# 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 mathematics departments, and also in doctoral-level statistics departments. The same topics were presented in Chapter 1 tables for the profession as a whole. In this chapter, we will show how faculty demographics differed among various types of departments, grouped by the highest degree offered by the department. So that the discussion can be relatively self-contained, we repeat some demographic data from Chapter 1.

- Table S. 14 in Chapter 1 showed that there was an $11 \%$ increase in the total number of full-time faculty in mathematics departments (all levels combined) from 2000 to 2005 . Table S. 17 showed that the components of that increase were a $1 \%$ decrease in the total number of tenured faculty, coupled with a $33 \%$ increase in the number of tenure-eligible faculty, and a $31 \%$ increase in other full-time (OFT) faculty. The increase in OFT faculty was due in part to the increasing number of postdoctoral positions. In doctoral statistics departments, the total number of full-time faculty grew by $17 \%$, the number of tenured faculty grew by $6 \%$, the number of tenureeligible faculty grew by $31 \%$, and the number of OFT faculty expanded by $65 \%$. In this chapter, Table F. 1 breaks this data down by level of department.
- Table S. 14 in Chapter 1 showed that the total number of part-time mathematics faculty in 2005 was about $10 \%$ below the high levels observed in fall 2000. Table F. 1 shows that the decline was not uniform across all types of departments; declines of $25 \%$ and $20 \%$ in doctoral and masters-level departments, respectively, were coupled with a $1 \%$ increase in bachelors-level departments. In doctoral statistics departments there was a $10 \%$ increase in part-time faculty.
- Table S. 17 in Chapter 1 showed that the percentage of women among all tenured faculty in four-year college and university mathematics departments rose three percentage points, from $15 \%$ in fall 2000 to $18 \%$ in fall 2005. Tables F.1, F.2, and F. 3 give breakdowns in various categories of faculty in
different types of departments. From these tables we see that the percentage of women among tenured faculty in doctoral-level mathematics departments rose from $7 \%$ to $9 \%$, while the percentage of women among tenured faculty in bachelors-level departments rose from $20 \%$ to $24 \%$. Doctoral statistics departments continued to show substantial growth in the numbers and percentages of women, especially in tenure-eligible positions.
- Table F. 4 shows that the average ages of both tenured men and tenured women were up slightly in each type of mathematics department in fall 2005, compared to fall 2000, while Table S. 19 shows that in doctoral statistics departments, the average age of tenured and tenure-eligible female faculty was down.
- Table F. 5 shows that some increase in race/ ethnicity diversity was observed from 2000 to 2005. In fall $2005,80 \%$ of the total full-time mathematics faculty was classified as "White, non-Hispanic". That percentage varied by only a few points between mathematics departments of different types. Table F. 6 shows the race/ethnicity breakdown of parttime faculty.
In the text that follows this introduction, differences in the trends in the various levels of departments will be explored in detail.


## Data sources and notes on the tables

Each fall, the Joint Data Committee (JDC) of the AMS-ASA-IMS-MAA-SIAM conducts national surveys that include faculty demographic information. In previous CBMS survey years (2000, 1995, 1990, etc.) the CBMS survey has asked department chairs to provide essentially the same demographic information on the CBMS questionnaires. After the CBMS survey concluded in fall 2000, there were enough complaints about the multiple surveying that the JDC and the CBMS2005 committee agreed to use JDC data as the basis for faculty demographics tables in the CBMS2005 report. In addition to simplifying the CBMS questionnaires, this decision allows readers to compare fall 2005 data with annually published findings of the JDC. These JDC reports appear annually in the Notices of the American Mathematical Society and
are available online at http://www.ams.org/employment/surveyreports.html.

The methodology of the JDC Annual Surveys differs from that of the CBMS surveys. In JDC surveys, all of the doctoral mathematics and statistics departments are surveyed, while in the CBMS surveys, the doctoral departments are part of a universe from which a random, stratified sample is drawn. Both the JDC's Annual Survey and the CBMS surveys use a stratified random sample of bachelors-level and masters-level institutions. The doctoral statistics departments surveyed by the JDC's Annual Survey include some departments that do not have undergraduate statistics programs, and such departments were removed from the analysis that appears in CBMS2005.

As noted in earlier chapters, there was a reclassification of certain masters-level mathematics departments by the AMS between the 2000 and 2005 surveys, with about 40 departments being reclassified as bachelors departments. Both the CBMS2005 survey and the JDC survey in fall 2005 used the new classification scheme when drawing their random samples of masters and bachelors mathematics departments, and this alone would account for some of the declines in enrollments, degrees granted, and faculty numbers that were detected among masters-level mathematics departments by the 2005 CBMS and JDC surveys, and for some of the corresponding growth among bachelors-level departments.

