International Journal on Social and Education Sciences
Volume 2, Issue 2, 2020 ISSN: 2688-7061 (Online)

Role Models and Mentoring Relationships: Preferences Expressed by Hispanic Students Attending Hispanic-Serving Institutions

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Abstract: A sense that there are a limited number of role models at colleges and universities for Hispanic and other minority students has been a concern of researchers in higher education for a number of years but little is actually known about who Hispanic students consider a role model. Similarly, researchers have investigated the impact of mentoring relationships on success in college and persistence for majority and minority students, yet little is known of the preferences students studying at Hispanic-Serving Institutions have regarding mentors and whether Hispanic students at these institutions have expectations that differ from those of their peers. An NSF-funded investigation gathered data in both these areas. Findings from two surveys, one with responses from 464 students at 14 Hispanic-Serving Institutions and the other with responses from 746 students at a comprehensive, regional state university and two community colleges from which the university receives transfer students, are discussed. The first survey set the context for the second and its sample came from colleges and universities in New Mexico and Texas. The sample for the second survey is isolated to north Texas. On the first survey, students at HSIs were asked three general questions about mentors, to select types of individuals they saw as role models from a list of six short descriptions and to select all that applied from a list of eight characteristics desired in role models. The second survey included similar patterns but all the questions targeted mentors and mentoring relationships. Responses on both surveys include three primary findings. At the HSIs represented, the preferences of Hispanic students regarding role models and mentors are different from their non-Hispanic peers in several key ways. Their preferences appear to be related to cultural identity and to primary language for those who have English as their second language. The Hispanic students in the second survey were also more likely than their non-Hispanic peers to submit low ratings of the understanding representatives of their institution had of the student's culture. This occured for all forms of engagement listed: advising/mentoring, instruction, tutoring, financial aid assistance, scholarship services, career services, and student organizations.

Keywords: Hispanic-serving institutions, Hispanic students, Role model, Mentor, English as a second language

Introduction

Various college student success models suggest that enculturation within and identification with institutions or relationships established with individuals representing institutions of higher education are important for improving student retention and graduation. The seminal student retention and success models developed by Terenzini and Pascarella (1980; 1991), Vincent Tinto (1993), and Alexander Astin (1993) are examples of this. More contemporary examples are myriad like recommendations made in Upcraft, Gardner, and Barefoot (2005), Castellanos and Gloria's (2007) Psychosociocultural Model of College Success for Latinx students, Santiago, Taylor, and Calderón's (2013) list of institutional characteristics that can increase the potential of success for

Hispanic students studying science, technology, engineering, and mathematics (STEM), and the compendium of information related to Hispanic college students in Batista, Collado, and Perez II (2018). Support programming and supportive relationships with college personnel are regular features in these discussions. This document describes survey research completed to increase understanding of college students' perspectives of two groups of persons who can motivate and support them, role models and mentors. The investigation was specific to students who attend Hispanic-Serving Institutions (HSI) and sought to understand what the students perceived about the impact of role models and mentors and the characteristics they desire in persons they admire and from whom they accept guidance.

Undergraduate students attending Hispanic-Serving Institutions (HSI) were asked questions about persons in both categories, role models and mentors. Role models were considered the broader construct with mentors as a subset of the group. The intention was to understand whether there were distinct preferences among Hispanic students in respect to role models and mentors while also identifying whether there were commonalities in the characteristics desired for both. Having this information is important as supporting and relating to students is a basic premise of student success theory and practice and is particularly emphasized regarding minority students (Castellanos & Gloria, 2007; Santiago, Taylor & Calderón, 2013: Upcraft, Gardner & Barefoot, 2005). It is also important to have information of this type regarding HSIs due to the concentration of Hispanic students at Hispanic-Serving Institutions. Revilla reported that "2016-17 enrollment data shows...14% of all institutions of higher education (492 HSIs) enrolled 65% of all Hispanic undergraduates" (Revilla, 2018, para. 2). Understanding the experiences and perspectives of these students is critical to appropriately facilitating their education.

Definitions

For the purpose of the study, a distinction was made between role models and mentors. Role models were viewed as the broader construct with mentors as an overlapping but narrower concept. Role models were defined as individuals whose lives, character, or actions a person admires and may wish to emulate. Like Thevenin, Elliott, and Bigelow (2016), this included persons who inspire and motivate although they may not be directly involved in an individual's relational network. Mentors were, again like Thevenin, Elliott, and Bigelow, viewed differently as individuals who provide guidance, expert assistance, and, potentially, psychosocial support. Both constructs were considered from the perspective of students. That is, the type of person students attending HSIs desire as role models or mentors and, to a more limited extent, their experience with persons in these roles.

Review of Relevant Literature

Searches of the literature were conducted regarding the phrase role model and the term mentor. For both topics, the searches sought three types of information. First, general information about the concepts, as defined above, within the context of higher education and from the student perspective. Second, material describing the concept or its application at HSIs. Third, publications describing the concept or its application to Hispanic students at HSIs. This activity was completed using resources provided by a university library. A customized search function that combines outcomes from multiple education and social science databases was the primary tool employed. The two primary search terms used were role model(s) and mentor(s) with the intention of capturing the greatest volume of possibly relevant material. Within the broader searches, the terms higher education, college, university, Hispanic-Serving Institutions, Hispanics, and Hispanic students were used to sort results.

Role Models of College Students

There is very little material in the literature about the persons chosen as role models by college students in the United States and the characteristics the students desire in a role model. Only two journal articles were found that addressed the topic and neither was specific to Hispanic-Serving Institutions and the students who attend them. Three other publications indirectly addressed the topic by touching on relational networks, the influence of personal characteristics of a role model and the impact of the student's background on the extent of the role model's influence. .

In 2001, Elzubeir and Rizk conducted a study of medical students, interns, and residents. Completed in a graduate student and medical setting, the study found, among other things, that students ranked mentor

personality among the top three desired characteristics in the quantitative response set and that qualitative data gathered placed emphasis on personal characteristics like being positive, respectful, and knowledgeable. This study of a graduate student population was the closest equivalent to the researchers' investigation of the characteristics desired in role models by students at HSIs although it focused on a graduate student population and was not conducted at an HSI.

Scase and Turnbull (2013) investigated whether students who are the minority gender in an academic and professional field "place a significant value on the gender of their instructors and, if so, in which roles… lecturers/instructors, project supervisors…[or] personal tutors" (p. 98). While considering a desired personal characteristic of an instructor from the perspective of undergraduate students, Scase and Turnbull did not make a distinction between role models and mentors. Their use of the phrase role models included persons that might be classified as mentors in the authors' investigation, especially "project supervisors…[or] personal tutors" (p. 98). They found "gender-minority students attach very little value to the gender of the academics they interact with, unlike their peers" (p. 98). Majority students where found to consider instructor gender "important…when in the gender-majority or within gender-balanced departments, and then only in the role of personal tutor" (p 98). Like Elzubeir and Rizk (2001), personal characteristics of role models were found to be important to students, in this case for majority-gender undergraduate students.

