

Underrepresentation of Hispanic Faculty at Hispanic Serving Metropolitan Research Universities

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Abstract

Research indicates that students benefit from working with faculty with whom they can identify. Do Hispanic students find Hispanic faculty with whom to work at Hispanic Serving Institutions? To answer that question, this study builds on a 13-year line of research that has focused on engaged, public, metropolitan research universities. From a national sample of 35 such universities, this study examines the eight R1 Hispanic Serving Institutions (HSIs). These eight HSIs serve as important anchor institutions in their respective metropolitan regions: (a) Florida International University (Miami, FL); (b) University of California, Riverside (Los Angeles, CA); (c) University of Houston, Houston (Houston, TX); (d) University of Illinois, Chicago (Chicago, IL); (e) University of New Mexico (Albuquerque, NM); (f) University of North Texas, Denton (Dallas, TX); and (g) University of Texas, Arlington (Dallas, TX). Using IPEDS data, this study examines the proportional representation (ratio) of faculty to students in 18 intersectional gender-race/ethnicity categories for each HSI over the 10-year period, 2011 to 2020. The central statistic is the percentage of full-time faculty in a gender-race/ethnicity category (e.g., Female Hispanic/Latino full-time faculty) is subtracted by the percentage of 12-month unduplicated student headcount in that same category (e.g., Female Hispanic/Latino students). When the outcome of this operation is positive, the faculty in that category are said to be overrepresented; when negative, underrepresented. The study's findings demonstrate the underrepresentation of Female Hispanic/Latino faculty at these HSIs and the overrepresentation of Male White faculty. Details of each university's dynamics are discussed, as well as their overall pattern.

Keywords: metropolitan universities, Hispanic serving institutions, intersectionality, Latina faculty and students, role models

Resumen

Las investigaciones indican que los estudiantes se benefician al trabajar con profesores con quienes pueden identificarse. ¿Pueden los estudiantes hispanos encontrar profesores hispanos con quien trabajar en las instituciones al servicio de los hispanos (HSIs)? Para responder a esta pregunta, este estudio se basa en una línea de investigación de 13 años que se ha centrado en universidades públicas en zonas metropolitanas dedicadas a la investigación. A partir de una muestra nacional de 35 universidades de este tipo, este estudio examina ocho instituciones de servicio hispano R1 (HSI). Estas ocho HSIs sirven como instituciones importantes de apoyo en sus respectivas regiones metropolitanas: (a) Universidad Internacional de Florida (Miami, FL); (b) Universidad de California, Riverside (Los Ángeles, CA); (c) Universidad de Houston, Houston (Houston, TX); (d) Universidad de Illinois, Chicago (Chicago, IL); (e) Universidad de Nuevo México (Albuquerque, NM); (f) Universidad del Norte de Texas, Denton (Dallas, TX); y (g) Universidad de Texas, Arlington (Dallas, TX). Usando la base de datos de IPEDS (spell out in both), este estudio examina en cada una de las HSI la representación proporcional de docentes a estudiantes en 18 categorías interseccionales de género-raza/etnicidad durante el período de 10 años, del 2011 al 2020. La estadística central es sencilla: el porcentaje de profesores de tiempo completo en una categoría de género-raza/etnicidad (por ejemplo, profesoras hispanas/latinas de tiempo completo) se resta por el porcentaje de los estudiantes no duplicados de 12 meses en esa misma categoría (por ejemplo, Estudiantes mujeres hispanas/latinas). Cuando el resultado de esta operación es positivo, se dice que los profesores de esa categoría están sobrerrepresentados; cuando es negativo, subrepresentado. Los hallazgos del estudio demuestran claramente la subrepresentación de profesoras latinas en las HSIs y la sobrerrepresentación de profesores de género masculino blancos. Se discuten los detalles de la dinámica de cada universidad, así como su patrón general.

Palabras clave: universidades metropolitanas, instituciones al servicio de los Hispanos, interseccionalidad, profesoras y estudiantes Latinas, modelos a seguir

Introduction

Research indicates that students' collegiate educational success, particularly for female and minoritized students, benefits from the presence of faculty with whom they can identify (e.g., Bañuelos & Flores, 2021; Fuesting, Bichsel, & Schmidt, 2022; Kim, Kalev, & Deutsch, 2021; O'Meara, Culpepper, & Templeton, 2020; Ramos & Yi, 2020; Stout, Archie, Cross, & Carman, 2018; Vargas, 2018; Vargas, Saetermoe, & Chavira, 2021). This research calls into question the phenomenon at scale of White male faculty--in contrast to female and minoritized faculty--teaching, advising, and mentoring female and minoritized students, particularly at Minority Serving Institutions. This article's specific research question is, according to IPEDS 2011 and 2020 data (Integrated Postsecondary Educational Data System, 2021), what are the proportional relationships (relative overrepresentation, underrepresentation, equal representation) in eight public, metropolitan, Research I, Hispanic Serving Institutions between faculty (percentage of total full-time faculty) and students (percentage of total 12-month, unduplicated headcount) by intersectional gender-race/ethnicity categories?

This article extends a 13-year line of research on intentional systemic change in large organizations, specifically public, metropolitan research universities (e.g., Robertson, 2019, 2020, 2022; Robertson & Pelaez, 2016, 2018; Robertson et al., 2021; also relevant as context, Robertson, 1992). This study's sample derives from four previous studies in this line of research (Robertson, 2019, 2020, 2022; Robertson et al., 2021, under review).