In each table in this chapter we have chosen the most appropriate comparison data for fall 2000. In most cases that data is the JDC's Annual Survey data from fall 2000, but in some cases it is CBMS2000 data. Sources of comparison data are clearly identified. Because the JDC's Annual Survey does not include masters-level statistics departments, data on faculty demographics in those departments (about 10 in number) do not appear in this CBMS2005 report even though such data did appear in CBMS2000. Consequently, we take special care to refer to "doctoral statistics departments" when reporting demographic data for fall 2005 in order to remind readers of that fact. This contrasts with the situation in other chapters of this CBMS2005 survey which include, for example, enrollment and degree-granted data for both mastersand doctoral-level statistics departments.

The JDC survey defined "full-time faculty" as "faculty who are full-time employees in the institution and at least half-time in the department" and then partitioned full-time faculty into four disjoint groups: tenured, tenure-eligible, postdoctoral (defined below in the section "Increases in numbers of other full-time faculty"), and other full-time. In order to make the classification of faculty used in Chapter 4 consistent with the terminology used in the remainder of this report and in previous CBMS reports, we have combined the two JDC questionnaire catego-
ries, "postdoctoral" and "other full-time", to make the CBMS2005 category "other full-time" (OFT). Consequently, in this CBMS report, the term "other full-time faculty" means "all full-time faculty who are neither tenured nor tenure-eligible." Therefore, when comparing the data in CBMS2005 to data in the JDC's Annual Survey publications, readers should keep in mind that beginning with the 2003 Annual Survey, the designation "OFT" in the JDC's Annual Survey does not include postdoctoral appointments, as it does in this, and in past, CBMS reports. In order to maintain comparability with previous CBMS surveys, and so that future CBMS reports can track changes in this growing subcategory of OFT faculty, in this chapter of the CBMS2005 report, the numbers of postdoctoral faculty are included in the OFT faculty column and also are broken out as separate columns.

Finally, a word of warning may be in order about the marginal totals in this chapter's tables. Table entries are rounded to the nearest integer, and the sum of rounded numbers is not always equal to the rounded sum.

## Number of tenured and tenure-eligible faculty

From Tables S. 14 and S.15, and Figure S.14.1, we see that the total number of full-time faculty in fouryear college and university mathematics departments increased $11 \%$, from 19,779 in 2000 to 21,885 in 2005. Table S. 17 shows that across all types of departments, the total number of tenured full-time mathematics faculty decreased by $1 \%$, the number of tenure-eligible full-time mathematics faculty increased by $33 \%$, and the total number of tenured and tenure-eligible full time faculty, combined, increased by 6\%. From Table F.1, where data are broken down by the level of the department, we see that most of this growth took place in bachelors-level departments, where the numbers of both tenured and tenure-eligible full-time faculty increased. In both doctoral-level and masters-level mathematics departments, the numbers of tenured faculty decreased, and the numbers of tenure-eligible faculty increased, with a net loss in the numbers of tenured and tenure-eligible faculty combined. In every category in Table F.1, the number of doctoral tenureeligible faculty increased from 2000 to 2005.

In bachelors-level mathematics departments, the total number of tenured faculty rose $17 \%$, from 4,817 in 2000 to 5,612 in 2005 , and the total number of tenure-eligible faculty rose $52 \%$, from 1,596 to 2,429 . The AMS reclassification, mentioned above, that shifted some masters departments into the bachelors category would account for some of that increase in bachelors-level faculty numbers. However, with such a substantial change in the total number of faculty in bachelors-level mathematics departments, there is some concern that these estimates may be over-
estimates. Such concerns are based on the size of the standard error in the total number of full-time faculty in the fall 2005 survey (which was 595, more than double the standard error in the Third Report of the 2004 Annual Survey) and on what seem to be substantial differences between the 2005 survey estimates and the corresponding estimates from the five Annual Surveys between 2000 and 2004. For example, the JDC's 2005 Annual Survey estimated that there were 4,697 doctoral tenured faculty in bachelors-level mathematics departments, while the average number reported in the previous five annual JDC surveys was 4,053 (with a standard deviation of 102). Subsequent Annual Surveys should show whether the gains in bachelors-level departments in tenured and tenureeligible faculty were as great as estimated in the 2005 Annual Survey.

In doctoral-level and masters-level mathematics departments, the number of tenured doctoral faculty decreased, and the number of tenure-eligible doctoral faculty increased. The total number of tenured faculty decreased $6 \%$ in doctoral-level mathematics departments, from 5,022 in 2000 to 4,719 in 2005, and it decreased $18 \%$ in masters-level mathematics departments, from 3,120 in 2000 to 2,544 in 2005. (Some of the decline at the masters level might be due to the reclassification mentioned above.) The number of tenure-eligible faculty increased $13 \%$ in doctorallevel mathematics departments, from 828 in 2000 to 933 in 2005, and it increased $18 \%$ in masters-level mathematics departments, from 863 in 2000 to 1,019 in 2005.