Thevenin, Elliott, and Bigelow (2016) completed "a quantitative survey administered to 587 students enrolled in construction management courses at three universities" (p. 162). They sought to understand the impact of having role models and mentors. They found that over 80% of the students "reported having a person who influenced their academic decisions" (p. 162), that a family member was the person most frequently reported as having influence, and that females reported having a person fill this role more than males. While focused on the presence and impact of role models and mentors rather than the desired characteristics of these persons, the study findings noted the presence of a person(s) within a student's relational network who have influence on decisions made regarding academics.

Johnson (2014; 2017) looked at the effects of having a female instructor, the person classified in the study as the role model, on student self-efficacy and grades. Several effects were noted but the investigation focused on student outcomes associated with studying under a female professor. A "positive association [was] found between self-efficacy for self-regulated learning and academic success" (2017, p. 151). This is connected to the topic at hand by showing impact of a personal characteristic of the role model.

Parent and Oliver's (2015) investigation included the influence of role models on undergraduates studying psychology as well as the students' "attitudes toward research, and knowledge of internship-related issues" (p. 55). The results from data about "220 undergraduate students from across the United States and Canada who intended to pursue graduate training in psychology" (p. 55) revealed that socio-economic status (SES) of the student was associated with the degree of influence exerted by role models. Students with a higher perceived SES were more likely to report being influenced by role models. This is the most tangentially related of the articles. A personal characteristic was found to be associated with influence exerted by role models, but it is a personal characteristic of the student rather than the role model.

As noted above, no publications were found about role models in the context of Hispanic-Serving Institutions. The search for information specific to Hispanic students attending HSIs produced the same result. Thus, the topics discussed below address multiple gaps in the literature. These are identification of characteristics desired by undergraduates in their role models and a consideration of role models specific to HSIs, their students, and, within that group, Hispanic students attending HSIs.

Preferences Regarding Mentors Expressed by College Students

Ehrich, Hansford and Tennett stated "The sheer volume of literature on mentoring across a variety of disciplines is an indication of the high profile it has been afforded in recent years" (2004, p. 518). Their analysis of hundreds of articles demonstrates the volume of material and diversity of topics addressed in this area. This emphasis has continued in recent years with: (1) consideration of conceptual models for mentoring (Baker, 2015), (2) discussions of approaches (Walter et al, 2016) and competencies (Wyre, Gaudet & McNeese, 2016), (3) consideration of mentoring for junior faculty (Mazerolle, Nottingham & Coleman, 2018), as experienced by deans (Reeves, Throne, Bradley & Piferi, 2015), and for minority faculty (Terrion & Leonard, 2007; Zambrana et al, 2015), (4) the impact of faculty mentoring programs on student outcomes (Elliott, 2018), (5) issues associated with mentored research (Welfare, Sackett & Moorefield-Lang, 2011), (6) descriptions of mentoring

programs (Edwards et al, 2011; Crooks, 2013) and, (7) specific processes employed with students like peer mentoring (Fleck & Mullins, 2012; Gartland, 2012; Kalpazidou-Schmidt & Faber, 2016), mentoring minority students (Luedke, 2017), mentoring of minority students studying STEM (Mondisa, 2015), and mentoring of African-American doctoral students (Strothers, Justice, & Lugg, 2017).

While mentoring and even mentoring of undergraduate students has for years been a regularly addressed topic in the literature of higher education, there is a limited volume of information about the characteristics the undergraduate students desire in mentors. None of the publications cited above address this matter. The authors were also unable to locate publications about mentoring enacted at HSIs and specific to Hispanic students attending HSIs although one study of mentoring for Latina faculty was found (Alcaron & Bettez, 2017). These gaps in the literature were addressed by the study described below.

Method

An exploratory, sequential, mixed-methods investigation was conducted. It began with literature review followed by qualitative data gathering in focus groups at a conference and through interviews and continued to quantitative survey research. A sequential exploratory pattern was deemed appropriate as there was little extant information about the topics under investigation, which made qualitative investigation and triangulation between data sources then elucidation and validation with a larger sample the preferable approach. As an exploratory investigation the overall research questions were broad but included foci within topic areas. This discussion addresses a specific subset of ideas, who students at HSIs consider to be role models, which characteristics are important to them in role models and mentors, and their level of interest in mentoring. To understand how students at HSIs, and especially the Hispanics at the schools, thought about these constructs, they were asked about: (1) who they identify as role models and mentors, (2) characteristics they desire in role models, (3) their perception of the importance of having a mentor, and (4) characteristics valued in a mentor.

Secondary research was completed to inform the research process and data collection. Data collection occurred in a variety of forms: (1) topic-specific focus groups conducted during each concurrent session of the Consejos Colectivos conference at El Centro College in February of 2018, (2) semi-structured interviews with students and representative stakeholders from groups that had been underrepresented in the focus groups, and (3) surveys of students at HSIs in a seven-state region. All research materials and methods were submitted for review and approval by the Institutional Review Board (IRB) at West Texas A&M University (WTAMU).

Literature review was conducted when crafting the project plan and following funding by the National Science Foundation (NSF). Information relevant to all the project goals was sought. The goals were "(1) identify the specific challenges 2- and 4-year HSIs face in adopting evidence-based institutional changes for improving STEM education and Latinx student success, with a specific focus on areas the National Science Foundation could potentially address through targeted funding opportunities; (2) identify challenges and opportunities for 2- and 4-year HSIs in building capacity for research and expanding STEM instruction and other Latinx student supports through collaborations with other institutions and by pursuing appropriate funding opportunities; (3) solicit Latinx STEM student and alumni perspectives on barriers to success in STEM and psychosociocultural tailoring of institutional changes to meet Latinx student needs and improve STEM education at HSIs; and (4) conduct a follow-up survey of stakeholders at 2- and 4-year HSIs across the country to capture a more representative cross-section of their needs, challenges, and priorities based on themes developed through focus groups, semi-structured interviews, and conference discussions" (NSF, 2017).

Focus groups with faculty, staff, and administrators from HSIs were conducted at the Consejos Colectivos conference in Dallas at the end of February 2018. Persons working for non-profit groups that supported or advocated for Hispanic students were also welcomed as informants. The discussion prompts for these conversations were developed based on information from the literature, input from representatives of the Texas Association of Chicanos in Higher Education (TACHE), suggestions offered by members of the conference organizing committee, and the experience of members of the research team. There were three focus group topics and a set of questions specific to each. The question sets can be found in Preuss et al (2019). The focus group participants were selected at random from the list of conference registrants. The parties selected were contacted by e-mail and asked to participate in a designated focus group during one of the concurrent sessions of the conference. Thirty-seven persons were asked to participate in three focus groups. Twenty-six of them agreed to participate. The participants represented seven four-year institutions in Texas and New Mexico and five community colleges (CC) in Texas. The same party, Dr. Michael Preuss, facilitated all three focus groups. The focus groups were recorded and transcripts were produced.