First, an initial national study (Robertson, 2019) was conducted with a sample of the 35 member institutions 2018 of the Presidents-led Coalition of Urban Serving Universities (USU: www.usucoalition.org), a partner organization of the Association of Public and Land Grant Universities (APLU; www.aplu.org) (Robertson, 2019, pp. 88-92). These USUs are primarily large, public, metropolitan doctoral research universities and serve as engaged anchor institutions in many American cities (Robertson, 1992). The combined populations of the sample's metropolitan regions comprised two-thirds (63.4%) of the U. S. population in 2017 (206,621,336 of 325,719,178; United States Census Bureau, 2018). In this initial study of the USU sample, the researcher distinguished between Improvement (change in variables over the study period, 2008-2016) and Excellence (sum of variables over the study period, 2008-2016). The researcher focused on Improvement in a derived variable called Student Success (Retention and On-time Graduation) with Access (Pell and Minorities). Increasing Student Success metrics and Access metrics can sometimes be considered competing goals. In this study, universities in the sample were identified that improved the most on both goals simultaneously. The second study (Robertson, 2020) selected the 18 Research I (R1) Universities (Carnegie Highest Research Activity; Indiana University Center for Postsecondary Research, 2018) in the 35 USUs national sample and continued investigating rapid, intentional, metric-centered Improvement (2011-2017) in potentially competing goals—specifically, Student Success with Access (Retention, On-time

Graduation, Pell, and Minorities) and Research Preeminence (Research Doctorates and Research Expenditures). Institutions of this type have been called “New Universities” and are important in serving underrepresented students (Hamilton & Nielsen, 2021). The third (Robertson, 2022) and fourth (Robertson et al., 2021, under review) studies examined the three top-performing universities from the second study. The third and fourth studies focused on the relationship between metric-centric policy and faculty appointment types (Contingent and Permanent) with regard to faculty hiring, the third study being an examination of all three universities, and the fourth study being a case study of one of the three universities. Faculty equity concerns regarding female and minoritized faculty emerged from these two studies. The analysis of these two studies demonstrated that at one of the universities, Florida International University, a Hispanic Serving University, the Latinx faculty were dramatically underrepresented relative to the Latinx students (in 2020, Latinx, 65% of students, 21% of full-time faculty; IPEDS, 2021) while White faculty were significantly overrepresented (in 2020, Whites, 10% of students, 51% of full-time faculty; IPEDS, 2021). This line of research has led to this study of the proportional relationship of faculty and students in intersectional gender-race/ethnicity categories at the eight public, metropolitan, R1, and Hispanic Serving Universities from the original sample of 35 Urban Serving Universities.

Method

The sample, data, and analysis of this study are described below.

Sample

This study’s sample of eight public, metropolitan, R1, Hispanic Serving Institutions comprises the following universities (alpha-ordered): (a) Florida International University; (b) University of California, Riverside; (c) University of Central, Florida; (d) University of Houston, Houston; (e) University of Illinois, Chicago; (f) University of New Mexico, Albuquerque; (g) University of North Texas, Denton; and (h) University of Texas, Arlington. See Robertson (2019, pp. 88–92) for detailed descriptions of these institutions and their contexts (graduate and undergraduate enrollments, population of metropolitan region, system governance, and regional accreditation association).

Data and Analysis

The data source for the eight universities that comprised the sample was the Integrated Postsecondary Educational Data System (IPEDS, 2021). The most recent IPEDS reporting year was 2020, and data from that year were used. As 10-year contrast, data from 2011 were also examined.

The fundamental variables came from 18 intersectional gender-race/ethnicity categories (the names of the categories come from IPEDS): (a) Female Nonresident Alien, (b) Male Nonresident Alien, (c) Female Hispanic/Latino, (d) Male Hispanic/Latino, (e) Female American Indian or Alaska Native, (f) Male American Indian or Alaska Native, (g) Female Asian, (h) Male Asian, (i) Female Black or African American, (j) Male Black or African American, (k) Female Native Hawaiian or Other Pacific Islander, (l) Male Native Hawaiian or Other Pacific Islander, (m) Female White, (n) Male White, (o) Female Two or More Races, (p) Male Two or More Races, (q) Female Race and Ethnicity Unknown, and (s) Male Race and Ethnicity Unknown. The nine-race/ethnicity categories are the categories in which IPEDS reports its data, as are the binary gender categories. The resulting 18 categories are discrete. Regardless of racial identification, individuals who identify as Hispanic/Latino are reported as Hispanic/Latino. Race is reported only for individuals who identify as non-Hispanic/Latino.

Data for the 18 intersectional categories were collected for the following: (a) full-time faculty (tenured, tenure-earning, and non-tenured), and (b) students (12-month unduplicated headcount, undergraduate and graduate) (Table 1). Regarding students, an unduplicated headcount is a more appropriate measure than a full-time equivalent (FTE) for metropolitan universities. Many nontraditional students at metropolitan universities- commuter students, transfer students, part-time students, and adult students- may be more likely to follow a wider variety of paths than traditional students on residential campuses (e.g., Robertson, 1991a, 1991b, 1992).