In doctoral statistics departments, the total fulltime faculty increased $17 \%$, from 808 in 2000 to 946 in 2005; both the number of tenured and the number of tenure-eligible doctoral full-time faculty increased in doctoral statistics departments from 2000 to 2005 (increases of $6 \%$ and $31 \%$, respectively).

## Increases in numbers of other full-time faculty

Table S .17 shows that the number of OFT faculty (defined as all full-time faculty who are neither tenured nor tenure-eligible) in four-year college and university mathematics departments rose $31 \%$, from 3,533 in 2000 to 4,629 in 2005, and the finer breakdown of Table F. 1 shows that the number of OFT faculty was up in 2005 over 2000 for every category of the table. In doctoral statistics departments, Tables S. 17 and Table F. 1 show that the number of OFT faculty increased $65 \%$, from 99 in 2000 to 163 in 2005.

Nationally, there were many types of OFT appointments in fall 2005, some intended as research experiences and others carrying heavy teaching assignments. Starting in 2003, the JDC's Annual Survey has broken out the number of postdoctoral appointments (defined as "temporary positions primarily intended to
provide an opportunity to extend graduate training or to further research experience") from the number of OFT faculty in its annual Third Report. These annual JDC reports show that there was an increase in the number of postdoctoral appointments from 2003 to 2005. When comparing the data in this CBMS report to that in the Annual JDC Survey, the reader is reminded that beginning with the 2003 Annual Survey, the designation "OFT" does not include postdoctoral appointments, while it does in this and other CBMS reports.

## Numbers of part-time faculty

From Table S. 14 we see that the total number of part-time faculty in four-year college and university mathematics departments in 2005 was 6,536, a 10\% decrease from the 7,301 observed in 2000, but still above the 5,399 observed in 1995 (see Figures S. 14.2 and S.14.3). Using Table F. 1 to break down parttime faculty by type of department (doctoral-level, masters-level, and bachelors-level), and by doctoral and non-doctoral part-time faculty, we observe that the number of part-time faculty increased slightly in the bachelors-level group from 2000 to 2005, but decreased in the masters-level and doctoral-level groups (by $20 \%$ and $25 \%$, respectively). The decrease in the number of part-time faculty in the doctoral-level groups was particularly large for non-doctoral parttime faculty (down 31\%).

There was a different trend in the doctoral statistics departments (see Figure S.14.5). The number of part-time statistics faculty increased to 112 in 2005 from 102 in 2000; there were 125 part-time statistics faculty in 1995. Table F. 1 shows that the increase in part-time faculty in doctoral statistics departments from 2000 to 2005 was due to an increase in the number of non-doctoral part-time faculty.

## Non-doctoral faculty

The numbers of non-doctoral full-time faculty generally increased from 2000 to 2005 in four-year mathematics departments. In doctoral-level mathematics departments, the total number of non-doctoral full-time faculty increased $43 \%$, from 484 in 2000 ( $7 \%$ of all full-time faculty) to 691 in 2005 ( $9 \%$ of all full-time faculty). In masters-level mathematics departments, the total number of non-doctoral faculty was up $9 \%$, from 844 in 2000 to 921 in 2005. Were it not for the reclassification mentioned in an earlier section of this chapter, the numbers for masters-level departments might have been even higher. In bach-elors-level mathematics departments, the number of non-doctoral faculty was up $22 \%$, from 1,812 ( $24 \%$ of full-time faculty) in 2000 to 2,203 ( $23 \%$ of full-time faculty) in 2005. In doctoral-level statistics departments, non-doctoral faculty were almost exclusively
in non-tenure-eligible positions, which increased from 12 in 2000 to 30 in 2005. While the increases in nondoctoral faculty are large in percentage terms, Table F. 1 shows that in 2005 only about $17 \%$ of all full-time faculty in mathematics departments fell into the nondoctoral category, while only about $3 \%$ of full-time faculty in doctoral statistics departments failed to have doctoral degrees.

## Gender

According to Joint Data Committee publications, between 2001 and 2005 women received about $30 \%$ of all mathematical sciences Ph.D. degrees each year, a percentage that is historically high and that is almost double the percentage of women among tenured mathematical sciences faculty in the U.S. Consequently it is no surprise that women continued to increase in numbers and percentages in most categories of faculty in four-year mathematics and statistics departments between 2000 and 2005. Table S. 17 shows that the combined total number of female full-time mathematics faculty in four-year mathematics departments increased by about $30 \%$, from 4,346 in 2000 to 5,641 in 2005. From 2000 to 2005 there were gains in the percentage of women in all faculty categories, except among tenure-eligible faculty, a category in which the percentage of women remained unchanged at $29 \%$, essentially mirroring the percentage of women among new Ph.D. recipients. More specifically, in fall 2000, women comprised $22 \%$ of the full-time faculty, $15 \%$ of the tenured faculty, $29 \%$ of the tenure-eligible faculty, and $41 \%$ of the other full-time faculty. In fall 2005, women were $26 \%$ of the total full-time faculty, $18 \%$ of the tenured faculty, $29 \%$ of the tenure-eligible faculty, and $44 \%$ of the other full-time faculty. In fall 2005, $23 \%$ of the postdoctoral faculty in mathematics were women. Figure S.17.1 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 2000 and 2005.