Student participants at the Consejos Colectivos conference were purposefully excluded from the focus groups. This decision was made for two reasons. First, students might have been intimidated by the faculty, staff, and administrators in the focus groups. This could impact their willingness to speak and the content of their responses. Second, the higher education professionals in the focus groups might have altered the topics addressed in their responses with students present. It was felt that these were sufficient reasons to exclude students. This, however, meant that to have student input in the initial stage of the research another form of data gathering was necessary. Short, semi-structured interviews were planned to fill this gap. Similar interviews were also planned as a means of filling any gaps in representation left by random selection of focus group participants. With several faculty members, staff persons, and administrators participating in each of the focus groups, the only informant gap was for advocates. Even though this was the case, a small number of interviews were completed with female administrators from HSIs as the count of female administrators in the focus groups was lower than that of male administrators.

Immediately following the conference, student, advocate, and female administrator interviewees were sought. In all cases a convenience sampling pattern was enacted. Interviewees were sought through the personal networks of members of the research team. This decision was made due to severe time constraints. To be able to deploy surveys, which were to be based on the focus group and interview data, the qualitative data had to be collected, transcribed, coded, and the codebooks reconciled in 30 days. That left another 20 days for surveys to be developed so they could be deployed before the end of the spring semester in 2018. Eight students were interviewed. One male and two females who were students at HSIs that were regional, comprehensive state universities. The remaining students attended community colleges that were HSIs. Four were male and one was a female. All the students attended college in Texas. Two advocates were interviewed. One was a male and one was a female. Both served in leadership roles for non-profit organizations. The male was a full-time employee of a non-profit in a metropolitan region of Texas. The female was a volunteer leader of a state-wide non-profit whose full-time role was as an administrator at an emerging HSI. Two female administrators were also interviewed. One worked at a regional, comprehensive state university and the other at a community college. The interviews were recorded and transcribed.

The qualitative data, focus group and interview transcripts, were divided into two groups, input from students and material supplied by faculty, staff, administrators, and advocates. All members of the research team completed open coding of each transcript (Kolb, 2012). Four worked independently while two others, Dr. Preuss and Jason Rodin, collaborated to produce a shared codebook. The student interviews, the smaller set, were coded first. When each team member had completed coding the student interview transcripts, meetings were held in which line-by-line discussion of codes was completed and a common codebook negotiated. The same process was completed subsequently for the focus group transcripts and for the administrator and advocate interviews. In this process, it became apparent that splitting the qualitative data into student and professional input had been appropriate as the codebooks derived had substantial differences. The result was two corporate codebooks, one representing faculty, staff, administrator (FSA) and advocate data and a second representing the student data.

The codebooks were used to develop surveys in conjunction with the Psychosociocultural Model of College Success for Latinx students (Castellanos & Gloria, 2007) and the work of Santiago, Taylor, and Calderon (2015). Castellanos and Gloria's theory suggests five factors contribute to college persistence among Latinx students: (1) psychological, social, and cultural strengths and supports; (2) the degree to which the student struggles with cultural congruity; (3) the level of acculturative stress; (4) sense of belonging; and (5) self-efficacy. Santiago, Taylor, and Calderón's (2015) work informed some of the structure of the FSA survey and foci of both surveys through its 10 evidence-based institutional characteristics with the potential to improve Latinx success in STEM. The following concepts were included in at least one of the surveys: (1) conducting targeted outreach to Latinx students, (2) fostering an environment of institutional commitment to student success, (3) establishing institutional partnerships that make it easier for Latinx students to advance in the pipeline, (4) improving advising, (5) establishing peer mentoring programs, (6) supporting faculty development, (7) enhancing relevant academic support programs, (8) providing research and fellowship opportunities for students, and (9) securing industry cooperation to ease transitions into the workplace.

The survey development process was completed in approximately 20 days in meetings held by the research team. Sample questions were written primarily by Dr. Preuss and discussed by the group with alternative questions suggested by team members in meetings. The questions were refined through corporate discussion across more than a dozen meetings all of which lasted multiple hours. A survey was developed for distribution to students at Hispanic-Serving Institutions in a seven state region (AR, CO, KS, LA, NM, OK, TX). A second survey for faculty, staff, and administrators at the same institutions and in the same region was also developed.

The intention for the student survey was to identify student background, experience, and opinion. The intention for the faculty, staff and administrative survey was to identify institutional commitments and characteristics, the background and experience level of as well as the programming facilitated by institutional employees, and to understand the views of the employees.

Both surveys were subjected to piloting and assessment of face validity. The student survey was piloted with a group of ten student volunteers at WTAMU and the faculty, staff, and administration survey was piloted with a small number of faculty and staff at WTAMU. The surveys were reviewed for face validity by representatives of TACHE. Both surveys were positioned on the Qualtrics survey platform during development and each included some logic limitations. For example, if a respondent stated s/he was less than 18 years of age or replied s/he did not understand or agree to the conditions of the survey, survey logic took them to a thank you page and prevented engagement with the survey instrument. Another commonly applied logic pattern employed made follow-on questions available only to individuals who provided specific responses (e.g., if a respondent indicated standing as a faculty person, several follow-on questions were made available about the nature of the individual's faculty appointment).

While deployed simultaneously in the spring of 2018, the means by which participation was solicited diverged for the FSA and student surveys. As this report addresses the student survey, the means of soliciting FSA participation will not be discussed. The link to the student survey was distributed in several ways. A broadcast e-mail was sent to over 1,500 employees at 119 HSIs in the seven-state region asking them to forward a survey link to students at their institutions. The contact list had been developed by the research team using the US Department of Education and Hispanic Association of Colleges and Universities (HACU) listings of HSIs for the year 2016 then accessing the websites of each of the HSIs and searching for STEM, student support, and administrative contacts. In addition, 31 persons who attended the Consejos Colectivos conference had agreed to act as "Research Champions." These persons were contacted via e-mail and provided an IRB approved e-mail for use in soliciting survey participation from students at their institution. A third means of distributing the survey link was provided by the Texas Association of Chicanos in Higher Education. TACHE's leadership distributed the survey link to their membership via e-mail. Finally, the research team solicited participation in the survey at WTAMU by approaching students in the dining commons and the student center.

The survey remained open for a three-week period at the end of the spring semester in 2018. Once the survey was closed, the responses were downloaded to an Excel spreadsheet. A total of 587 students at 15 colleges and universities in Colorado, New Mexico, and Texas accessed the survey. Parties accessing the survey were from 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. The research team reviewed the file and cleaned the data of inconsistent and incomplete responses which left a total of 464 usable response sets from students attending the 14 HSIs in New Mexico and Texas. The limited number of responses from the university in Colorado were not included as it was not an HSI. Statistical analyses of responses was conducted using SPSS and methods appropriate to each form of data.

In the spring of 2019, the research team revised the 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. The revised survey was deployed sequentially at three 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. These processes were completed with the permission of the appropriate administrators at each institution. By the mid-fall of 2019, 830 persons 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 70 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. The 746 sets of responses that remained were subjected to statistical analysis using the SPSS software package and methods appropriate to each form of data.

Results and Discussion

An approximate total student headcount for the 14 institutions represented in the 2018 student 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. The total count of possible respondents for the 2019 student survey, compiled from two institutional fact books and one communitycollegereview.com profile page (oldest count was from fall of 2017), was 29,575 undergraduates. The 746 usable responses exceed the threshold needed for 99% level of confidence with a 5% margin of error.

