

## Chapter 4

# Faculty Demographics in Mathematical Sciences Departments of Four-Year Colleges and Universities

### Introduction

In this chapter, we consider data on the number, gender, age, and race/ethnicity of mathematics faculty in doctoral-level, masters-level, and bachelors-level four-year mathematics departments, and also in doctoral-level and masters-level statistics departments possessing an undergraduate program in statistics. The same topics were presented in Chapter 1 tables for the profession as a whole. In this chapter, we will consider differences across departments grouped according to the highest degree offered and by gender. So that the discussion here can be relatively self-contained, we repeat some demographic data from Chapter 1.

- Table S.14 and Figure S.14.3 in Chapter 1 indicated that in fall 2010, the total number of full-time mathematics faculty plus part-time mathematics faculty for all levels of four-year mathematics departments combined remained about the same as in 2005, even though Table S.2 shows that enrollments in mathematics departments have risen by about 25%. The number of full-time mathematics faculty was up 2% from 2005 (a lower rate of increase than the 11% growth observed from 2000 to 2005), and the number of part-time mathematics faculty continued the pattern of small decline observed since 2000, down 7% from 2005. Table S.14 and Figure S.14.5 of Chapter 1 indicated that in fall 2010, the total number of full-time statistics faculty plus part-time statistics faculty in doctoral-level statistics departments increased 5% from 2005, even though Table S.2 shows that enrollments (excluding computer science enrollments) in statistics departments have risen by about 38%. The number of full-time statistics faculty increased 6%, and the number of part-time statistics faculty decreased 6% from 2005. Further details on numbers of full and part-time faculty are presented in Table F.1 in this chapter.
- Table S.16 in Chapter 1 indicated that when the number of full-time mathematics faculty is broken down further, the components of the small growth in the number of full-time mathematics faculty were a decline in the number of tenured and tenure-eligible faculty and an increase in the number of “other full-time faculty” (a category that

includes postdoctoral appointments). The number of tenured mathematics faculty incurred a small decline (127 faculty), and there was a larger decline (765 faculty) in the number of tenure-eligible mathematics faculty, resulting in a 5% decrease in the sum of tenured plus tenure-eligible appointments in all levels of mathematics departments combined from 2005 to 2010.

- Table S.16 in Chapter 1 indicated that the number of other full-time appointments in all levels of mathematics departments combined increased by roughly 1,300 positions to 5,929 faculty (a 28% increase from 2005), including an increase of 206 postdoc positions (a 25% increase from 2005). In fall 2000, there were 3,533 other full-time mathematics faculty; hence, this category of mathematics faculty has risen 68% in 10 years. Table F.1 in this chapter provides more detail on the numbers of mathematics faculty broken down by level of department, highest degree of the faculty member, and by gender. It shows that the number of tenure-eligible faculty decreased from 2005 at both masters and bachelors-level departments, though the standard error in the bachelors-level number is large.
- Table S.16 in Chapter 1 indicated that in doctoral-level statistics departments from 2005 to 2010, the total number of tenured statistics faculty plus tenure-eligible statistics faculty grew by 6 faculty (less than 1% increase), the number of other full-time statistics faculty increased by 52 faculty (32% increase), and the number of postdoc statistics faculty increased by 20 faculty (39% increase). From 2005 to 2010, the number of tenured faculty decreased by 24 faculty (4% decrease), while the number of tenure-eligible faculty increased by 30 faculty (17% increase). In fall 2000, there were 99 other full-time faculty in doctoral-level statistics departments, and in fall 2010, there were 215 other full-time faculty; hence, over the past ten years, this category of statistics faculty has more than doubled. Table F.1 in this chapter provides more detail on numbers of statistics faculty, including data on masters-level statistics department faculty (which was not gathered in 2005).

- Table S.16 in Chapter 1 showed that in fall 2010, in all four-year mathematics departments combined, women comprised 29% of all full-time faculty, 21% of all tenured faculty, and 34% of all tenure-eligible faculty; each of these percentages is up several percentage points from 2005. In statistics, in fall 2010, women were 26% of all full-time faculty, 16% of tenured faculty, and 40% of tenure-eligible faculty, all up from 2005. Tables F.1, F.2, and F.3 in this chapter provide more detail on the numbers of women faculty.
- Tables S.17 and S.18 of Chapter 1 showed that the age distribution of mathematics and statistics faculty remained about the same from 2005 to 2010, the biggest change being an increase of three years in the average age of tenured women in doctoral-level statistics departments. The percentage of tenured and tenure-eligible mathematics faculty 65 and older increased from 8% in 2005 to 12% in 2010, consistent with the significant decline in the number of deaths and retirements observed in Table S.21 (which shows 360 deaths and retirements in 2009-2010, compared with 499 in 2004-2005 and 462 in 1999-2000). Table S.17 is broken down further in Table F.4 in this chapter. Tables S.19 and S.20 of Chapter 1 showed race/ethnicity in mathematics and statistics faculty had changed only slightly. In fall 2010, 79% of all full-time mathematics faculty were classified as “White, not Hispanic”, almost the same percentage as in 2005; however, the percentage of female “White” faculty increased. In fall 2010, 64% of doctoral statistics faculty was classified as “White, not Hispanic”, down from 71% in 2005. More information on race-ethnicity and gender is contained in Tables F.5 (full-time faculty) and F.6 (part-time faculty) in this chapter.

### Data sources and notes on the tables

Each fall, the American Mathematical Society (AMS) conducts national surveys of mathematical sciences departments at four-year institutions, titled the *Annual Survey of the Mathematical Sciences*, or just the *Annual Survey* when the context is clear. This work is sponsored by the AMS, ASA, IMS, MAA, and SIAM with oversight provided via the Joint Data Committee (JDC) whose members are appointed by the sponsoring societies. Reports on these surveys [JDC] are published in the *Notices of the American Mathematical Society* each year and online at <http://www.ams.org/profession/data/annual-survey/annual-survey>. Beginning with the CBMS survey in 2005, demographic data for the CBMS survey is collected as part of the Annual Survey; the sampled departments were asked additional demographic questions that do not normally appear on the *Annual Survey*.