Tables F. 1 and F. 2 and Figure F.3.1 provide data on the percentages of women in different types of departments, and we observe some differences among the percentages of women in doctoral-level, masterslevel, and bachelors-level mathematics departments. In terms of both numbers of women and percentages of women, there are generally more women in bachelors-level departments, followed by masters-level departments, with the doctoral mathematics departments having the fewest women. In both doctoral-level and masters-level departments there was a decline in the number of all tenured positions from 2000 to 2005. At the same time, in the doctoral-level mathematics departments, the number of tenured women increased $18 \%$ from 2000 to 2005 , while the number of tenured men decreased $8 \%$; in masters-level math-
ematics departments, the numbers of tenured men and of tenured women both declined. The numbers of tenure-eligible women, and of other full-time women, increased from 2000 to 2005 in both the doctoral-level and masters-level departments; the number of tenureeligible women increased $36 \%$ in the doctoral-level departments and $22 \%$ in the masters-level departments. In 2005 in the doctoral-level mathematics departments, women were $19 \%$ of the postdocs, and women postdocs were $20 \%$ of the women who held other full-time positions, while male postdocs were $47 \%$ of the men who held other full-time positions. Hence, in 2005, the other full-time women in doctoral departments were less likely to be in research-related temporary positions than the men. This difference also was due to the fact that in 2005 in the doctoral-level departments $60 \%$ of the non-doctoral other full-time positions were held by women. In bachelors-level departments, the number of women in each category increased from 2000 to 2005; for example, the number of tenured women increased $41 \%$, from 972 in 2000 to 1,373 in 2005. In 2005, an astonishing $85 \%$ of the 48 postdoctoral positions in bachelors-level departments were held by women.

In fall 2005, women comprised a higher percentage of the part-time faculty than of the full-time faculty. In the four-year mathematics groups combined, women held $39 \%$ of the part-time positions. The percentage of women among part-time faculty was highest (41\%) in the bachelors-level departments. For comparison, CBMS2000 shows that in fall 2000, women were $38 \%$ of the (larger) total part-time mathematics faculty.

Doctoral statistics departments continue to show impressive growth in numbers and percentages of women. From Table S. 17 and Table F. 3 we see that the total number of full-time women in doctoral statistics departments increased $51 \%$, from 140 in 2000 to 211 in 2005. In 2005 women made up $22 \%$ of the total full-time doctoral statistics faculty, $13 \%$ of the tenured faculty, $37 \%$ of the tenure-eligible faculty, and $40 \%$ of the other full-time faculty; in 2000 these percentages were $17 \%, 9 \%, 34 \%$, and $42 \%$, respectively. In 2005 women were $29 \%$ of the part-time faculty (they were $28 \%$ of part-time faculty in 2000). The fact that women held $37 \%$ of the tenure-eligible positions in doctoral statistics departments is likely to lead to even greater numbers and percentages of tenured women in doctoral statistics departments in the future.

It is interesting to compare the percentages of women in doctoral statistics departments to those in doctoral mathematics departments. In doctoral-level mathematics departments in 2005, women comprised $18 \%$ of the total full-time faculty, $9 \%$ of the tenured faculty, $24 \%$ of the tenure-eligible faculty, and $19 \%$ of the postdocs; each of these percentages was lower than the corresponding percentages of women in doctoral statistics departments. The difference in the
percentage of women among tenure-eligible faculty (37\% in doctoral statistics departments and $24 \%$ in doctoral mathematics departments) is particularly striking. Indeed, as Figure F.3.1 demonstrates, the
percentage of tenure-eligible women was greater in doctoral statistics departments than in any of the mathematics groups.