While all students attending the HSIs where the surveys were distributed were encouraged to participate, this report concerns itself primarily with the responses from students who identified as Hispanic. A total of 213 of the 464 respondents on the spring 2018 survey identified as Hispanic (45.9%). A total of 307 of the 746 respondents to the 2019 survey identified as Hispanic (41.2%). These figures align with national, regional, and institution specific figures for the percentage of Hispanic students attending HSIs. For example, the national average for percent Hispanic representation at HSIs is 45% (Revilla, 2018) and in the student population for the four-year institutions represented in the 2018 survey it was 41.7%. The data set was also found to be representative in respect to the ratio of males to females. The 2018 survey respondent pool was 61.0% female, 38.1% male, 0.5% non-binary, and 0.5% unspecified. The 2019 respondents were 60.9% female, 38.9% male, and 0.1% gender fluid. The 14 institutions represented in the 2018 survey reported a combined student population that was 59.4% female and 40.6% male while the three in the 2019 survey reported 59.7% female and 40.3% male. Based on these comparisons, the data gathered on both surveys can be considered to be representative of the respondent pool in respect to ethnicity and gender.

Findings Regarding Role Models

The spring 2018 survey included a group of questions about role models. This construct was defined as an individual whose life, character, or actions a person admires and may wish to emulate but allowance was made in the phrasing of the queries for this person to be within or outside the student's relational network. This allowed responses from persons who saw a relative as a role model as well as from persons who viewed a professional they had never met as a role model.

The first set of questions about role models was a set of seven statements and informants were asked to select all that applied. The last statement listed was "Having a role model at my college is important to me." A total of 48.0% of the Hispanic students responded this was the case. This response rate was not significantly different than for non-Hispanics in the sample who had 41.0% agreement. The full wording for each of the six remaining statements followed a uniform pattern. The first was "There are faculty and staff at my college that I think of as role models." The second was "There are students at college that I think of as role models," etc. Table 1 lists the percent agreement of the Hispanic students for these prompts and notes the two points at which there were statistically significant differences in the response patterns of Hispanics and non-Hispanics. Chi-Square analysis and calculation of phi for effect size were employed for all comparisons for this group of questions (Table 1).

Table 1. Individuals Considered as Role Models

Prompts	Hispanic % Agreement	Comparison	Chi-Square	p Value	Effect Size
…faculty and staff at my college …	64.8%	Hisp/non-Hisp	8.96	.003	.139
…Hispanic faculty and staff at my college…	35.2%	Hisp/non-Hisp	8.85	.003	.138
…students at college…	50.2%				
…members of my family…	70.0%				
…members of my community…	39.4%				
…well-known people…	49.3%				

The second set of questions on the 2018 survey regarding role models was also a list of statements from which informants were asked to select all that applied. The prompt preceding the list was "The following are important to me regarding role models." Table 2 provides the percentage of Hispanic students at the HSIs who agreed with

each of the statements and results of Chi-Square analysis comparing responses from the Hispanic and non-Hispanic subsets of students.

Table 2. Important Characteristics of Role Models

Prompts	Hispanic % Agreement	Comparison	Chi-Square	p Value	Effect Size
Understands my culture.	51.2%	Hisp/non-Hisp	19.34	< .001	.204
Is Hispanic.	28.6%	Hisp/non-Hisp	72.98	< .001	.397
Is easy to find and regularly available.	52.6%	Hisp/non-Hisp	5.35	.021	.107
Is encouraging.	83.1%	Hisp/non-Hisp	13.77	< .001	.172
Has overcome barriers.	70.4%	Hisp/non-Hisp	11.67	.001	.159
Has information that can help me.	75.1%	Hisp/non-Hisp	10.53	.001	.151
Speaks Spanish.	21.6%	Hisp/non-Hisp	47.95	< .001	.321
Actively reaches out to me with helpful information.	63.8%	Hisp/non-Hisp	11.99	.001	.161

From the material in Tables 1 and 2, a rank ordered list can be constructed of persons who are seen as role models by Hispanic students attending HSIs and the characteristics valued in role models by the same students. The rank order for persons reported as role models was as follows.

1. Members of my family (70.0%).
2. Faculty and staff at my college (64.8%).
3. Students at college (50.2%).
4. Well-known people (49.3%).
5. Members of my community (39.4%).
6. Hispanic faculty and staff at my college (35.2%).

These rankings have three clear strata, family members and faculty and staff with response rates at or above 65%, students and well-known people with response rates of approximately 50%, and members of the individual's community and Hispanic faculty and staff at the student's college with values below 40%. The low ranking for Hispanic faculty and staff may be related to the underrepresentation of Hispanics in higher education. The National Center for Education Statistics (n.d.) reported that in the fall of 2016 only 5.0% of full-time faculty in the United States were Hispanic.

The characteristics of role models that are important to Hispanic students who attend HSIs can also be rank ordered by the percentage of responses. That listing is as follows.

1. Is encouraging (83.1%).
2. Has information that can help me (75.1%).
3. Has overcome barriers (70.4%).
4. Actively reaches out to me with helpful information (63.8%).
5. Is easy to find and regularly available (52.6%).
6. Understands my culture (51.2%).
7. Is Hispanic (28.6%).
8. Speaks Spanish (21.6%).

This list also has natural break points in the values dividing it into upper, middle, and lower tiers. The first four characteristics are in the upper tier, the next two the middle tier, and the last two the lowest tier. These two lists appear instructive but they do not consider whether Hispanic and non-Hispanic students in the sample had similar perspectives. They also do not include the possibility that other factors in addition to ethnicity could impact role model preferences.

Both Table 1 and Table 2 note differences in response patterns along ethnic lines. For both "faculty and staff at my college" and "Hispanic faculty and staff at my college," the responses of Hispanic and non-Hispanic students in the sample were significantly different with weak effect sizes (phi value of < 0.2). The Hispanics were more likely to agree in both instances. This distinction persists and extends across all eight of characteristics desired in a role model. Five of the eight comparisons had weak effect sizes but the remaining three had moderate (phi value > 0.2 up to 0.3) and strong effect sizes (phi value > 0.3) (Laerd Statistics, 2018a). These differences were even present for accessibility, being encouraging, and helpfulness which are characteristics one would expect every student to appreciate. Based on these results the following are a more accurate summary of findings regarding role models.

- The Hispanic and non-Hispanic students at the HSIs did not differ significantly in the importance assigned to having a role model at their college or in their selection of members of their family, fellow students, well-known people, and members of their community as role models.

- Hispanic students in the sample were more likely, with weak effect size, to identify faculty and staff at their college and Hispanic faculty and staff at their college as role models.
- Hispanic and non-Hispanic students reported different preferences, at highly significant levels with weak up to strong effects, regarding the characteristics they desire in a role model with "understands my culture" (51.2% vs. 31.3%), "is Hispanic" (28.6% vs. 1.2%), and "speaks Spanish" (21.6% vs. 1.6%) as the items that were the least important to non-Hispanics (see Table 6 for a full listing of percent agreement by ethnicity).