In comparing data from the CBMS surveys to data published in the *Annual Survey*, one must keep in mind several differences between the surveys. The tenured and tenure-eligible faculty (TTE) in the annual surveys do not include permanent faculty unless the institution does not recognize tenure. The *Annual Survey* does not include postdoctoral appointments as a part of “other full-time faculty” (OFT), while CBMS surveys do; i.e., CBMS surveys list “other full-time faculty” (which includes postdoctoral appointments) and also lists the portion of other full-time faculty that are postdoctoral appointments. The CBMS surveys of “statistics” include only statistics departments that offer an undergraduate program in statistics, while the *Annual Survey* studies all departments of statistics and biostatistics that award a Ph.D. However, the data for statistics departments that do not have an undergraduate program in statistics are not included in the tables that appear in this report. The 2005 *Annual Survey* did not include masters-level statistics departments, and the 2010 survey did include these departments; hence, comparisons to 2005 are for doctoral-level statistics programs, though the 2010 data for masters-level programs is presented in some tables. The *Annual Survey* uses stratified random samples of bachelors-level programs but a census of doctoral and masters-levels programs.

Table entries are rounded to the nearest integer, and the sum of rounded numbers is not always equal to the rounded sum.

### Numbers of tenured and tenure-eligible faculty

From Table S.14 and Figure S.14.1 in Chapter 1, we see that the total number of full-time mathematics faculty in four-year colleges and universities across all types of departments increased about 2%, from 21,885 in fall 2005 to 22,293 in fall 2010. Despite the slight increase in full-time mathematics faculty, Table S.15 shows that the number of tenured plus tenure-eligible mathematics faculty decreased from 17,256 in 2005 to 16,364 in 2010.

Table F.1 gives numbers of faculty, broken down by level of department (highest degree the department offered), type of appointment, highest degree of the faculty, and gender. Table F.1.1, derived from F.1, gives totals across all of the types of mathematics and statistics departments. Table F.1 gives standard errors in some of the totals in Table F.1 in Appendix VII.

Table S.16 in Chapter 1 shows that across all types of mathematics departments combined, the number of tenured faculty decreased by 127 faculty (a 1% decrease), and the number of tenure-eligible faculty decreased by 765 (a 17% decrease), resulting in a 5% decrease in the total number of tenured plus tenure-eligible mathematics faculty. Table F.1 shows

that in the doctoral-level mathematics departments, from 2005 to 2010, the number of tenured faculty decreased by 98 faculty (a 2% decrease), and the number of tenure-eligible faculty increased by 61 faculty (a 7% increase). In the masters-level departments, the number of tenured faculty decreased by 110 (a 4% decrease), and the number of tenure-eligible faculty decreased by 244 (a 24% decrease). In the bachelors-level departments, the number of tenured faculty increased by 81 faculty (a 1% decrease), and the number of tenure-eligible faculty decreased by 581 faculty (a 24% decrease). The 2005 CBMS report expressed the concern that the bachelors-level estimates might be overestimates because, for example, the doctoral tenured faculty estimate at bachelors-level departments had risen from 4,053 in 2000 to 4,697 to 2005; as the 2010 estimate is 5,218, there does appear to be growth in the number of tenured faculty at bachelors-level departments over the past ten years. From Table F.1 we see that the number of tenure-eligible faculty at bachelors-level departments has a standard error of 139, so it seems likely in 2010 that the growth in tenure-eligible faculty at bachelors-level departments has slowed, but possibly not by as much as our estimates indicate.

Table S.14 in Chapter 1 showed that the number of full-time statistics faculty in doctoral-level statistics departments increased by 58 faculty (a 6% increase). Table F.1 shows that from 2005 to 2010, the number of tenured faculty at doctoral-level statistics departments decreased by 24 faculty (a 4% decrease), and the number of tenure-eligible positions increased by 30 faculty (a 17% increase). Fall 2010 estimates for numbers of faculty at masters-level statistics departments are included in Table F.1; masters-level statistics departments were not surveyed in 2005, and the standard errors in the 2010 MA-level statistics department estimates are relatively large.

### **Increases in numbers of other full-time faculty**

The category “other full-time faculty” is defined to be all faculty who are neither tenured nor tenure-eligible, and it includes postdoctoral positions. “Postdoctoral appointments” are defined as “temporary positions primarily intended to provide an opportunity to extend graduate training or to further research experience”, and these positions occur primarily in doctoral-level departments. Generally, the numbers of both post-doctoral faculty and of other non-tenure-track faculty increased from 2005 to 2010 in both mathematics and statistics departments at all levels, except at masters-level mathematics departments. Table F.1.1 (or Table S.16 in Chapter 1) shows that across all levels of mathematics departments combined, the number of other full-time faculty increased from 4,629 in 2005 to 5,929 in 2010 (a 28% increase from 2005),

including an increase of 206 postdoc positions (a 25% increase from 2005); in 2010, at all levels of mathematics departments combined, other full-time faculty comprised 27% of full-time mathematics faculty (up from 21% in 2005). It is also worth observing that in fall 2010 there were 1,025 postdoctoral appointments in mathematics, a number almost as large as the number of new doctorates in mathematics produced each year. At doctoral mathematics departments, when postdoc positions are removed, other full-time faculty increased by 209 faculty (a 16% increase); in doctoral-level mathematics departments in fall 2010, other full-time faculty (including postdoctoral appointments) are 31% of all full-time faculty. At bachelors-level departments, other full-time faculty increased by 895 faculty (a 58% increase), but the standard error in this estimate is large (377), making this increase possibly not as large as our estimate; in bachelors-level departments in fall 2010, other full-time faculty are 25% of all full-time faculty. At masters-level mathematics departments, the number of other full-time faculty decreased by 41 faculty (a 4% decrease), but the standard error in this total is 32; in masters-level departments in fall 2010, other full-time faculty are 24% of all full-time faculty. At doctoral-level mathematics departments, other full-time faculty without a doctorate increased by 88 faculty (a 13% increase), and 30% of other full-time faculty are non-doctoral faculty in 2010. At bachelors-level departments, we estimate that 74% of other full-time faculty are non-doctoral faculty. As CBMS2005 noted increases in the numbers of other full-time faculty in every category, the number of other full-time faculty should continue to be closely monitored.