|  | Univ (PhD) |  |  |  |  | Univ (MA) |  |  |  |  | Coll (BA) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Tenured | Tenureeligible | OFT | $\begin{aligned} & \text { Post- } \\ & \text { docs } \end{aligned}$ | $\begin{aligned} & \text { Part- } \\ & \text { time } \end{aligned}$ | Tenured | Tenureeligible | OFT | $\begin{aligned} & \text { Post- } \\ & \text { docs } \end{aligned}$ | Part- <br> time | Tenured | Tenureeligible | OFT | $\begin{aligned} & \text { Post- } \\ & \text { docs } \end{aligned}$ | Part-time |
| Mathematics Depts |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Doctoral faculty | $\begin{gathered} 4699 \\ (4998) \end{gathered}$ | 930 $(824)$ | $\begin{aligned} & 1381 \\ & (993) \end{aligned}$ | $\begin{gathered} \hline 760 \\ \text { (na) } \end{gathered}$ | $\begin{gathered} \hline 412 \\ (483) \end{gathered}$ | $\begin{gathered} 2412 \\ (2851) \end{gathered}$ | $\begin{gathered} \hline 990 \\ (819) \end{gathered}$ | $\begin{gathered} \hline 268 \\ (262) \end{gathered}$ | $\begin{gathered} \hline 5 \\ (\mathrm{na}) \end{gathered}$ | $\begin{gathered} \hline 383 \\ (445) \end{gathered}$ | $\begin{gathered} 4697 \\ (4129) \end{gathered}$ | $\begin{gathered} 2179 \\ (1357) \end{gathered}$ | $\begin{gathered} \hline 516 \\ (407) \end{gathered}$ | $\begin{aligned} & 48 \\ & \text { (na) } \end{aligned}$ | $\begin{gathered} \hline 837 \\ (800) \end{gathered}$ |
| Doctoral (F) | $\begin{aligned} & 420 \\ & (355) \end{aligned}$ | $\begin{gathered} \hline 218 \\ (161) \end{gathered}$ | $\begin{gathered} \hline 336 \\ (205) \end{gathered}$ | $\begin{aligned} & \hline 147 \\ & \text { (na) } \end{aligned}$ | $\begin{array}{\|c} \hline 95 \\ (111) \end{array}$ | $\begin{gathered} \hline 480 \\ (513) \end{gathered}$ | $\begin{gathered} \hline 319 \\ (258) \end{gathered}$ | 97 <br> (76) | $\begin{gathered} 2 \\ (\mathrm{na}) \end{gathered}$ | $\begin{aligned} & 102 \\ & (95) \end{aligned}$ | $\begin{aligned} & 1080 \\ & (799) \end{aligned}$ | 614 <br> (428) | $\begin{gathered} \hline 166 \\ (123) \end{gathered}$ | 41 <br> (na) | $\begin{gathered} \hline 210 \\ (167) \end{gathered}$ |
| Non-doctoral faculty | $\begin{gathered} 20 \\ (24) \end{gathered}$ | $3$ <br> (4) | $\begin{gathered} \hline 668 \\ (456) \end{gathered}$ | $\begin{gathered} 4 \\ \text { (na) } \end{gathered}$ | $\begin{gathered} \hline 634 \\ (916) \end{gathered}$ | $\begin{gathered} \hline 132 \\ (269) \end{gathered}$ | 29 <br> (44) | $\begin{gathered} \hline 760 \\ (531) \end{gathered}$ | $\begin{gathered} 2 \\ (\mathrm{na}) \end{gathered}$ | $\begin{gathered} 1477 \\ (1877) \end{gathered}$ | $\begin{gathered} \hline 915 \\ (688) \end{gathered}$ | $\begin{gathered} 251 \\ (239) \end{gathered}$ | $\begin{aligned} & \hline 1037 \\ & (885) \end{aligned}$ | (na) | $\begin{gathered} 2793 \\ (2780) \end{gathered}$ |
| Non-doctoral (F) | $7$ <br> (6) | $2$ <br> (1) | $\begin{gathered} \hline 399 \\ (262) \end{gathered}$ | $\begin{aligned} & 1 \\ & (\mathrm{na}) \end{aligned}$ | $\begin{aligned} & \hline 291 \\ & (407) \end{aligned}$ | $\begin{gathered} 52 \\ (95) \end{gathered}$ | $\begin{gathered} 18 \\ (18) \end{gathered}$ | $\begin{gathered} \hline 435 \\ (311) \end{gathered}$ | $\begin{gathered} 0 \\ \text { (na) } \end{gathered}$ | $\begin{gathered} 588 \\ (747) \end{gathered}$ | $\begin{gathered} 293 \\ (173) \end{gathered}$ | 79 <br> (89) | $\begin{gathered} \hline 626 \\ (472) \end{gathered}$ | $\begin{gathered} 0 \\ \text { (na) } \end{gathered}$ | $\begin{gathered} 1294 \\ (1280) \end{gathered}$ |