With the data showing such wide spread and in several cases pronounced differences, the question of why the differences exist arises. To consider impact of other factors, the responses of the Hispanic students were disaggregated. This was done by gender, age, institution type (two-year and four-year), personal identification with Hispanic culture, identification with STEM, employment status (both employed versus not employed and 20 or fewer vs. 21 or more hours a week), years of school completed, and primary language. There were two language classifications, English as the primary language (EPL) or Spanish as the primary language (designated as English as a second language - ESL). Table 3 provides the particulars for each category of disaggregation. In this table and those that follow, 4YR stands for four-year institutions and 2YR stands for community colleges.

Table 3. Categories of Disaggregation of 2018 Student Data

Category	Pattern	Explanation
Gender.	Self-reported gender orientation.	Male and female excluding non-binary and unspecified for which too few responses were received to support statistical analysis.
Age.	Traditional student age versus non-traditional.	Collapsed four categories (18-24, 25-29, 30-40, >40) into traditional (18-24) and non-traditional (25->40); persons under 18 were excluded from participating.
Institution type.	Self-report of home institution.	Confirmed as HSIs using HACU and as 2YR and 4YR using Carnegie website.
Identification with Hispanic culture.	Agreeing versus disagreeing.	Strongly agree and agree versus disagree and strongly disagree from five-point Likert scale.
Identification with STEM.	Agreeing versus disagreeing.	Strongly agree and agree versus disagree and strongly disagree from five-point Likert scale.
Employed.	Working versus not working.	Collapsed five categories (work on and off campus plus three descriptors, not work in college, not work now but did in past, not now but do on breaks) into two.
20 hours or less versus 21 hours or more of work a week.	Self-report of average hours worked in a week.	Collapsed five categories (10 or less, 11 to 20, 21 to 30, 31 to 40, more than 40 hours) into two based on federal work-study guidelines.
Years of college completed.	Self-report of years completed.	Five categories from less than one year through more than four years without graduating.
Primary language.	Self-report of language learning.	Respondent selected either learned English as a primary or secondary language.

As a large number of comparisons were made, only the statistically significant findings are reported here. Table 4 lists the significant findings for the categories of individuals classified as role models. Table 5 contains the significant findings regarding characteristics desired in role models. Chi-Square analysis and calculation of phi for effect size were employed for all the comparisons.

Table 4. Significant Findings for Individuals Considered as Role Models

Prompts	Comparison	Chi-Square	p value	Effect Size
…faculty and staff at my college …	EPL/ESL	4.23	= 0.04	-0.15
…members of my family…	STEM ID	12.42	= 0.02	0.24
…members of my community…	2YR/4YR	4.38	= 0.04	-0.16
…well-known people…	2YR/4YR	7.21	= 0.01	-0.20

Students who learned English as their second language were more likely, 45.2% to 30.0%, to consider faculty and staff at their college as role models than their Hispanic peers who learned English as their primary language. This relationship had a weak effect size. Hispanic students who agreed or strongly agreed with the statement "I identify as a STEM student" were more likely to consider members of their family as role models with a

moderate effect size while students at community colleges were more likely to consider members of their community and well-known people as role models, 54.8% to 35.7% and 69.0% to 44.4% respectively. Both comparisons had weak effect sizes. The percentage of Hispanic students with ESL standing was checked to see if their presence contributed to the difference seen along ethnic lines in respect to role models being reported as faculty and staff at the student's college, in general and for Hispanic faculty and staff. The 90 students with ESL status did not skew the findings related to ethnic identity.

Table 5. Significant Findings for Important Characteristics of Role Models

Prompts	Comparison	Chi-Square	p value	Effect Size
Understands my culture.	EPL/ESL	5.72	= 0.02	-0.17
Understands my culture.	Hisp ID	16.85	< .001	-0.30
Is Hispanic.	EPL/ESL	6.42	= 0.01	-0.19
Speaks Spanish.	EPL/ESL	13.35	< .001	-0.26
Actively reaches out to me with helpful information.	Years of college	9.90	= 0.04	0.22

The finding regarding family members parallels an outcome for role models of students in construction management courses, "family members were reported most frequently as the person of greatest influence" (Thevenin, Elliott & Bigelow, 2016, p. 162), but the combination only suggests that there may be some pattern rather than leading to a conclusion. The most that can be said is that there appears to be a number of factors that can impact choice of role models for Hispanic students attending HSIs. Among these are primary language, identification with STEM, which could be the connection to the construction management study, and whether the student attends a community college or a four-year institution. The findings for institution type are likely to be related to one or more characteristics held in common by students who attend CCs and four-year institutions rather than to the type of institution they attend.

The results of statistical analysis for characteristics desired in role models by Hispanic students appear to show a trend. Four of the five significant findings, all with weak to moderate effect sizes, are related to language and culture. That students who have English as a second rather than primary language would value parties as role models, in order of effect size, who are Hispanic, speak Spanish, understand their culture, are encouraging, actively reach out with helpful information, who have overcome barriers, who have information that can help the student, and who are easy to find and readily available is not surprising. What might be considered unexpected is how consistently the differences occurred (Table 5) even though many of the items listed were also desired in role models by non-Hispanics (Table 6). This is informative. It suggests an interactive effect of culture and primary language in choice of role models for Hispanics who have ESL status. The related finding with a moderate effect size, Hispanic students who identify with Hispanic culture desiring a role model who understands their culture, 56.0% as opposed to 5.0% for those who did not identify with Hispanic culture, can be seen as supporting the interaction of language and culture in respect to role models.

Table 6. Percent Agreement Regarding Characteristics of Role Models

Category	Hispanic Students	Non-Hispanic Students
Is encouraging.	83.1%	68.1%
Has information that can help me.	75.1%	61.0%
Has overcome barriers.	70.4%	55.0%
Actively reaches out to me with helpful information.	63.8%	47.8%
Easy to find and readily available.	52.6%	41.8%
Understands my culture.	51.2%	31.1%
Is Hispanic.	28.6%	1.2%
Speak Spanish.	21.6%	1.6%

The last significant comparison, that interest in a role model who actively reaches out with helpful information increases with years of college experience is also informative. There was a moderate effect size for this finding. The balance of traditional age to non-traditional age students was checked to determine if the Hispanic student group might have included more students of non-traditional age, a circumstance that could influence the result found. That was not the case as non-traditional age students made up 15.9% of the sample, 15.1% of non-Hispanics and 16.9% of Hispanics. It appears that the more experience Hispanic students have in college, the more they value proactive provision of helpful information by persons they consider to be role models. This finding crosses over into the concept of mentoring as the more experienced or recognized person is proactively engaging the student.

Findings Regarding Mentors

The 2019 survey preparation was informed by outcomes from the work completed in 2018. Adjustments were made to the survey by eliminating some queries and adding others, shifting the focus from the broader set, role models, to a narrow construct, mentors, and moving from select all that apply and Likert-scale questions to 0 to 10 rating scales, or even broader scales, whenever possible. The shift to ten or more point rating scales eliminated the need to collapse categories to arrive at agreement and disagreement and facilitated the use of correlation in analysis. Due to the changes in the instrument, disaggregation of responses could be completed in difference ways than for the 2018 data set. Means of disaggregation employed when considering the responses in respect to mentoring were gender, age, cultural identity, first-generation student standing, institution type, employment (working or not working), number of hours worked in a week, years of school completed, current course load (credit hours), annual income of household of origin and for the student's household, primary language (EPL or ESL), and fluency in Spanish. Table 7 provides the particulars for each category of disaggregation.