TABLE 1. Faculty^a and student^b percentages (and numbers) of totals, by intersectional categories of gender-race/ethnicity and year

Year	Faculty and Students	Faculty and Student Percentages (and Number) of Totals																		Total % (N)
		Nonresident Aliens		Hispanic/Latino		American Indian or Alaska Native		Asian		Black or African American		Native Hawaiian or Other Pacific Islander		White		Two or More Races		Race and Ethnicity Unknown		
		Female % (N)	Male % (N)	Female % (N)	Male % (N)	Female % (N)	Male % (N)	Female % (N)	Male % (N)	Female % (N)	Male % (N)	Female % (N)	Male % (N)	Female % (N)	Male % (N)	Female % (N)	Male % (N)	Female % (N)	Male % (N)	
Florida International University																				
2011	Faculty	3.0% (29)	4.0% (39)	7.0% (68)	8.1% (78)	0.1% (1)	0.1% (1)	3.4% (33)	9.9% (96)	2.1% (20)	3.3% (32)	0.0% (0)	0.0% (0)	22.1% (213)	35.6% (344)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	100% (965)
	Students	3.6% (2,034)	3.2% (1,811)	33.6% (18,900)	24.1% (13,553)	0.1% (36)	0.0% (25)	1.7% (953)	1.4% (814)	8.0% (4,482)	5.2% (2,944)	0.0% (17)	0.0% (9)	7.8% (4,390)	6.5% (3,641)	0.5% (308)	0.4% (198)	1.1% (647)	0.9% (516)	100% (56,288)
2020	Faculty	2.5% (35)	4.1% (58)	10.4% (145)	10.4% (146)	0.1% (1)	0.4% (5)	4.1% (58)	9.6% (134)	4.4% (62)	2.9% (41)	0.0% (0)	0.1% (1)	22.0% (307)	29.0% (405)	0.4% (6)	0.3% (4)	0.0% (0)	0.0% (0)	100% (1,398)
	Students	3.9% (2,921)	3.8% (2,846)	36.6% (27,067)	27.0% (19,943)	0.0% (32)	0.0% (15)	1.4% (1,022)	1.2% (917)	7.9% (5,855)	4.8% (3,523)	0.0% (30)	0.0% (7)	5.8% (4,321)	4.5% (3,317)	1.3% (939)	0.9% (673)	0.4% (288)	0.3% (244)	100% (73,970)
University of California, Riverside																				

