that they did not face significantly different financial expectations from their families than their non-Hispanic peers. These understandings of what constitutes the outworking of familism for Hispanic/Latinx students can clearly be employed to great advantage in higher education. Apprehending, appropriately emphasizing, and facilitating the realization of these cultural values in a student's college life and experience has the potential for multiple positive outcomes for the student, for the student's family, for the institution, and even for long-term sustainability of the institution.

It must also be noted that some cultural patterns should be acknowledged in order to create structures that will help students avoid pitfalls and to educate faculty and staff to recognize warning signs of a stagnated student. For example, it is possible for the emphasis on hard work, personal responsibility, and confidence in one's ability when combined with other factors like an orientation toward not being disruptive in social settings (Knight et al., 2010; Lorenzo-Blanco et al., 2012; Pina-Watson, Castillo, Jung, Ojeda & Castillo-Reyes, 2014) and "obedience, duty, and deference [to]…position within a hierarchical structure" (Castillo, Perez, Castillo & Ghosheh, 2010, p. 164) to limit a student. Other factors like first-generation student and ESL standing can also be involved (Dennis, Phinney & Chuateco, 2005; Wibrowski, Matthews, & Kitsantas, 2017). The ultimate result, though, can be too great a reliance on individual effort and persistence to learn elements of course content while new material appears each session. This can be accentuated by machismo and its counterpart marianismo

which research has shown to be associated with patterns that are not conducive to help seeking (Arciniega, Anderson, Tovar-Blank & Tracey, 2008; Castillo, Perez, Castillo & Ghosheh, 2010; Nunez et al., 2016, p. 202). A perception that Hispanic/Latinx student are reluctant to seek assistance was also confirmed in Preuss et al's study (2019) that included responses from faculty, staff, and administrators at up to 60 HSIs. The result of this combination of factors can be students who are falling behind while putting forth their best effort and exercising personal initiative. They face waves of new sequentially linked and scaffolded information and may seek in relative isolation to power through to an understanding. Yet, researchers correctly caution against overgeneralization of some elements of machismo and marianismo as negative (Castillo, Perez, Castillo & Ghosheh, 2010; Falicov, 2010). The authors agree these are "wider and much more complex" (Falicov, 2010, p. 310) "multidimensional realities" (Falicov, p. 324) rather than stereotypic and simply applied general characteristics. It is therefore important to know these values exist, to understand the possibility for them to contribute to study approaches that are less productive but also to be aware that this is not a universal circumstance. It is also necessary to know that, in many cases, regular, open, and culturally relevant interaction with students can do much to forestall this challenge for those prone to it. However, faculty and staff need to be made aware that this potential exists, for whom, and how to address it. They cannot be expected to simply intuit an understanding of what researchers call a complex and multidimensional circumstance. A professional development pattern focused on Hispanic culture, primarily Mexican American culture in most of NM and TX, and how it aligns with the culture of higher education should be enacted by HSIs to assist the faculty and staff in understanding and aiding students. Without this, it is likely that the perception among Hispanic/Latinx student that the institutional representatives of HSIs do not understand Hispanic culture will persist as, unfortunately, few HSIs currently offer professional development programming regarding Hispanic culture to their faculty, staff, and administrators (Preuss et al., 2019).

Conclusion

The broad set of queries incorporated in the surveys of students at HSIs in New Mexico and Texas resulted in a nuanced description of the institutions' student populations. These data provided significant insight into demographics, general characteristics, acculturative stress, and culture-based understandings that has multiple implications for practice. Above all else, these data illustrate the profound need for faculty, staff, and administrators at HSIs in NM, TX, and beyond to engage in "reframing the HSI narrative" (Garcia, 2019, p. 115). The findings presented and HSIs' responsibility to educate nearly two-thirds of the Hispanic/Latinx college students in the United States (Revilla-Garcia, 2018) indicate that effort must be immediate and thoroughgoing.

Acknowledgement and Disclaimer

This material is based upon work supported by the National Science Foundation under Grant No. 1764268. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

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