Table 7. Categories of Disaggregation of 2019 Student Data

Category	Pattern	Explanation
Gender.	Self-reported gender orientation.	Male and female excluding gender fluid responses for which too few were received to support statistical analysis.
Age.	Student age.	Values as reported on a sliding scale (18-100); persons noting they were under age 18 were not allowed to take the survey.
Hispanic identity.	Self-classification as Hispanic.	Selected Hispanic/Latinx from a list of possible cultural identities.
Cultural identity.	Self-classification with ability to choose all that apply.	Selected all that apply from a list of seven cultural identities.
First-generation college student.	Self-classification.	Selected federal definition as a self-descriptor.
Institution type.	Self-report of home institution.	Confirmed as HSIs using HACU and as 2YR and 4YR using Carnegie website.
Employed.	Working versus not working.	Collapsed five categories (work on and off campus plus three descriptors, not work in college, not work now but did in past, not now but do on breaks) into two.
Average hours worked in a week.	Self-classification.	Used sliding scale to register figure (0-60).
Years of college completed.	Self-classification.	Used sliding scale to register figure (0-10).
Current credit hours.	Self-classification.	Used sliding scale to submit figure (0-24).
Annual income (household of origin).	Self-classification.	Used sliding scale to submit figure ($0-$250,000).
Annual income (student's household).	Self-classification.	Used sliding scale to submit figure ($0-$250,000).
Primary language.	Self-report of language learning.	Respondent selected either learned English as a primary or secondary language.
Fluency in Spanish.	Self-classification.	Used sliding scale to register level (0-10).

As a large number of comparisons were made, only the statistically significant findings are reported. For the survey in 2019, several questions about mentoring were added and the role model question set was reduced in size and shifted to address mentors. There was, though, a query on the first survey about mentoring that was not been described above and that was retained, with revision, on the second survey. The question stem in 2018 was "The people who provide this service do not understand my culture." Respondents were to select all that apply to the stem from a list of seven types of institutional engagement with students. These were advising, mentoring, tutoring, math, writing or other study labs, financial aid office, career services, and student organizations. The percentage of students agreeing with this statement, as it was phrased in the negative, was the information sought. There were no significant differences between the responses from Hispanic students and their non-Hispanic peers in the sample for these forms of engagement. The percentage of the 213 Hispanic students at 14 HSIs who responded that the institutional representatives staffing each of the areas did not understand their culture is as follows (arranged from most frequently selected to least frequently).

1. Financial aid office (17.8%).
2. Advising (15%).
3. Student organizations (13.6%).
4. Math, writing or other study labs (9.9%).
5. Career services (8.5%).
6. Mentoring (7.5%).
7. Tutoring (6.1%).

The revisions made to the question in 2019 were to rephrase it as a positive statement, "The people who provide this service understand my culture," switch from a select all that apply response to a ten-point rating scale for each of the forms of engagement, change the labels for some forms of engagement, combine two forms under one label, and add two forms of engagement. The new list was instruction/teaching, financial aid office, tutoring service/lab, advising/mentoring, student organizations, scholarship office, and career services. Advising and mentoring were combined as one category since a student's academic advisor often provides guidance in addition to checking and certifying individual academic plans and course enrollment. At many institutions, a student's advisor, faculty member or full-time academic advisor, is their primary point of regular contact with the institution and an important source of guidance on a variety of matters. This was the pattern enacted at the institutions where the survey was distributed and was the impetus for the change. Table 8 reports the results of Mann Whitney U analysis and Pearson's r calculations for comparisons regarding cultural understanding as reported by Hispanic and non-Hispanic students. It also contains the single statistically significant finding for all forms of comparison completed within the Hispanic student pool (see Table 7 for details). Pearson's r, denoted by the letter r in the table headers, was calculated using the Z scores and the square root of the number of cases to provide a means of describing the effect size for the relationships (Field, 2013). For Pearson's r, 0.1 is a small effect, 0.3 is a moderate effect, and 0.5 is a large effect.

Table 8. Ratings for Understands My Culture in 2019

Prompts	Comparison	p value	Z Score	Hisp. MR	Non-H MR	r
Advising/mentoring.	Hisp/non-Hisp	< .001	-5.95	256.56	338.14	-0.24
Instruction/teaching.	Hisp/non-Hisp	< .001	-7.09	258.44	357.88	-0.28
Financial aid office.	Hisp/non-Hisp	< .001	-4.89	265.55	334.01	-0.20
Tutoring service/lab.	Hisp/non-Hisp	< .001	-6.59	249.49	340.71	-0.27
Student organizations.	Hisp/non-Hisp	< .001	-4.74	251.49	315.53	-0.20
Scholarship office.	Hisp/non-Hisp	< .001	-4.36	255.25	314.78	-0.18
Career services.	Hisp/non-Hisp	< .001	-5.13	244.60	313.63	-0.22
Advising/mentoring.	2YR to 4YR	0.01	-2.79	138.62	113.17	-0.18

The 2018 survey results should not be interpreted as presenting the cultural understanding of persons providing mentoring services positively even though only 7.5% of the Hispanic students said the service providers did not understand their culture. Phrasing the prompt in the negative and use of an "all or nothing" response pattern (select if applies), may have impacted the result. What is known is that 7.5% of the Hispanic respondents felt strongly enough about this to indicate that the persons providing mentoring at their institution did not understand the student's culture. The 2019 response pattern allowed a rating from 0 to 10 for "understands my culture" providing a more nuanced response set than in 2018. The median score for the advising/mentoring prompt was 6 and the mode was 10. That separation between the middle score and the most frequent score demonstrates a broad spectrum of opinion. When the responses were disaggregated into Hispanic and non-Hispanic student populations, a strong statistically significant difference was found. Hispanics students were far less likely to agree that advisors/mentors at their institution understood their culture. As noted above, advising/mentoring was the first of seven forms of engagement for which the students were asked to provide a rating. Analysis revealed that all six of the other descriptors also exhibited strongly significant differences along ethnic lines. The Hispanic students felt that their cultural background was less understood by institutional employees than their non-Hispanic peers in all the categories of engagement listed. In every case, there was a moderately small effect size (Table 8, Pearson's r values). That this consistent pattern occurred is a concern given the emphasis on cultural congruity and limiting acculturative stress (Castellanos & Gloria, 2017) in student support theories that focus on serving Hispanic students.

In addtion to disaggregation by ethnic identity, the data set for Hispanic students regarding the advising/mentoring prompt was analyzed in all the other ways noted above (Table 7). The only comparison that resulted in a statistically significant difference was between community college students and their peers at the four-year institution. The Hispanic students at the two-year schools were more confident that their advisors and mentors understood their culture than the respondents from the four-year institution. That there was only one four-year school included in the data set is important to note. It is possible that the difference found is related to characteristics of that institution.