2011	Faculty	0.4% (3)	0.4% (3)	2.8% (20)	2.9% (21)	0.3% (2)	0.6% (4)	6.9% (49)	12.9% (92)	1.1% (8)	2.0% (14)	0.0% (0)	0.0% (0)	21.2% (151)	45.6% (325)	0.1% (1)	0.0% (0)	1.4% (10)	1.3% (9)	100% (712)
	Students	1.9% (426)	2.7% (589)	16.5% (3,634)	11.4% (2,513)	0.2% (36)	1.8% (39)	16.1% (3,558)	19.1% (4,214)	4.3% (952)	2.5% (551)	0.2% (47)	0.2% (0)	8.2% (1,799)	9.7% (2,132)	0.5% (106)	0.5% (118)	2.8% (611)	3.2% (702)	100% (22,067)
2020	Faculty	5.1% (54)	7.9% (83)	3.1% (33)	4.3% (45)	0.4% (4)	0.5% (5)	7.4% (78)	12.0% (126)	2.4% (25)	0.6% (6)	0.0% (0)	0.0% (0)	16.9% (177)	32.2% (338)	0.8% (8)	0.8% (8)	1.8% (19)	2.9% (30)	100% (1,049)
	Students	3.1% (853)	4.9% (1,342)	24.1% (6,633)	14.7% (4,030)	0.1% (29)	0.1% (27)	14.9% (4,107)	15.8% (4,345)	2.2% (616)	1.3% (371)	0.2% (47)	0.2% (7)	6.3% (1,744)	7.3% (2,020)	2.0% (551)	1.9% (522)	1.2% (317)	1.1% (306)	100% (27,507)
University of Central Florida																				
2011	Faculty	2.1% (29)	3.9% (55)	3.0% (42)	4.1% (58)	0.1% (1)	0.2% (3)	2.3% (32)	7.8% (110)	1.6% (22)	2.2% (31)	0.0% (0)	0.0% (0)	31.2% (439)	42.3% (592)	0.0% (2)	0.2% (3)	0.0% (0)	0.0% (0)	100% (1,406)
	Students	1.1% (721)	1.4% (938)	9.1% (6,040)	6.8% (4,525)	0.2% (158)	0.1% (79)	2.7% (1,767)	2.6% (1,742)	6.2% (22)	3.6% (2,402)	0.1% (58)	0.0% (2)	34.4% (769)	28.5% (18,894)	0.5% (335)	0.4% (251)	1.2% (797)	1.0% (667)	100% (66,273)
2020	Faculty	1.1% (18)	2.5% (40)	4.3% (68)	3.5% (55)	0.0% (0)	0.3% (4)	4.7% (74)	10.3% (162)	2.5% (40)	1.8% (28)	0.0% (0)	0.0% (0)	29.3% (462)	38.2% (603)	0.4% (7)	0.4% (6)	0.0% (0)	0.0% (0)	100% (1,577)
	Students	1.9% (1,534)	2.6% (2,109)	15.3% (12,439)	11.5% (9,296)	0.1% (68)	0.1% (60)	3.2% (2,590)	3.1% (2,482)	7.1% (5,720)	3.9% (3,201)	0.1% (74)	0.1% (51)	25.6% (20,765)	20.8% (16,847)	2.1% (1,707)	1.6% (1,289)	0.5% (429)	0.5% (421)	100% (81,082)
University of Houston, Houston																				
2011	Faculty	1.3% (14)	1.7% (19)	3.2% (36)	3.5% (39)	0.0% (0)	0.4% (4)	5.3% (59)	9.8% (109)	1.3% (15)	1.9% (21)	0.0% (0)	0.0% (0)	23.4% (261)	41.0% (457)	0.1% (1)	0.4% (5)	0.0% (0)	0.0% (0)	100% (1,114)
	Students	3.7% (1,684)	5.0% (2,230)	11.7% (5,269)	10.5% (4,744)	0.1% (59)	0.2% (81)	9.2% (4,124)	9.7% (4,348)	7.4% (3,326)	5.1% (2,295)	0.2% (68)	0.2% (71)	16.2% (7,294)	18.3% (8,222)	1.0% (466)	0.8% (360)	0.4% (179)	0.4% (183)	100% (45,001)
2020	Faculty	1.5% (28)	2.1% (27)	4.4% (57)	4.8% (62)	0.0% (0)	0.2% (2)	7.0% (91)	13.7% (179)	2.7% (35)	2.3% (30)	0.0% (0)	0.0% (0)	22.5% (293)	36.9% (481)	0.3% (4)	0.7% (9)	0.2% (2)	0.3% (4)	100% (1,304)
	Students	3.2% (1,650)	4.3% (2,221)	17.3% (8,862)	15.1% (7,713)	0.1% (42)	0.1% (33)	10.2% (5,247)	10.4% (5,318)	5.7% (2,916)	4.3% (2,210)	0.0% (21)	0.0% (21)	11.7% (5,980)	12.4% (6,329)	1.5% (786)	1.4% (734)	1.2% (606)	1.0% (525)	100% (51,217)
University of Illinois, Chicago																				
2011	Faculty	2.3% (45)	3.6% (70)	3.0% (58)	3.0% (57)	0.1% (2)	0.0% (0)	6.3% (122)	11.1% (214)	2.6% (50)	2.0% (38)	0.0% (0)	0.0% (0)	26.8% (515)	36.3% (698)	0.4% (8)	0.2% (4)	1.2% (23)	0.9% (18)	100% (1,922)
	Students	3.4% (1,070)	3.5% (1,102)	8.8% (2,735)	6.5% (2,029)	0.1% (24)	0.1% (20)	8.9% (2,772)	8.6% (2,673)	5.9% (1,841)	2.8% (872)	0.2% (60)	0.1% (45)	25.6% (7,981)	21.3% (6,645)	1.0% (309)	0.8% (246)	1.3% (406)	1.3% (391)	100% (31,221)
2020	Faculty	1.6% (36)	2.4% (53)	3.9% (87)	3.4% (76)	0.0% (1)	0.0% (0)	8.8% (197)	10.8% (243)	2.9% (66)	2.4% (54)	0.1% (2)	0.0% (0)	28.7% (645)	31.5% (708)	0.8% (19)	0.4% (8)	1.2% (26)	1.2% (28)	100% (2,249)
	Students	4.9% (1,636)	7.1% (2,453)	15.0% (5,087)	10.9% (3,629)	0.0% (11)	0.1% (11)	9.2% (3,011)	9.0% (3,011)	5.3% (1,773)	2.7% (907)	0.0% (7)	0.0% (9)	17.0% (5,707)	14.0% (4,680)	1.5% (500)	1.2% (400)	1.3% (430)	1.1% (360)	100% (31,221)