| Total Mathematics | $\begin{gathered} 4719 \\ (5022) \end{gathered}$ | $\begin{gathered} 933 \\ (828) \end{gathered}$ | $\begin{gathered} 2049 \\ (1449) \end{gathered}$ | $\begin{gathered} \hline 764 \\ \text { (na) } \end{gathered}$ | $\begin{array}{\|c\|} \hline 1046 \\ (1399) \end{array}$ | $\begin{gathered} \hline 2544 \\ (3120) \end{gathered}$ | $\begin{aligned} & 1019 \\ & (863) \end{aligned}$ | $\begin{aligned} & 1027 \\ & (793) \end{aligned}$ | $\begin{gathered} 7 \\ \text { (na) } \end{gathered}$ | $\begin{gathered} 1860 \\ (2322) \end{gathered}$ | $\begin{gathered} 5612 \\ (4817) \end{gathered}$ | $\begin{gathered} 2429 \\ (1596) \end{gathered}$ | $\begin{gathered} 1553 \\ (1292) \end{gathered}$ | $\begin{aligned} & \hline 48 \\ & \text { (na) } \end{aligned}$ | $\begin{gathered} 3630 \\ (3580) \end{gathered}$ |
| Total Mathematics (F) | $\begin{aligned} & \hline 427 \\ & (361) \end{aligned}$ | $\begin{gathered} \hline 220 \\ (162) \end{gathered}$ | $\begin{gathered} \hline 735 \\ (467) \end{gathered}$ | $\begin{gathered} 148 \\ \text { (na) } \end{gathered}$ | $\begin{gathered} \hline 386 \\ (518) \end{gathered}$ | $\begin{gathered} \hline 532 \\ (608) \end{gathered}$ | $\begin{gathered} \hline 337 \\ (276) \end{gathered}$ | $\begin{gathered} \hline 532 \\ (387) \end{gathered}$ | $\begin{gathered} 2 \\ \text { (na) } \end{gathered}$ | $\begin{gathered} \hline 689 \\ (842) \end{gathered}$ | $\begin{aligned} & 1373 \\ & (972) \end{aligned}$ | 693 <br> (517) | $\begin{gathered} \hline 792 \\ (595) \end{gathered}$ | $\begin{aligned} & 41 \\ & (\mathrm{na}) \end{aligned}$ | $\begin{gathered} 1503 \\ (1447) \end{gathered}$ |
| PhD Statistics Depts |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Doctoral faculty | $\begin{gathered} \hline 603 \\ (571) \end{gathered}$ | $\begin{gathered} \hline 178 \\ (136) \end{gathered}$ | 133 <br> (87) | $\begin{aligned} & 51 \\ & \text { (na) } \end{aligned}$ | 76 <br> (81) |  |  |  |  |  |  |  |  |  |  |
| Doctoral (F) | $\begin{gathered} 79 \\ (51) \end{gathered}$ | $\begin{gathered} \hline 66 \\ (46) \end{gathered}$ | 46 <br> (36) | $\begin{aligned} & 16 \\ & \text { (na) } \end{aligned}$ | 16 <br> (17) |  |  |  |  |  |  |  |  |  |  |
| Non-doctoral faculty | $1$ <br> (1) |  | 30 <br> (12) | (na) | 36 <br> (21) |  |  |  |  |  |  |  |  |  |  |
| Non-doctoral (F) | $\begin{gathered} \hline 0 \\ (0) \end{gathered}$ | (1) | 20 $(6)$ | (na) | $\begin{gathered} \hline 17 \\ (12) \end{gathered}$ |  |  |  |  |  |  |  |  |  |  |
| Total PhD Statistics | $\begin{gathered} \hline 604 \\ (572) \end{gathered}$ | $\begin{gathered} \hline 179 \\ (137) \\ \hline \end{gathered}$ | $\begin{aligned} & \hline 163 \\ & (99) \end{aligned}$ | $\begin{aligned} & \hline 51 \\ & \text { (na) } \end{aligned}$ | $\begin{gathered} \hline 112 \\ (102) \\ \hline \end{gathered}$ |  |  |  |  |  |  |  |  |  |  |
| Total PhD Statistics (F) | $\begin{gathered} \hline 79 \\ (51) \end{gathered}$ | $\begin{gathered} \hline 66 \\ (47) \end{gathered}$ | 66 $(42)$ | $\begin{aligned} & \hline 16 \\ & \text { (na) } \end{aligned}$ | $\begin{gathered} \hline 33 \\ (29) \end{gathered}$ |  |  |  |  |  |  |  |  |  |  |