The increased number of other full-time faculty is a concern in statistics departments, as well, because the number of other-full time statistics faculty has more than doubled over the past ten years. In doctoral-level statistics departments, the number of postdocs increased from 51 to 71 (a 39% increase), and the number of other-full time faculty, excluding postdocs, increased from 112 in 2005 to 144 in 2010 (a 29% increase from 2005 to 2010). It is interesting to note that in the doctoral mathematics departments in 2010, there were more postdoctoral faculty than tenure-eligible faculty, while in doctoral statistics departments, the number of postdoctoral faculty was about one-third of the number of tenure eligible faculty. In 2010, 86% of other full-time statistics faculty possessed a doctoral degree.

### **Decreases in numbers of part-time faculty**

Table S.14 in Chapter 1 showed that the number of part-time faculty in all mathematics departments combined in 2010 was estimated at 6,050, a decrease of 7% from 2005 to 2010; the 2010 estimate of the number of part-time mathematics faculty represents

a 17% decline from 2000 but is still above the 1995 estimate of 5,399 part-time mathematics faculty. Table F.1 shows that the number of part-time faculty decreased at masters and at bachelors-level mathematics departments but increased 5% at doctoral mathematics departments (up 55 faculty from 2005). The biggest decline in numbers of part-time faculty was in bachelors-level departments, where the number of part-time faculty decreased by 469 faculty (a 13% decrease); however, the standard error in the number of part-time faculty at bachelors-level departments is 292, making our estimate rather uncertain. In 2010, 22% of part-time mathematics faculty had a doctoral degree, while in 2005, this percentage was 25%.

Table S.14 showed that the number of part-time faculty at doctoral-level statistics departments decreased from 112 in 2005 to 105 in 2010. In 2010, 80% of doctoral-level part-time statistics faculty held a doctoral degree (compared to 34% in doctoral-level mathematics departments).

### Non-doctoral faculty

Table F.1 shows that in fall 2010, at doctoral-level mathematics departments, 10% of full-time faculty were non-doctoral faculty. At doctoral-level mathematics departments, the numbers of both non-doctoral full-time faculty and non-doctoral part-time faculty increased from 2005 to 2010. Almost all of the non-doctoral full-time faculty at Ph.D.-level mathematics departments in 2010 were other full-time faculty, and that number increased by 88 faculty (a 13% increase) from 2005; non-doctoral part-time faculty at doctoral-level mathematics departments increased by 97 faculty (a 15% increase). In fall 2010, at masters-level mathematics departments, 20% of full-time faculty were non-doctoral faculty. The number of non-doctoral mathematics faculty at masters-level departments decreased from 2005 to 2010 in all categories, the most significant decrease being a decrease of 67 tenured non-doctoral faculty (a 51% decrease). In fall 2010, at bachelors-level mathematics departments, 24% of full-time faculty were non-doctoral faculty. At bachelors-level mathematics departments, the number of non-doctoral faculty decreased from 2005 to 2010 in all categories, except in other full-time faculty. The number of tenured non-doctoral faculty at bachelors-level departments decreased by 440 faculty (a 48% decrease); the number of other full-time non-doctoral faculty increased by 784 faculty, but the standard error in bachelors-level other full-time faculty was large (377). The number of full-time non-doctoral faculty in doctoral-level statistics departments is small (about 3% of full-time faculty), and non-doctoral part-time faculty comprised 20% of part-time statistics faculty in doctoral statistics departments (compared with 66% of part-time faculty in doctoral-level mathematics departments).

### Gender

According to the *Annual Survey* reports, the percentage of women receiving Ph.D. degrees in the mathematical sciences has remained close to 30% each year over the last ten years. Table S.16 in Chapter 1 shows that of the new Ph.D.s that were awarded from July 1, 2005–June 30, 2010, 32% were awarded to women. The 2010 CBMS survey shows that although the number of new women Ph.D.s remained relatively constant, women continued to make gains in numbers of faculty in most categories. Table S.16 showed that the combined total number of female full-time mathematics faculty in four-year mathematics departments increased by about 14%, from 5,641 in 2005 to 6,416 in 2010. Table S.16 further showed that in fall 2010, women comprised 29% of full-time mathematics faculty (up from 26% in 2005), 21% of tenured mathematics faculty (up from 18% in 2005), 34% of tenure-eligible faculty (up from 29%), and 41% of other full-time faculty (down from 44% in 2005); the percentage of postdocs who were women remained the same at 23%. Figure S.16.1 in Chapter 1 displays the percentages of tenured women and of tenure-eligible women in the combined four-year mathematics departments and in the doctoral statistics departments in 2005 and 2010.