		(1,715)	(2,510)	(5,297)	(3,822)		(18)	(3,351)	(3,162)	(1,877)	(941)			(5,974)	(4,928)	(513)	(432)	(469)	(375)	(35,210)
University of New Mexico, Albuquerque																				
2011	Faculty	1.0% (18)	1.8% (33)	6.8% (121)	5.4% (96)	1.3% (24)	0.0% (1)	2.9% (52)	4.9% (88)	0.9% (16)	1.1% (19)	0.1% (1)	0.0% (0)	29.8% (533)	38.7% (693)	0.1% (2)	0.3% (5)	1.8% (33)	2.5% (44)	100% (1,789)
	Students	1.6% (519)	1.9% (635)	20.5% (6,837)	14.7% (4,889)	3.8% (1,267)	2.1% (86)	1.6% (54)	1.5% (504)	1.3% (444)	1.4% (472)	0.1% (27)	0.1% (4)	24.4% (8,119)	19.6% (6,535)	0.9% (315)	0.6% (213)	1.9% (640)	1.9% (32)	100% (6,304)
2020	Faculty	2.5% (48)	3.7% (71)	9.7% (187)	6.0% (116)	1.2% (24)	0.7% (13)	4.0% (77)	5.6% (108)	1.1% (21)	0.4% (8)	0.0% (0)	0.0% (0)	29.1% (563)	30.5% (591)	0.7% (13)	0.6% (11)	2.3% (44)	2.1% (40)	100% (1,935)
	Students	2.2% (569)	2.9% (742)	25.9% (6,590)	17.9% (4,542)	3.5% (889)	2.0% (497)	2.4% (600)	1.7% (437)	1.2% (301)	1.2% (311)	0.1% (25)	0.1% (5)	18.6% (4,740)	15.3% (3,879)	1.9% (472)	1.5% (371)	0.8% (191)	0.9% (239)	100% (25,420)
University of North Texas, Denton																				
2011	Faculty	2.5% (27)	3.7% (39)	3.2% (34)	2.7% (29)	0.3% (3)	0.2% (2)	2.6% (28)	6.7% (71)	2.1% (22)	1.7% (18)	0.0% (0)	0.1% (1)	29.5% (315)	40.9% (436)	0.8% (9)	0.5% (5)	0.8% (8)	1.9% (20)	100% (1,066)
	Students	2.6% (1,127)	2.8% (1,254)	8.1% (3,564)	6.0% (2,645)	0.3% (13)	0.3% (25)	2.5% (1,119)	2.3% (1,014)	8.1% (3,562)	5.0% (2,227)	0.1% (23)	0.0% (3)	31.9% (14,083)	26.8% (11,831)	0.8% (33)	1.2% (520)	0.6% (9)	0.7% (20)	100% (44,140)
2022	Faculty	1.1% (12)	1.0% (11)	3.4% (37)	3.2% (34)	0.0% (0)	0.1% (1)	7.8% (84)	10.6% (114)	3.2% (34)	1.9% (21)	0.1% (1)	0.0% (0)	26.5% (285)	37.0% (398)	0.8% (9)	0.4% (4)	1.4% (15)	1.6% (17)	100% (1,074)
	Students	3.6% (1,629)	3.9% (1,759)	13.2% (5,997)	10.6% (4,793)	0.2% (75)	0.1% (40)	3.4% (1,555)	3.2% (1,434)	7.4% (3,354)	5.4% (2,425)	0.0% (14)	0.0% (7)	23.3% (10,567)	20.0% (9,061)	2.7% (1,236)	0.2% (89)	0.4% (193)	0.5% (229)	100% (45,298)
University of Texas, Arlington																				
2011	Faculty	0.0% (0)	0.0% (0)	2.1% (18)	3.4% (29)	0.6% (5)	0.0% (0)	3.5% (30)	13.0% (111)	2.2% (19)	2.2% (19)	0.4% (3)	1.5% (13)	32.1% (273)	39.1% (333)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	100% (851)
	Students	3.2% (1,447)	5.2% (2,371)	9.5% (4,305)	6.6% (2,985)	0.3% (12)	0.2% (71)	4.4% (1,990)	4.1% (1,854)	10.2% (4,637)	4.4% (2,026)	0.1% (51)	0.1% (6)	26.9% (12,245)	18.4% (8,379)	1.1% (506)	0.8% (358)	3.0% (1,344)	1.8% (806)	100% (45,533)
2022	Faculty	1.5% (12)	1.7% (14)	2.6% (21)	3.8% (31)	0.0% (2)	0.0% (0)	7.8% (64)	16.9% (138)	4.6% (38)	1.5% (12)	0.0% (0)	0.0% (0)	22.9% (187)	33.3% (272)	0.4% (3)	0.6% (5)	2.6% (21)	3.1% (25)	100% (818)
	Students	3.1% (1,876)	5.8% (3,566)	17.3% (10,640)	8.7% (5,326)	0.2% (2)	0.1% (36)	5.9% (3,637)	4.3% (2,656)	11.0% (6,775)	3.6% (2,37)	0.1% (57)	0.0% (1)	24.1% (14,790)	10.5% (6,476)	2.1% (1,300)	1.1% (655)	1.4% (842)	0.7% (446)	100% (61,457)

Source: Integrated Postsecondary Educational Data System (IPEDS), retrieved December 5, 2021.

^aFull-time faculty.

^bTwelve-month unduplicated headcount.

Derived variables included the percentage that each intersectional faculty and student category constituted of total faculty and students, respectively, for 2011 and 2020. The numerator is the number of intersectional faculty (or students) in a specific category, and the denominator is the total number of faculty (or students) overall. In addition, a proportional representation variable for each intersectional category was derived by subtracting the proportional percentage of students in each intersectional category (intersectional students in a specific category divided by the total students) from the proportional percentage of faculty (intersectional faculty in the same specific category divided by the total faculty) (Table 2). This variable indicates over, under, or essentially equal representation of faculty to students by intersectional category for 2011 and 2020. The values for the proportional representation variable were rank ordered, from high to low, for 2011 and 2020, separately, for each of the eight universities. This operation produced 16 rank orderings (8 universities, for two periods, 2011 and 2020). This ranking procedure and these 16 rank orderings allowed a visual inspection of the distribution of values and the identification of a significant break in all universities' distributions (for 2011 and 2020, separately) at plus or minus 5 points difference between faculty and students: (a) $\geq +5.0$, faculty were overrepresented relative to students in that intersectional category; (b) ≤ -5.0 , faculty were underrepresented; and (c) values in between, faculty were designated as equally represented. The number of overrepresentation and underrepresentation occurrences for each intersectional category was combined across all universities (Table 3). The derived variable that compares the proportional representation of students and faculty in intersectional categories has face validity, particularly related to the positive effect of homophily concerning faculty and students (e.g., minoritized students having faculty who look like them). The researcher is unaware of quantitative research using this derived variable, notwithstanding its simplicity and a firm grounding in the homophily literature.