There was a series of nine other queries specific to mentoring on the 2019 survey. Three addressed general concepts related to mentoring. The general queries were: (1) "Having relationships with faculty impacts staying in school." (2) "Having a mentor impacts staying in school." And, (3) "Having a mentor at my college is important to me." The six remaining queries addressed characteristics desired in a mentor. These prompts were a modified version of the question on the 2018 survey regarding characteristics desired in role models. On the 2019 instrument, "Is from my culture" was substituted for "Is Hispanic" and "Is encouraging" and "Has overcome barriers" were removed. The combination of self-reported cultural identity and a sliding scale rating for "Is from my culture" was viewed as more nuanced and valuable data than a Yes/No response to "Is Hispanic." "Is encouraging" was seen as being generally desirable thus providing little discrimination between groups. "Has overcome barriers" was removed as students were believed to be unlikely to have first-hand knowledge of whether a faculty or staff person had encountered barriers in their life. Table 9 shows the median and mode responses received from the 307 Hispanic students at the three HSIs, a regional, comprehensive state university and two community colleges, for each of the nine questions.

The figures in Table 9 indicate that the overall response to the three general prompts was positive. The median scores were all seven or above and the mode was 10 in each case. Comparisons of the response patterns between the Hispanic and non-Hispanic students found very little difference. The students appear, from the data to see relationships with faculty and mentors as influencing student persistence and to have an interest in a mentoring relationship with a representative of their institution.

Table 9. General Responses and Important Characteristics of Mentors

Prompts	Median	Mode
Having relationships with faculty impacts staying in school.	7.5	10
Having a mentor impacts staying in school.	8	10
Having a mentor at my college is important to me.	7	10
Is from my culture.	6	5
Understands my culture.	7	10
Is easy to find and regularly available.	8	10
Has information that can help me.	10	10
Speaks Spanish.	5	0
Actively reaches out to me with helpful information.	8	10

When the Hispanic student responses for the first three prompts listed in Table 9 were isolated and disaggregated in the other ways listed in Table 7, significant findings occurred for two of the general mentoring prompts in respect to years of college completed (Table 10).

Table 10. Significant Findings for General Responses and Years of College

Prompts	Comparison	Analysis Completed	Score	p value
Having a mentor impacts staying in school.	Years of college	Spearman's Rho	0.21	< .001
Having a mentor at my college is important to me.	Years of college	Spearman's Rho	0.17	0.03

There was a moderate positive association (Shortell, 2001; Laerd Statistics, 2018b) between the level of agreement with the statement "Having a mentor impacts staying in school" and the number of years of college completed. That is, greater experience in college was associated with higher levels of agreement. There was a weak positive association between ratings of agreement with the statement "Having a mentor at my college is important to me" and years of college completed. A second instance in which there was an association between more college experience and a belief about mentoring. These two findings suggest that Hispanic students learn about the impact and value of mentoring in college over time, although the means by which this learning takes place cannot be identified with data from the survey. The result is that they have an increased appreciation for mentoring later in their academic careers. If the percentage of non-traditional aged students in the Hispanic portion of the sample had been significantly greater than that for non-Hispanics, these results would be suspect but the percentages, like in 2018, were very similar.

A rank ordering of characteristics desired in a mentor from the responses of all the students surveyed at the HSIs (Table 9), highest median and mode to lowest median and mode, is as follows.

1. Has information that can help me.
2. Is easy to find and regularly available.
2. Actively reaches out to me with helpful information.
4. Understands my culture.
5. Is from my culture.
6. Speaks Spanish.

This ranking appears to indicate that practical concerns, helpful information, accessibility, and a proactive approach, are the most valued but only the highest ranked characteristic showed limited variation based on median and mode responses. Further analysis was necessary especially given the median and modes found for the two lowest rated characteristics (Table 9). Significant findings from comparison between responses from Hispanic students and non-Hispanics appear in Table 11 with Pearson's r, labeled as r in the table, provided for effect size (Field, 2013).

Table 11. Hispanic versus Non-Hispanic Student Ratings of Characteristics of Mentors

Prompts	Comparison	p value	Z Score	Hisp. MR	Non-H MR	r
Is from my culture.	Hisp/non-Hisp	< .001	3.54	219.89	179.43	0.18
Understands my culture.	Hisp/non-Hisp	.014	2.46	224.28	195.49	0.12
Is easy to find and regularly available.	Hisp/non-Hisp	.043	-2.03	214.54	239.12	-0.09
Speaks Spanish.	Hisp/non-Hisp	< .001	7.05	201.48	129.44	0.39

Even though most of the students saw value in having relationships with faculty, the Hispanic students were more likely to agree that four of the six characteristics rated were important to them. These were, in descending order by effect size, speaking Spanish (moderately large effect), being from the student's culture (moderately small effect), understanding Hispanic culture (small effect), and being accessible (small effect). While practical concerns, helpful information, accessibility and taking a proactive approach were shown to be highly ranked by all the students attending the HSIs, the last three items in the rank ordering, understands my culture, is from my culture and speaks Spanish, were also more important to many Hispanic students, with small to moderately large effect sizes, than to their non-Hispanic peers.

There were also three statistically significant findings for desired characteristics of mentors and primary language (Table 12). In each case, there was a positive association between ESL status and higher levels of agreement with the characteristic of the mentor described. The smallest effect size, a small effect, was for "Is from my culture." "Understands my culture" had a moderately small effect size while "Speaks Spanish" had a moderately large effect size. Like above for the Hispanic to non-Hispanic comparison, the ability of a mentor to speak Spanish is the point at which students with EPL and ESL standing have the greatest difference in preference.

Table 12. Significant EPL/ESL Findings for Important Characteristics of Mentors

Prompts	Comparison	Analysis Completed	p value	Z Score	MR EPL	MR ESL	r
Is from my culture.	EPL/ESL	Mann Whitney U	0.05	1.96	82.34	97.82	0.15
Understands my culture.	EPL/ESL	Mann Whitney U	.002	3.04	85.26	110.02	0.22
Speaks Spanish.	EPL/ESL	Mann Whitney U	< .001	5.06	69.42	108.06	0.39

Significant findings also occurred in the Hispanic student response set between the EPL and ESL subsets for other questions on the survey. Two are included below (Table 13). They are included to illustrate that first language learned appears to have broad impact. A series of questions were asked of students about the value of speaking both English and Spanish and a second series about audiences with whom they might change their behavior. There was a strongly significant finding with moderate effect for the usefulness of being bilingual when interacting with faculty and staff, with ESL Hispanic students more likely to agree. There was also a significant finding with moderately small effect for students changing their behavior when interacting with faculty and staff of the institution, again with ESL Hispanic students more likely to agree than their Hispanic EPL peers.

While being bilingual was seen as an advantage and Hispanic students with self-reported ESL status indicated they changed their behavior to "fit in" with faculty and staff, there is not sufficient additional information to interpret these results. It is not known whether it was Spanish or English proficiency the students had in view when indicating that being bilingual was an advantage and there was no information gathered that would identify the forms of behavior students change to "fit in" with faculty and staff. However, these results indicate that the influence of EPL/ESL standing among Hispanic students attending HSIs extends beyond preferences regarding role models and mentors. While "establishing and maintaining relationships with faculty" and "interacting with faculty and staff" are clearly part of the relational pattern envisioned when students are mentored by representatives of the institution, they are broader statements. They may be an indicator that EPL/ESL status impacts relational preferences and behavioral patterns enacted by Hispanic students at the HSIs they attend.