Tables F.1 and F.2 and Figure F.3.1 provide data on the numbers of women in different levels of departments. Across all types of mathematics departments combined, Table F.2 shows that the number of women in tenured positions rose by 408 faculty (a 17% increase over 2005), while there was a decrease in the total number of tenured faculty, and the number of women in tenure-eligible positions decreased slightly (the total number of tenure-eligible faculty also decreased). At doctoral-level departments, the number of tenured women rose by 98 faculty (a 23% increase), and the number of tenure-eligible women rose by 50 (a 23% increase). The number of female postdocs increased by 78 faculty (an increase of 53%). In 2010, women comprised 27% of the tenure-eligible positions in doctoral-level mathematics departments (the percentage was 24% in 2005). At masters-level and bachelors-level departments, the number of tenured women increased over 2005, and the number of tenure-eligible women decreased (the total number of tenure-eligible positions decreased, also); at masters-level departments, the number of tenured women faculty was up by 14%, and the number of tenure-eligible women faculty was down by 16%, while at bachelors-level departments, the number of tenured women faculty was up by 17%, and the number of tenure-eligible women faculty was down by 3%. In fall 2010, women comprised 37% of tenure-eligible positions in masters-level departments and 36% of tenure-eligible positions in bachelors-level

**TABLE F.1** Number of faculty, and of female faculty (F), in various types of mathematics departments and PhD and MA statistics departments, by highest degree and type of department, in fall 2010. (Fall 2005 figures are in parentheses, and postdocs are included in other full-time (OFT) faculty totals.)

Mathematics Depts	Univ (PhD)				Univ (MA)				Coll (BA)						
	Tenured	Tenure-eligible	OFT	Post-docs	Part-time	Tenured	Tenure-eligible	OFT	Post-docs	Part-time	Tenured	Tenure-eligible	OFT	Post-docs	Part-time
Doctoral Faculty	4604 (4,699)	986 (930)	1739 (1,381)	1001 (760)	370 (412)	2369 (2,412)	758 (990)	237 (268)	16 (5)	354 (383)	5218 (4,697)	1712 (2,179)	627 (516)	6 (48)	609 (837)
Doctoral (F)	518 (420)	269 (218)	496 (336)	226 (147)	107 (95)	579 (480)	273 (319)	89 (97)	6 (2)	102 (102)	1408 (1,080)	546 (614)	158 (166)	0 (41)	220 (210)
Non-doctoral Faculty	16 (20)	8 (3)	756 (668)	0 (4)	731 (634)	65 (132)	17 (29)	749 (760)	1 (2)	1434 (1,477)	475 (915)	136 (251)	1821 (1,037)	0 (0)	2553 (2,793)
Non-doctoral (F)	6 (7)	1 (2)	449 (399)	0 (1)	326 (291)	26 (52)	11 (18)	427 (435)	1 (0)	659 (588)	203 (293)	127 (79)	828 (626)	0 (0)	1263 (1,294)
Total Mathematics	4621 (4,719)	994 (933)	2495 (2,049)	1001 (764)	1101 (1,046)	2434 (2,544)	775 (1,019)	986 (1,027)	18 (7)	1787 (1,860)	5693 (5,612)	1848 (2,429)	2448 (1,553)	6 (48)	3161 (3,630)
Total Mathematics (F)	525 (427)	270 (220)	946 (735)	226 (148)	433 (386)	605 (532)	284 (337)	516 (532)	7 (2)	761 (689)	1611 (1,373)	673 (693)	987 (792)	0 (41)	1484 (1,503)
Statistics Depts	Univ (PhD)				Univ (MA)				Univ (MA)						
Doctoral Faculty	579 (603)	207 (178)	184 (133)	71 (51)	84 (76)	145 (na)	57 (na)	20 (na)	15 (na)	9 (na)					
Doctoral (F)	95 (79)	84 (66)	61 (46)	18 (16)	15 (16)	20 (na)	18 (na)	7 (na)	7 (na)	0 (na)					
Non-doctoral Faculty	1 (1)	2 (1)	31 (30)	0 (0)	21 (36)	2 (na)	0 (na)	37 (na)	0 (na)	20 (na)					
Non-doctoral (F)	0 (0)	0 (0)	20 (20)	0 (0)	11 (17)	2 (na)	0 (na)	20 (na)	0 (na)	7 (na)					
Total Statistics	580 (604)	209 (179)	215 (163)	71 (51)	105 (112)	147 (na)	57 (na)	57 (na)	15 (na)	29 (na)					
Total Statistics (F)	95 (79)	84 (66)	82 (66)	18 (16)	26 (33)	22 (na)	18 (na)	26 (na)	7 (na)	7 (na)					

**TABLE F.1.1** Number of faculty, and of female faculty (F), in mathematics departments combined and of statistics departments combined in fall 2010. (Fall 2005 figures are in parentheses for Mathematics Departments combined but are not available for Masters Statistics Departments.)

	Tenured	Tenure-eligible	OFT	Post-docs	Part-time
Mathematics Depts	Univ (PhD) + Univ (MA) + Coll (BA)				
Doctoral Faculty	12191 (11,808)	3456 (4,099)	2603 (2,165)	1024 (813)	1332 (1,632)
Doctoral (F)	2505 (1,980)	1088 (1,151)	744 (599)	232 (190)	429 (407)
Non-doctoral Faculty	557 (1,067)	161 (283)	3326 (2,465)	1 (6)	4718 (4,904)
Non-doctoral (F)	235 (352)	139 (99)	1705 (1,460)	1 (1)	2249 (2,173)
Total Mathematics	12747 (12,875)	3617 (4,381)	5929 (4,629)	1025 (819)	6050 (6,536)
Total Mathematics (F)	2740 (2,332)	1227 (1,250)	2449 (2,059)	233 (191)	2678 (2,578)
Statistics Depts	Univ (PhD) + Univ (MA)				
Doctoral Faculty	724 (na)	264 (na)	204 (na)	86 (na)	93 (na)
Doctoral (F)	115 (na)	102 (na)	68 (na)	24 (na)	15 (na)
Non-doctoral Faculty	3 (na)	2 (na)	69 (na)	0 (na)	41 (na)
Non-doctoral (F)	2 (na)	0 (na)	40 (na)	0 (na)	18 (na)
Total Statistics	727 (na)	267 (na)	272 (na)	86 (na)	133 (na)
Total Statistics (F)	117 (na)	102 (na)	108 (na)	24 (na)	32 (na)

departments (these percentages were 33% and 29%, respectively, in 2005).