TABLE 2. Points differential of faculty^a and student^b percentages of total, by intersectional categories of gender-race/ethnicity and year^c

Year	Faculty-Students Percentage Points Differential																	
	Nonresident Aliens		Hispanic/Latino		American Indian or Alaska Native		Asian		Black or African American		Native Hawaiian or Other Pacific Islander		White		Two or More Races		Race and Ethnicity Unknown	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Florida International University																		
2011	-0.6	+0.8	-26.6	-16.0	0.0	+1.0	+1.7	+8.5	-5.9	-1.9	0.0	0.0	+14.3	+29.1	-0.5	-0.4	-1.1	-0.9
2020	-1.4	+0.3	-26.2	-16.6	+0.1	+0.4	+2.7	+8.4	-3.5	-1.9	0.0	+0.1	+16.2	+24.5	-0.9	-0.6	-0.4	-0.3
University of California, Riverside																		
2011	-1.5	-2.3	-13.7	-8.5	+0.1	-1.2	-9.2	-6.2	-3.2	-0.5	-0.2	-0.2	+13.0	+35.9	-0.4	-0.5	-1.4	-1.9

2020	+2.0	+3.0	-21.0	-10.4	+0.3	+0.4	-7.5	-3.8	-0.2	-0.7	-0.2	-0.2	+10.6	+24.9	-1.2	-1.1	+0.6	+1.8
University of Central Florida																		
2011	+1.0	+2.5	-6.1	-2.7	-0.1	+0.1	-0.4	+5.2	-4.6	-1.4	-0.1	0.0	-3.2	+13.8	-0.5	-0.2	-1.2	-1.0
2020	-0.8	-0.1	-11.0	-8.0	-0.1	+0.2	+1.5	+7.2	-4.6	-2.1	-0.1	-0.1	+3.7	+17.4	-1.7	-1.2	-0.5	-0.5
University of Houston, Houston																		
2011	-2.4	-3.3	-8.5	-7.0	-0.1	+0.2	-3.9	+0.1	-6.1	-3.2	-0.2	-0.2	+7.2	+22.7	-0.9	-0.4	-0.4	-0.4
2020	-1.7	-2.2	-12.9	-10.3	-0.1	+0.1	-3.2	+3.3	-3.0	-2.0	0.0	0.0	+10.8	+24.5	-1.2	-0.7	-1.0	-0.7
University of Illinois, Chicago																		
2011	-1.1	+0.1	-5.8	-3.5	0.0	-0.1	-2.6	+2.5	-3.3	-0.8	-0.2	0.1	+1.2	+15.0	-0.6	-0.6	-0.1	-0.4
2020	-3.3	-4.7	-11.1	-7.5	0.0	-0.1	-0.4	+1.8	-2.4	-0.3	0.0	0.0	+11.7	+17.5	-0.7	-0.8	-0.1	+0.1
University of New Mexico, Albuquerque																		
2011	-0.6	-0.1	-13.7	-9.3	-2.5	-2.1	+1.3	+3.4	-0.4	-0.3	0.0	-0.1	+5.4	+19.1	-0.8	-0.3	-0.1	+0.6
2020	+0.3	+0.8	-16.2	-11.9	-2.3	-1.3	+1.6	+3.9	-0.1	-0.8	-0.1	-0.1	+10.5	+15.2	-1.2	-0.9	+1.5	+1.2
University of North Texas, Denton																		
2011	-0.1	+0.9	-4.9	-3.3	0.0	-0.1	+0.1	+4.4	-6.0	-3.3	-0.1	+0.1	-2.4	+14.1	0.0	-0.7	+0.2	+1.2
2020	-2.5	-2.9	-9.8	-7.4	-0.2	0.0	+4.4	+7.4	-4.2	-3.5	+0.1	0.0	+3.2	+17.0	-1.9	-1.6	+1.0	+1.1
University of Texas, Arlington																		
2011	-3.2	-5.2	-7.4	-3.2	+0.3	-0.2	-0.9	+8.9	-8.0	-2.2	+0.3	+1.4	+5.2	+20.7	-1.1	-0.8	-3.0	-1.8
2020	-1.6	-4.1	-14.7	-4.9	-0.2	-0.1	+1.9	+12.6	-6.4	-2.1	-0.1	0.0	-1.2	+22.8	-1.7	-0.5	+1.2	+2.4

Source: Integrated Postsecondary Educational Data System (IPEDS), retrieved December 5, 2021.

^aFull-time faculty.

^bTwelve-month unduplicated headcount.

^cDark gray indicates overrepresentation where the points differential of faculty and student percentages of total is $\geq +5.0$; light gray indicates underrepresentation where the points differential of faculty and student percentages of total is ≤ -5.0 .

TABLE 3. Number of occurrences of overrepresentation^a and underrepresentation^b for faculty^c relative to students^d at all eight HSIs, by intersectional gender-race/ethnicity categories and year

2011		2020	
Gender-Race/Ethnicity	Occurrences	Gender-Race/Ethnicity	Occurrences
Overrepresentation			
Male White	8	Male White	8
Female White	5	Female White	5
Male Asian	3	Male Asian	4
Underrepresentation			
Female Hispanic/Latino	7	Female Hispanic/Latino	8
Male Hispanic/Latino	4	Male Hispanic/Latino	7

Female Black	4	Female Black	1
Female Asian	1	Female Asian	1
Male Asian	1		
Male Nonresident Alien	1		

Source: Integrated Postsecondary Educational Data System (IPEDS), retrieved December 5, 2021.

^aOverrepresentation: points differential of faculty and student percentages of total is $\geq +5.0$.