Table 13. Examples of Other Significant Findings for Primary Language

Prompts	Comparison	Analysis Completed	p value	Z Score	MR EPL	MR ESL	r
Speaking both English and Spanish is useful in establishing and maintaining relationships with faculty.	EPL/ESL	Mann Whitney U	< .001	4.26	79.74	113.76	0.31
I change my behavior when I am at colleges so I can fit in when interacting with faculty and staff.	EPL/ESL	Mann Whitney U	.002	3.15	77.1	101.65	0.24

These results were selected because they include the idea of relating to faculty and staff, the persons most likely to be considered role models and mentors by students at colleges and universities. Yet, they are not questions specific to advising/mentoring. They touch on broader constructs relevant to patterns of relationship and illustrate that the differences in responses between the EPL and ESL groups within the Hispanic students in the sample further highlighting a characteristic of students that may be important for colleges and universities to take into account.

Conclusion

Similar to the research team's conception of role models and mentors, the study data suggest that there is overlap between these concepts for Hispanic students who attend Hispanic-Serving Institutions. Family members and faculty and staff at the student's HSI were the top categories for persons seen as role models and formed an upper tier in the data set based on a natural break in the ratings. Providing helpful information, proactively reaching out to the student, and accessibility were three of the most valued characteristics of role models. These were also the top three characteristics desired in a mentor.

It appears that among Hispanic students studying at HSIs, helpful information from role models or advisors/mentors, accessibility, and a proactive approach are appreciated. It also appears that appreciation of the impact having a mentor might have on the student's persistence in college as well as the importance of having a mentor at college increases as students advance along their academic path. This group of findings is similar to Elzubeir and Rizk's (2001) investigation with graduate students. They found a mentor's personality and personal characteristics were important to medical students, interns, and residents although their study did not consider whether this increased with years of study.

The 2018 and 2019 survey data also suggests that there is a relationship between cultural identity, primary language, persons seen as role models or mentors, and characteristics desired in a role model or mentor. Having English as a second language had a weak effect on selection of faculty and staff at college as role models. It also had weak to moderate effects on characteristics desired in a role model, specifically understanding Hispanic culture, being Hispanic, and speaking Spanish. The same relationships were observed in respect to advisors/mentors on the 2019 survey. ESL standing was associated at small to moderately large effect sizes with interest in having a mentor that understood Hispanic culture, who was Hispanic, and who spoke Spanish.

Interest in having a role model actively engaged in providing helpful information (moderate effect) and in having an advisor/mentor (weak effect) were positively associate with years of school completed. Students generally agreed, Hispanics and non-Hispanics, that an advisor/mentor with helpful information (median of 10 and mode of 10) and one who reaches out to them with helpful information (median of 8 and mode of 10) was desirable. These are very logical findings that suggests that the value students at HSIs assign to provision of helpful information is high and their sense of the value of proactive engagement with a representative of the institution and the potential for an advisor or mentor to benefit them can increase in relation to the student's years of experience in college.

Similar to Thevenin, Elliott, and Bigelow (2016), there was a connection, this one with a moderate effect, between STEM interest and having a family member as a role model. For Thevenin, Elliott, and Bigelow this was found among construction management students while the study described above found a connection for Hispanic students study at HSIs. The relationship may be related to the professions or avocations of students' relatives and given the marked underrepresentation of Hispanics in STEM education and STEM fields, it deserves further investigation.

There was also positive association and a weak effect for attending a community college and selecting members of the student's community as role models and a positive association with moderate effect for attending a community college and selecting well-known persons as role models. The authors suggest that there is one or more factors common to students at community colleges or four-year institutions that precipitated this finding rather than the type of institution attended.

Finally, a cultural divide was found. Hispanic students taking the 2019 survey were found to report lower cultural competence in "my culture" by the institutional representatives providing advising/mentoring, instruction, financial aid assistance, tutoring, assistance with scholarships, career services, and who sponsored student organizations than their non-Hispanic peers, all at highly significant levels with moderately small effect sizes. Since all the respondents attended Hispanic-Serving Institutions, this consistent and broad reported difference in experience related to culture seems incongruous. Yet, it aligns with Garcia's (2019) description of HSIs as occurring with three different orientations, specifically the tier at which the institution's primary focus is on enrolling Hispanic students.

Since student success theories regarding minority students have for decades included cultural support and limiting "acculturative stress" (Chun, Marin, Schwartz, Pham & Castro-Olivo, 2016, p. 385), the finding represents a concern. This is especially the case since 65% of the Hispanic students attending college in the United States are at HSIs (Revilla, 2018). While this finding, like all others in the study, must be considered as an initial marker since there are large gaps in the literature regarding Hispanic-Serving Institutions, the students they serve, and the experiences and preferences of those students, it should, at the very least, be disconcerting for employees and leaders of HSIs.

Recommendations

The research results described are from an exploratory study in areas in which little to no investigation has taken place. As this is the case, the findings require additional empirical verification. However, the results reported appear to shed light on several logical patterns. Among Hispanic students attending HSIs, cultural identity and primary language impact student preferences and actions. Since analysis indicated that this occurred with weak to moderate effects in respect to role models and advisors/mentors, colleges and universities should consider using cultural identity and/or ESL status as a means of sorting advising/mentoring assignments.

It is important to note that the majority of Hispanic students, just like their non-Hispanic peers, selected practical matters like reaching out to the student, providing helpful information, and accessibility as the most important characteristics of role models and advisors/mentors. However, Hispanic cultural identity and ESL status were shown to impact other preferences regarding advisors/mentors. Planning institutional services and programming in a manner that emphasizes these characteristics would be advisable as advocated by Baker (2015).

The research findings confirm that enculturation within and relationships established with individuals representing the institution are understood by Hispanic students attending HSIs to be important. These are patterns emphasized in various college student success models. Individuals responsible for planning or implementing programs that engage students should take these theories, especially those specific to Hispanic students like Castellanos and Gloria's (2007) Psychosociocultural Model of College Success for Latinx students or Santiago, Taylor and Calderón's (2013) list of institutional characteristics that can increase the success of Hispanic students studying STEM, into account.

Student success theories, like those just listed, emphasize the value of limiting clashes of culture while Chun, Marin, Schwartz, Pham and Castro-Olivo found in a study published in 2016 that for Latina students "cultural factors, including low acculturative stress and strong ethnic identity, had significant positive effects on emotional wellbeing and GPA" (p. 385). Yet, the Hispanic students completing the 2019 survey, all of whom were attending college in north Texas, reported encountering cultural challenges at their HSIs at significantly higher levels than their non-Hispanic peers. This was reported for all the forms of engagement listed on the survey. While this is the first time, to the best of the authors' knowledge, a finding of this type has been reported for HSIs, it should serve as a call for reflection on the part of all faculty, staff, and administrators at Hispanic-Serving Institutions and for further research in this important topic area.

Acknowledgement and Disclaimer

This material is based upon work supported by the National Science Foundation under grant number 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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