Table F.1 shows that in fall 2010, women comprised 44% of the part-time mathematics positions across all types of four-year mathematics departments combined (this percentage is up from 39% in 2005). The percentage of part-time positions occupied by women was highest in bachelors-level departments, where it was 47%.

Continuing a trend evident in the 2005 CBMS survey, women continue to make even more impressive gains in numbers of faculty in statistics departments. Table F.1.1 shows that for doctoral-level and masters-level statistics departments combined, in fall 2010, women comprised 16% of tenured faculty, 38% of

tenure-eligible faculty, 40% of other full-time faculty, and 28% of postdocs; in addition, 24% of part-time faculty are women. Table F.1 shows that from 2005 to 2010, the number of women in every category of doctoral statistics departments increased, except in part-time faculty. In fall 2010, the number of full-time women faculty in doctoral statistics departments was 261, up 50 from 2005 (a 24% increase); the number of tenured women faculty increased 20%, the number of tenure-eligible women increased 27%, and the number of women postdocs increased 13%.

It is interesting to compare doctoral statistics departments to doctoral mathematics departments. In fall 2010, women were 11% of tenured faculty in doctoral mathematics departments and 16% of

**TABLE F.2** Number of tenured, tenure-eligible, postdoctoral, and other full-time faculty in mathematics departments at four-year colleges and universities by gender and type of department in fall 2010. (Note: Postdoctoral faculty are included in other full-time totals.)

	Univ (PhD)			Univ (MA)			Coll (BA)			Total				
	Tenured	Tenure-eligible full-time	Post-docs <sup>1</sup>	Tenured	Tenure-eligible full-time	Post-docs <sup>1</sup>	Tenured	Tenure-eligible full-time	Post-docs <sup>1</sup>	Tenured	Tenure-eligible full-time	Post-docs <sup>1</sup>		
Men, 2010	4096	724	1549	1829	490	470	4082	1175	1461	6	10007	2390	3480	792
Women, 2010	525	270	946	605	284	516	1611	673	987	0	2740	1227	2449	233
Total, 2010	4621	994	2495	2434	775	986	5693	1848	2448	6	12747	3617	5929	1025
Men, 2005	4292	713	1314	2011	682	495	4239	1737	761	8	10542	3132	2570	628
Women, 2005	427	220	735	532	337	532	1373	693	792	41	2332	1250	2059	191
Total, 2005	4719	933	2049	2544	1019	1027	5612	2429	1553	48	12874	4382	4629	819

<sup>1</sup> A postdoctoral appointment is a temporary position primarily intended to provide an opportunity to extend graduate training or to further research experience. Postdoctoral faculty are included in the other full-time-faculty totals throughout CBMS2010. This contrasts with publications of the AMS-ASA-IMS-MAA-SIAM Annual Survey since 2003, which list postdoctoral faculty as a category separate from other full-time-faculty. Before 2003, separate counts of postdoctoral faculty were not collected by the Annual Survey.

Note: Round-off may make marginal totals seem inaccurate.

**TABLE F.3** Number of tenured, tenure-eligible, other full-time, and postdoctoral faculty in statistics departments, by gender, in fall 2010 and 2005. (Postdoctoral faculty are included in other full-time faculty totals. Data for Masters Statistics Departments was not collected in 2005.)

	Doctoral Statistics Departments			Masters Statistics Departments			Total			
	Tenured	Tenure-eligible	Other full-time Postdocs <sup>1</sup>	Tenured	Tenure-eligible	Other full-time Postdocs <sup>1</sup>	Tenured	Tenure-eligible	Other full-time Postdocs <sup>1</sup>	
Men, 2010	485	125	133	125	40	31	610	165	164	62
Women, 2010	95	84	82	22	18	26	117	102	108	24
Total, 2010	580	209	215	147	57	57	727	267	272	86
Men, 2005	525	113	97	na	na	na	na	na	na	na
Women, 2005	79	66	66	na	na	na	na	na	na	na
Total, 2005	604	179	163	na	na	na	na	na	na	na

<sup>1</sup> A postdoctoral appointment is a temporary position primarily intended to provide an opportunity to extend graduate training or to further research experience. Postdoctoral faculty are included in the other full-time-faculty totals throughout CBMS2010. This contrasts with publications of the AMS-ASA-IMS-MAA-SIAM Annual Survey since 2003, which list postdoctoral faculty as a category separate from other full-time-faculty. Before 2003, separate counts of postdoctoral faculty were not collected by the Annual Survey.



tenured faculty in doctoral statistics departments, 27% of tenure-eligible mathematics faculty and 40% of tenure-eligible statistics faculty, 23% of mathematics postdoc faculty and 25% of statistics postdoc faculty. Given the high percentage of women in tenure-eligible statistics faculty positions, it is likely that women will make further gains in numbers of tenured faculty in doctoral statistics departments over the coming years. The percentage of women in tenure-eligible doctoral statistics faculty positions is higher than the percentage of women in tenure-eligible mathematics faculty positions in all of the three levels of mathematics departments.