TABLE F. 2 Number of tenured, tenure-eligible, postdoctoral, and other full-time faculty in mathematics departments of four-year colleges and
universities by gender and type of department in fall 2005 and 2000. (Note: Postdoctoral faculty are included in Other full-time totals.)

|  | Univ (PhD) |  |  |  | Univ (MA) |  |  |  | Coll (BA) |  |  |  | Total |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Tenure | Tenureeligible | Other full-time ${ }^{1}$ | Postdocs | Tenured | Tenureeligible | $\begin{gathered} \text { Other } \\ \text { full-time } \end{gathered}$ | Postdocs | Tenured | Tenureeligible | Other full-time ${ }^{1}$ | Postdocs | Tenured | Tenureeligible | Other full-time ${ }^{1}$ | Postdocs ${ }^{1}$ |
| Men, 2005 | 4292 | 713 | 1314 | 616 | 2011 | 682 | 495 | 4 | 4239 | 1737 | 761 | 8 | 10542 | 3132 | 2570 | 628 |
| Women, 2005 | 427 | 220 | 735 | 148 | 532 | 337 | 532 | 2 | 1373 | 693 | 792 | 41 | 2332 | 1250 | 2059 | 191 |
| Total, 2005 | 4719 | 933 | 2049 | 764 | 2544 | 1019 | 1027 | 7 | 5612 | 2429 | 1553 | 48 | 12874 | 4382 | 4629 | 819 |
| Men, 2000 | 4661 | 667 | 982 | na | 2512 | 587 | 405 | na | 3845 | 1079 | 697 | na | 11018 | 2333 | 2084 | na |
| Women, 2000 | 361 | 162 | 467 | na | 608 | 276 | 388 | na | 972 | 517 | 595 | na | 1941 | 955 | 1450 | na |
| Total, 2000 | 5022 | 828 | 1449 | na | 3120 | 863 | 793 | na | 4817 | 1596 | 1292 | na | 12959 | 3287 | 3533 | na |

[^0]TABLE F. 3 Number of tenured, tenure-eligible, other full-time, and postdoctoral faculty in doctoral statistics departments, by gender, in fall 2005 and 2000. (Postdoctoral faculty are included in Other fulltime faculty totals.)

|  | Doctoral Statistics Departments |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  |  | Tenure- <br> eligible | Other <br> full-time | Postdocs $^{1}$ |
| Tenured | 525 | 113 | 97 | 35 |
| Men, 2005 | 79 | 66 | 66 | 16 |
| Women, 2005 | $\mathbf{7 9}$ | $\mathbf{1 7 9}$ | $\mathbf{1 6 3}$ | $\mathbf{5 1}$ |
| Total, 2005 | $\mathbf{6 0 4}$ | $\mathbf{1 7 9}$ | 90 | 57 |
| Men, 2000 | 521 | 47 | 42 | na |
| Women, 2000 | 51 | $\mathbf{5 7 2}$ | $\mathbf{1 3 7}$ | $\mathbf{9 9}$ |
| Total, 2000 |  |  |  | na |

${ }^{1}$ A postdoctoral appointment is a temporary position primarily intended to provide an opportunity to extend graduate training or to further research experience. Throughout CBMS2005, postdoctoral faculty are included in other full-time faculty totals. This contrasts with publications of the Joint Data Committee since 2003, which list postdoctoral faculty as a category separate from other full-time faculty. Before 2003, JDC data did not collect separate counts of postdoctoral faculty.


FIGURE F.3.1 Percentage of women in various faculty categories, by type of department, in fall 2005.

## Age distribution

Table S. 18 and Figure S. 18.1 in Chapter 1 present the age distribution of tenured and tenure-eligible men and women in all four-year mathematics departments in fall 2005, 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 department. Table S. 19 and Figure S.19.1 in Chapter 1 present the same information for doctoral statistics departments. 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 errors.

Table F. 4 can be used to compare the average ages of mathematics faculty in 2000 and 2005 for various categories of full-time faculty and different types of departments. The average age of both tenured men
and tenured women was higher in 2005 than 2000 in each type of mathematics department. The age of tenure-eligible men and women was up noticeably in the bachelors-level departments (in 2000, men averaged 35.8 years and women averaged 36.8 years, while in 2005 , men averaged 40.2 years and women averaged 38.9 years). Table S .19 shows that the average ages of men in doctoral statistics departments were about the same in 2005 as in 2000 , but the average ages of women were lower: in 2000, tenured women averaged 48.3 and tenure-eligible women averaged 38.0, while in 2005, tenured women averaged 45.6 and tenure-eligible women averaged 33.2. Indeed, as Figures S.18.1 and S.19.1 show, the distribution of women was much more skewed toward younger women in doctoral statistics departments than in all four-year mathematics departments combined.

TABLE F. 4 Percentage of tenured and tenure-eligible mathematics department faculty at four-year colleges and universities belonging to various age groups by type of department and gender in fall 2005.