^bUnderrepresentation: points differential of faculty and student percentages of total is ≤ -5.0 .

^cFull-time faculty.

^dTwelve-month unduplicated headcount.

Results and Discussion

This section presents the results for each of the eight Hispanic-Serving Institutions, followed by a discussion of the findings for the universities combined.

Florida International University

In 2011, at Florida International University (FIU), the most underrepresented intersectional faculty category was Female Hispanic/Latina (-26.6; Table 2). Over the ten years, from 2011 to 2020, the FIU full-time faculty increased by 44.9%, and the 12-month unduplicated student headcount rose by 31.4%. However, in 2020, the pattern of underrepresentation persisted: still, the most underrepresented intersectional faculty category was Female Hispanic/Latina by virtually the same percentage-point differential (-26.2; Table 2). The second most underrepresented category for 2011 and 2020 (with nearly identical results) was Male Hispanic/Latino (2011, -16.0; 2020, -16.6; Table 2). At FIU, in 2011 and 2020, the most overrepresented intersectional faculty category, also by dramatic margins, was Male White (2011, +29.1; 2020, +24.5; Table 2). The second most overrepresented faculty category for both 2011 and 2020 was Female White (2011, +14.3; 2020, +16.2; Table 2).

University of California, Riverside

Between 2011 and 2020, the University of California, Riverside (UCR) experienced tremendous growth in the number of Female Hispanic/Latina students: from 3,634, in 2011, to 6,633, in 2020, an 82.5% increase (Table 1). Of all students, the percentage who identified as Female Hispanic/Latina rose from 16.5%, in 2011, to 24.1%, in 2020 (Table 1). The magnitude of this increase in Female Hispanic/Latina students was not mirrored in the growth of Female Hispanic/Latina full-time faculty neither in number (2011, 20; 2020, 33; Table 1) nor in the percentage of all faculty (2011, 2.8%; 2020, 3.1%; Table 1). The most underrepresented intersectional faculty category by far was Female Hispanic/Latina (2011, -13.7; 2020, -21.0;

Table 2). The most overrepresented full-time faculty category also by a substantial margin in 2011 and 2020 was Male White (2011, +35.9, and 2020, +24.9; Table 2).

University of Central Florida

Like UCR (above), the University of Central Florida (UCF) demonstrated a large increase in Female Hispanic/Latina students between 2011 and 2020: up 106.0%, from 6,040, in 2011, to 12,439, in 2020; Table 1). The percentage of all students who identified as Female Hispanic/Latina grew from 16.5%, in 2011, to 24.1%, in 2020 (Table 1). A commensurate increase in Female Hispanic/Latina faculty did not follow: a 61.9% increase, from 42, in 2011, to 68, in 2020 (Table 1). The percentage of all full-time faculty remained low: 3.0% in 2011, and 4.3%, in 2020 (Table 1). In 2011 and 2020, the most underrepresented intersectional faculty category was Female Hispanic/Latina: in 2011, -6.1; and in 2020, -11.0 (Table 2). In 2011 and 2020, the most overrepresented faculty category by a margin was Male White: in 2011, +13.8; and in 2020, +17.4 (Table 2).

University of Houston, Houston

The overrepresentation of Male White full-time faculty at the University of Houston, Houston (UHH) is substantial (the largest over- or underrepresented UHH faculty category): in 2011, +22.7; and growing in 2020, to +24.5 (Table 2). The next closest category among the overrepresented and the only other category in the overrepresented was Female White: in 2011, +7.2, and in 2020, increasing to +10.8 (Table 2). Again, the most underrepresented category was Female Hispanic/Latina: in 2011, -8.5; in 2020, -12.3 (Table 2). The second most underrepresented full-time faculty category was Male Hispanic/Latino: in 2011, -7.0, and in 2020, -10.3 (Table 2). In 2011 (but not in 2020), a third underrepresented category at UHH was Female Black (-6.1, Table 2).

University of Illinois, Chicago

Over the course of the 10-year period from 2011-2020, the number of 12-month unduplicated students at the University of Illinois, Chicago (UIC) increased by 12.8% (2011, 31,221; 2020, 35,210; Table 1); the number of full-time faculty increased similarly by 17.0% (2011, 1,922; 2020, 2,249; Table 1). In contrast to these modest overall increases, during this same 10-year period, the number of Female Hispanic/Latina students nearly doubled, increasing 93.7% (2011, 2,735; 2020, 5,297; Table 1). The full-time female Hispanic/Latina full-time faculty increased also but not nearly as much, 50.0% (2011, 58; 2020, 87; Table 1). The most underrepresented faculty category was Female Hispanic/Latina in both 2011 (-5.8) and 2020 (-11.1), with the increase in underrepresentation being related to the much greater increase over the 10-year period in Female Hispanic/Latina students compared to Female Hispanic/Latina faculty.

University of New Mexico, Albuquerque

Between 2011-2020, the University of New Mexico, Albuquerque (UNM) was the only institution of the eight HSIs to decrease in students: -23.7%, from 33,304, in 2011, to 25,420, in 2020 (Table 1). During the same period, faculty increased: +8.2%, from 1,789, 2011, to 1,935, 2020 (Table 1). Regarding these dynamic increases and decreases, this analysis focuses on the ratio of faculty to students by intersectional gender-race/ethnicity categories. Four categories are of interest (≥ 5.0 or ≤ 5.0) with regard to over- and underrepresentation of faculty to students (Table 2): (a) Male White is the most overrepresented, +19.1 in 2011, and +15.2 in 2020; (b) Female White is the second most overrepresented, +5.4, in 2011, and +10.5, in 2020; (c) Female Hispanic/Latino is the most underrepresented, -13.7, in 2011, and -16.2, in 2020; and (d) Male Hispanic/Latino is the second most underrepresented, -9.3, in 2011, and -11.9, in 2020.