**Age distribution**

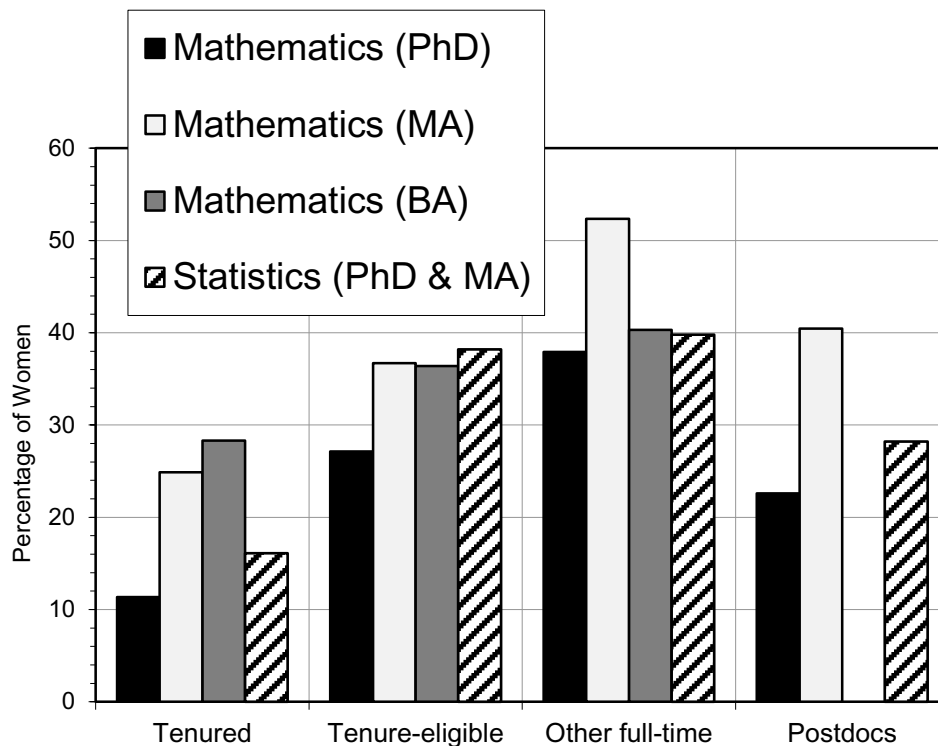
Table S.17 and Figure S.17.1 in Chapter 1 presented the age distribution of tenured and tenure-eligible men and women in all four-year mathematics departments in fall 2010, and Table F.4 and Figures F.4.1, F.4.2, and F.4.3 display the finer breakdown of faculty ages by level of mathematics or statistics department. The tables also show average ages within each type of department, and the percentages within each type of department total 100%, except for possible round-off.

Table F.4 can be used to compare the average ages of mathematics faculty in 2005 and 2010 for various

categories of full-time faculty and different levels of departments. The average age of tenured men is higher than that of tenured women in each of the three levels of mathematics departments. The average age of tenured men rose from 2005 to 2010 for each level of mathematics department, and the average age of tenured women rose for each level, except masters-level departments. Over the past decade, from 2000 to 2010, the average age of tenured men at doctoral-level mathematics departments increased from 52.1 in 2000 to 55.4 in 2010.

Table F.4 can also be used to compare the percentage of the tenured and tenure-eligible faculty age 65 and above in the fall of 2000, 2005, and 2010, for each level of department. For example, at the bachelors-level mathematics departments, this percentage increased from 3% to 5% to 10% over the three surveys. Comparing Table S.17 in Chapter 1 with its counterpart in 2000 and 2005, for all departments combined, this percentage grew from 5% to 8% to 12% between 2000 and 2010.

Table F.4 shows that the average age of tenured male faculty in all statistics departments combined increased slightly, and the average age of tenured female faculty showed a greater increase (from 45.6 in 2005 to 48.4 in 2010); the average age of tenured

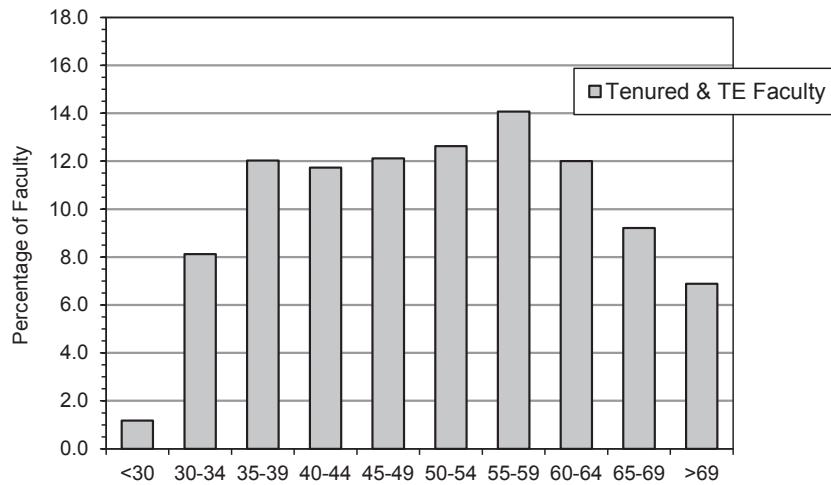


**FIGURE F.3.1** Percentage of women in various faculty categories, by type of department, in fall 2010.

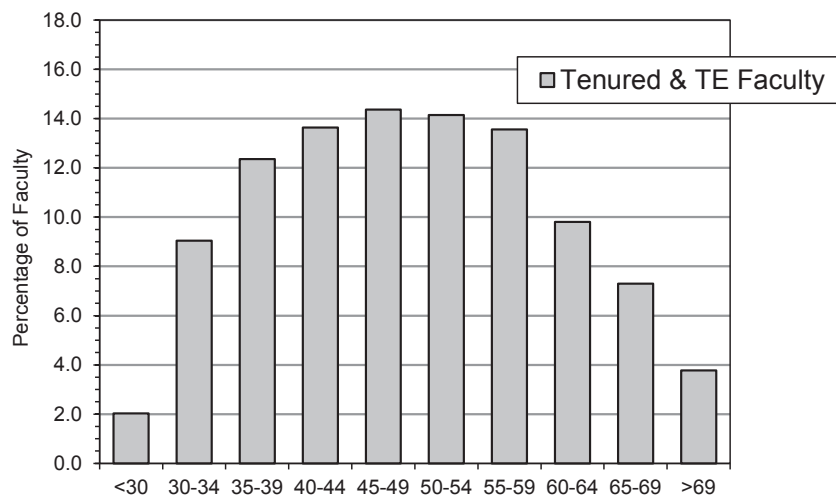
**TABLE F.4** Percentage of tenured and tenure-eligible mathematics department and statistics department faculty at four-year colleges and universities belonging to various age groups by type of department and gender in fall 2010.

	<30 %	30-34 %	35-39 %	40-44 %	45-49 %	50-54 %	55-59 %	60-64 %	65-69 %	>69 %	Average age 2005	Average age 2010
<b>Mathematics Depts.</b>												
Univ (PhD)												
Tenured Men	0	1	5	7	10	11	13	11	9	7	54.4	55.4
Tenured Women	0	0	1	2	2	1	1	1	0	0	50.0	50.5
Tenure-eligible men	1	5	4	2	0	0	0	0	0	0	36.3	36.3
Tenure-eligible women	0	2	2	1	0	0	0	0	0	0	37.3	36.8
Total Univ (PhD)	1	8	12	12	12	13	14	12	9	7		
Univ (MA)												
Tenured Men	0	1	4	8	9	10	10	8	6	3	53.8	54.1
Tenured Women	0	0	2	3	4	3	3	1	1	1	52.1	50.7
Tenure-eligible men	1	5	4	2	1	0	0	0	0	0	38.3	37.3
Tenure-eligible women	1	3	2	1	1	0	0	0	0	0	38.7	39.1
Total Univ (MA)	2	9	12	14	14	14	14	10	7	4		
Coll (BA)												
Tenured Men	0	1	4	6	9	8	8	10	7	2	52.9	54.0
Tenured Women	0	0	3	3	4	3	3	3	1	0	49.6	50.9
Tenure-eligible men	2	5	3	2	2	0	0	0	0	0	40.2	37.2
Tenure-eligible women	1	4	2	1	1	1	0	0	0	0	38.9	37.4
Total Coll (BA)	4	10	11	12	16	13	11	13	8	2		
<b>Statistics Depts.</b>												
Univ (MA)												
Tenured Men	0	1	8	9	12	3	12	10	5	2	na	52.5
Tenured Women	0	0	3	2	1	0	3	1	1	0	na	49.8
Tenure-eligible men	2	10	4	0	0	1	0	0	0	0	na	34.4
Tenure-eligible women	2	4	2	0	0	0	0	0	0	0	na	32.5
Total Univ (MA)	4	15	17	11	13	4	15	11	7	2		
Univ (PhD)												
Tenured Men	0	1	5	9	7	8	10	12	5	4	52.7	54.2
Tenured Women	0	1	2	2	2	2	1	1	1	0	45.6	48.1
Tenure-eligible men	2	7	5	1	0	0	0	0	0	0	33.7	34.9
Tenure-eligible women	1	4	4	1	0	0	0	0	0	0	33.2	36.2
Total Univ (PhD)	2	14	16	14	9	10	12	13	6	5		

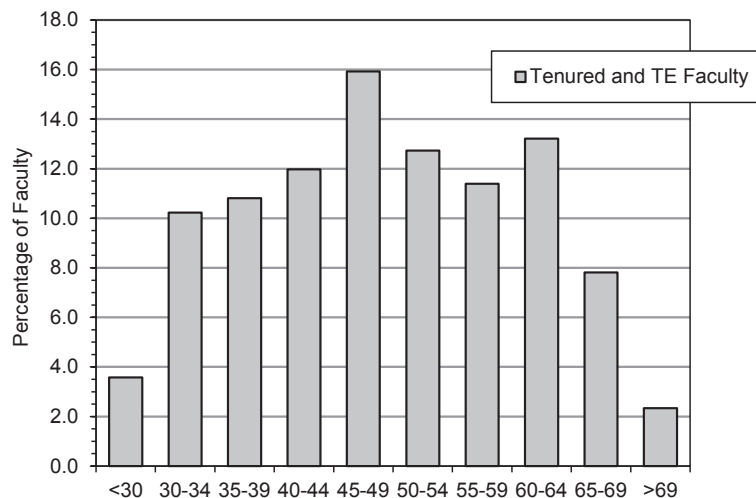
Note: 0 means less than half of 1%.



**FIGURE F.4.1** Percentage of tenured and tenure-eligible faculty in doctoral mathematics departments in various age groups in fall 2010.



**FIGURE F.4.2** Percentage of tenured and tenure-eligible faculty in masters-level mathematics departments belonging to various age groups in fall 2010.



**FIGURE F.4.3** Percentage of tenured and tenure-eligible faculty in bachelors-level mathematics departments belonging to various age groups in fall 2010.

female statistics faculty is still lower than that of tenured female doctoral-level mathematics faculty (50.7). Indeed, as Figures S.17.1 and S.18.1 showed, the distribution of tenured and tenure-eligible women is more skewed toward younger women in doctoral statistics departments than in all four-year mathematics departments combined.

### Race, ethnicity, and gender

Table S.19 in Chapter 1 gave the percentages of faculty in fall 2010 by gender, and in various racial/ethnic groups, for tenured, tenure-eligible, post-doctoral, and other full-time faculty in all types of mathematics departments combined.