University of North Texas, Denton

The University of North Texas, Denton, was the only institution among the eight whose number of faculty and students remained essentially the same in the 10-year study period (Table 1): (a) faculty, 1,066 (2011), and 1,074 (2020); and (b) students, 44,140 (2011), and 45,298 (2020). However, some movement occurred among the intersectional gender-race/ethnicity categories regarding the ratios of faculty and students. In 2011, the most and only significantly overrepresented category ($\geq +5.0$) was Male White (+14.1); the most and only significantly underrepresented category (≤ -5.0) was Female Black (-6.0) (Table 2). This 2011 underrepresentation result is one of only two instances among all eight HSIs for both 2011 and 2020 (16 possible rank ordering instances, or 8 universities X 2 data point years) where Female Hispanic was not the most underrepresented category and the only instance where Female Hispanic was not among the significantly underrepresented categories (faculty-student percentage point differential ≤ -5.0). However, it is worth noting that in 2011, the underrepresentation of Female Hispanic/Latino was -4.9, or 0.1 from the significant underrepresentation threshold of -5.0. In 2020, among the significantly overrepresented categories ($\geq +5.0$), the most overrepresented was Male White (+17.0); the second most overrepresented category was Male Asian (+7.7) (Table 2). For 2020, the significantly underrepresented intersectional categories demonstrated the sample's familiar pattern: (a) the most underrepresented category was Female Hispanic/Latino (-9.8), and (b) the second most underrepresented category was Male Hispanic/Latino (-7.4) (Table 2).

University of Texas, Arlington

With a few exceptions previously noted, the sample's pattern is for the number of both faculty and students to rise during the 10-year study period. The University of Texas, Arlington (UTA),

was the only institution where the number of faculty fell: 851, in 2011; and 818, in 2020 (Table 1). The number of students rose significantly: 45,533, in 2011; and 61,457, in 2020 (Table 1). These changes in numbers rippled through the over- and underrepresentation percentage point differentials between faculty and student ratios. In 2011, the significantly overrepresented categories (≥ 5.0) were as follows: (a) Male White, +20.7; (b) Male Asian, +8.9; and (c) Female White +5.2 (Table 2). In 2020, the significantly overrepresented categories were: (a) Male White, +22.8; and (b) Male Asian, +12.6 (Table 2). In 2011, the significantly underrepresented categories (≤ -5.0) were as follows: (a) Female Black, -8.0; (b) Female Hispanic/Latino, -7.4; and (c) Male Nonresident Alien, -5.2 (Table 2). In 2020, the significantly underrepresented categories were: (a) Female Hispanic/Latino, -14.7; and (b) Female Black, -6.4 (Table 2).

Conclusion

The sample's overall pattern is clear and concerning. At these Hispanic Serving Institutions, Latinx faculty (particularly Females) were consistently underrepresented, and White faculty (especially Males) were consistently overrepresented (Tables 2 and 3). For both 2011 and 2020, at all eight universities, Male White faculty were the most overrepresented intersectional category by high margins over the next most overrepresented category (which in the majority of cases was Female White faculty; Tables 2 and 3), ranging in 2011, in percentage point differences (most overrepresented to next most) between 8.6 and 22.9 ($M = 13.7$), and in 2020, between 4.7 and 14.3 ($M = 9.6$) (Table 2). Regarding underrepresentation, for 2011, at 6 of the 8 HSIs, Female Hispanic/Latino was the most underrepresented faculty category, ranging in percentage point differences over the next most underrepresented category (which in the majority of cases was Male Hispanic/Latino) from 1.5 to 10.6 ($M = 4.1$) (Table 2). In 2020, at all eight HSIs, Female Hispanic/Latino was the most underrepresented faculty category, ranging in percentage point differences over the next most underrepresented category (which in all but one HSI was Male Hispanic/Latino) from 2.0 to 10.6 ($M = 5.8$) (Table 2). In most cases, the Female and Male Hispanic/Latino categories separated themselves from the other intersectional categories as most underrepresented (Tables 2 and 3). Overall, between 2011 and 2020, the number of Hispanic/Latino students increased markedly, but growth in Hispanic/Latino faculty did not keep pace.

This research uses a simple yet revealing variable for the rigorous empirical study of HSIs: the ratio of faculty to students for intersectional gender-race/ethnicity categories. Although the empirical research of HSIs have no comparable studies using this intersectional ratio, the literature does contain research that comments on how complexly important same gender and same race/ethnicity faculty are to the experience of both undergraduate and graduate students (e.g., Bañuelos & Flores, 2021; Stout, Archie, Cross, & Carman, 2018). Identifying why this underrepresentation persists can point to how to remedy it. The literature points to causes that are found at the system level (e.g., pipeline issues broadly) and the individual level (e.g.,

microaggressions in the hiring process and in the promotion and tenure process) (e.g., Fuesting, Bichsel, & Schmidt, 2022; Kim, Kalev, Dobbin, & Deutsch, 2021; O’Meara, Culpepper, & Templeton, 2020).

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