The *Annual Survey* follows the federal pattern for racial and ethnic classification of faculty. However, in the text of this report, some of the more cumbersome federal classifications will be shortened. For example “Mexican-American/Puerto Rican/other Hispanic” will be abbreviated to “Hispanic”. Similarly, the federal classifications “Black, not Hispanic” and “White, not Hispanic” will be shortened to “Black” and “White”, respectively, and “Asian/Native Hawaiian/Pacific Islander” will be shortened to “Asian”.

Comparing Table S.19 in CBMS2010 to the corresponding Table S.20 in CBMS2005, the percentages of various racial/ethnic and gender groups look quite similar, with the most noticeable difference being a decrease from 2005 to 2010 in the percentage of White male faculty and an increase in White female faculty. The percentage of racial/ethnic minorities remains small. Table F.5 breaks these numbers down by type of department. Comparing Table F.5 in CBMS2010 to Table F.5 in CBMS2005 shows that in doctoral mathematics departments, Asian faculty of both genders have slightly increased, and White male faculty decreased from 66% in 2005 to 59% in 2010 (White females increased from 14% to 16%). In masters-level mathematics departments, Asian male and female faculty increased by two percentage points and one percentage point, respectively, Black male and female faculty both were up one percentage point, and White male faculty decreased from 54% in 2005 to 47% in 2010 (while White female faculty increased from 22% to 26%). In bachelors-level mathematics departments, Asian male and female faculty decreased by two percentage points and one percentage point, respectively, while White women faculty increased by three percentage points.

Table F.5 shows these percentages for all statistics faculty combined. Comparing Table F.5 in CBMS2010 to Table F.5 in CBMS2005, the percentage of White male faculty decreased from 2005 to 2010 by six percentage points, White women decreased by one percentage point, Asian men and women faculty have increased (two percentage points and one percentage point, respectively), Black women decreased by one

percentage point, and Hispanic women increased by one percentage point.

Table F.6 gives the 2010 percentages of part-time faculty in various racial/ethnic groups, broken down by gender, in each type of mathematics department and in all statistics departments combined. Comparing Table F.6 in the CBMS2005 and CBMS2010 reports for the doctoral-level mathematics departments, we see that the percentage of Asian male, Asian female, Black female, Hispanic male, and Hispanic female part-time faculty all increased one percentage point; White male part-time faculty decreased from 50% in 2005 to 46% in 2010, and White women part-time faculty decreased from 31% in 2005 to 30% in 2010. In masters-level mathematics departments, Asian and Hispanic women part-time faculty gained one percentage point and Black male part-time faculty gained two percentage points, while White male part-time faculty declined from 46% to 38% and White female part-time faculty decreased from 33% to 27%. At the bachelors-level mathematics departments, Asian men, Black women, Hispanic women, and White men all dropped one percentage point, while Black men and Hispanic men dropped two percentage points, and White women increased from 31% to 38%. It is also of interest to compare the racial-ethnic distribution of full-time faculty against that of part-time faculty at the same level of department. In each level of mathematics department, White men are a smaller percentage of part-time faculty than of full-time faculty, while the percentage of White women is always greater for part-time faculty over full-time faculty; the percentage of Asian men is also smaller for part-time faculty across each level of mathematics department.

In statistics departments, Asian male part-time faculty dropped from 11% to 3%, Black male part-time faculty increased by two percentage points, Hispanic male part-time faculty decreased by one percentage point, White male part-time faculty increased from 44% to 64%, and White female part-time faculty decreased from 23% to 19%. The percentage of both White women and White men is greater among part-time statistics faculty than among full-time, while the percentage of Asian male and female faculty is greater among full-time faculty than part-time faculty.

For a small percentage of the faculty, race and ethnicity data were listed as “unknown” by the responding departments, and these faculty are listed as “unknown” in Tables F.5 and F.6.

**TABLE F.5** Percentages of full-time faculty belonging to various ethnic groups, by gender and type of department, in fall 2010. Except for round-off, the percentages within each departmental type sum to 100%.

	Percentage of Full-time Faculty				
	Asian %	Black, not Hispanic %	Mexican American/ Puerto Rican/ other Hispanic %	White, not Hispanic %	Other/ Unknown <sup>1</sup> %
<b>PhD Mathematics Departments</b>					
All full-time men	13	1	2	59	3
All full-time women	4	0	1	16	1
<b>MA Mathematics Departments</b>					
All full-time men	12	4	2	47	2
All full-time women	5	2	1	26	1
<b>BA Mathematics Departments</b>					
All full-time men	4	2	2	57	2
All full-time women	2	1	1	28	1
<b>All Statistics Departments</b>					
All full-time men	20	1	1	49	3
All full-time women	8	0	1	15	2

<sup>1</sup> The column "Other/Unknown" includes the federal categories Native American/Alaskan Native and Native Hawaiian/Other Pacific Islander.

Note: Zero means less than one-half of one percent.

**TABLE F.6** Percentages of part-time faculty belonging to various ethnic groups, by gender and type of department, in fall 2010. Except for round-off, the percentages within each departmental type sum to 100%.

	Percentage of part-time Faculty				
	Asian %	Black, not Hispanic %	Mexican American/ Puerto Rican/ other Hispanic %	White, not Hispanic %	Other/ Unknown <sup>1</sup> %
<b>PhD Mathematics Departments</b>					
All part-time men	5	2	1	47	6
All part-time women	4	1	1	30	3
<b>MA Mathematics Departments</b>					
All part-time men	3	4	2	40	9
All part-time women	3	3	2	29	6
<b>BA Mathematics Departments</b>					
All part-time men	2	1	0	43	8
All part-time women	1	1	0	38	5
<b>All Statistics Departments</b>					
All part-time men	2	4	0	65	5
All part-time women	1	0	0	18	6

<sup>1</sup> The column "Other/Unknown" includes the federal categories Native American/Alaskan Native and Native Hawaiian/Other Pacific Islander.

Note: Zero means less than one-half of 1%.