|  | $\begin{gathered} <30 \\ \% \end{gathered}$ | $\begin{gathered} 30-34 \\ \% \end{gathered}$ | $\begin{gathered} 35-39 \\ \% \end{gathered}$ | $\begin{gathered} 40-44 \\ \% \end{gathered}$ | $\begin{gathered} 45-49 \\ \% \end{gathered}$ | $\begin{gathered} 50-54 \\ \% \end{gathered}$ | $\begin{gathered} 55-59 \\ \% \end{gathered}$ | $\begin{gathered} \text { 60-64 } \\ \% \end{gathered}$ | $\begin{gathered} 65-69 \\ \% \end{gathered}$ | $\begin{gathered} >69 \\ \% \end{gathered}$ | Average age 2000 | Average age 2005 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Univ (PhD) |  |  |  |  |  |  |  |  |  |  |  |  |
| Tenured men | 0 | 1 | 4 | 9 | 12 | 13 | 12 | 13 | 8 | 4 | 52.1 | 54.4 |
| Tenured women | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 49.6 | 50.0 |
| Tenure-eligible men | 1 | 5 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 36.6 | 36.3 |
| Tenure-eligible women | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 37.8 | 37.3 |
| Total Univ (PhD) | 1 | 8 | 10 | 13 | 14 | 15 | 14 | 13 | 8 | 4 |  |  |
| Univ (MA) |  |  |  |  |  |  |  |  |  |  |  |  |
| Tenured men | 0 | 0 | 4 | 6 | 11 | 10 | 9 | 10 | 4 | 2 | 53.1 | 53.8 |
| Tenured women | 0 | 0 | 2 | 1 | 3 | 2 | 2 | 1 | 1 | 1 | 49.2 | 52.1 |
| Tenure-eligible men | 2 | 6 | 7 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 37.5 | 38.3 |
| Tenure-eligible women | 1 | 3 | 3 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 38.8 | 38.7 |
| Total Univ (MA) | 3 | 9 | 16 | 12 | 15 | 13 | 12 | 13 | 5 | 3 |  |  |
| Coll (BA) |  |  |  |  |  |  |  |  |  |  |  |  |
| Tenured men | 0 | 1 | 4 | 8 | 7 | 8 | 10 | 10 | 3 | 1 | 52.7 | 52.9 |
| Tenured women | 0 | 1 | 2 | 4 | 2 | 4 | 3 | 2 | 0 | 0 | 47.3 | 49.6 |
| Tenure-eligible men | 1 | 6 | 6 | 3 | 2 | 1 | 1 | 0 | 0 | 0 | 35.8 | 40.2 |
| Tenure-eligible women | 1 | 3 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 36.8 | 38.9 |
| Total Coll (BA) |  | 10 | 13 | 16 | 13 |  | 15 | 12 | 4 | 1 |  |  |

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 2005.


FIGURE F.4.2 Percentage of tenured and tenure-eligible faculty in masters-level mathematics departments belonging to various age groups in fall 2005.


FIGURE F.4.3 Percentage of tenured and tenure-eligible faculty in bachelors-level mathematics departments belonging to various age groups in fall 2005.

## Race, ethnicity, and gender

Table S. 20 gives the percentages of faculty in fall 2005, by gender and in various racial/ethnic groups, for tenured, tenure-eligible, postdoctoral, and other full-time mathematics faculty in all types of mathematics departments combined. The comparison table for fall 2000 is Table SF. 11 in CBMS2000.

Joint Data Committee surveys follow 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."

Generally, there was an increase in diversity in the racial/ethnic composition of mathematical sciences faculty between 2000 and 2005. Percentages of White faculty declined, and percentages of some other racial/ethnic groups increased slightly. Table S. 20 shows that the overall percentages of full-time, Asian male and female mathematics faculty were up in 2005 compared to 2000, as was the percentage of Black female mathematics faculty. Percentages of White fulltime mathematics faculty were all the same or lower in 2005 compared with 2000 except tenure-eligible men, which rose from $9 \%$ to $11 \%$; the percentage of total White, male, full-time mathematics faculty was down from $63 \%$ in 2000 to $59 \%$ in 2005.

Table F. 5 gives the finer breakdown of the racial, ethnic, and gender composition of the mathematics full-time faculty by type of department; it can be compared to Table F. 6 of CBMS2000. For example, Table F. 5 shows that in bachelors- and masterslevel mathematics departments, the percentage of Asian full-time faculty rose between fall 2000 and fall 2005, and that in doctoral-level mathematics departments, the percentage of Asian, male, full-time faculty declined slightly. The percentage of Hispanic full-time mathematics faculty was up in 2005 over 2000, except in masters-level departments where the percentage of men decreased, while the percentage of women was unchanged from fall 2000 levels. The percentages of White, full-time faculty were down in 2005 from 2000 except in the doctoral-level mathematics departments, where the percentage of White, female faculty rose from $13 \%$ to $14 \%$.

Table S. 21 in Chapter 1 gives the analogous breakdown for full-time faculty in doctoral-level statistics departments in 2005; it may be compared to Table F. 7 in CBMS2000. In doctoral-level statistics departments, the percentage of Asian full-time faculty was either down or the same from 2000 to 2005 , with the percentage of all male, Asian, full-time faculty in doctoral-level statistics departments rising from 17\% in 2000 to $18 \%$ in 2005 . The percentage of Black faculty in doctoral statistics departments increased for both male and female faculty, and the same was true for male Hispanic faculty. The percentage of White, female faculty in doctoral-level statistics departments increased from $12 \%$ in 2000 to $16 \%$ in 2005, consistent with the growth in numbers of women in the doctoral-level statistics departments that was noted earlier in the chapter.

Table F. 6 gives the fall 2005 percentages of faculty in various racial/ethnic groups for part-time faculty, broken down by gender, in each type of mathematics department and for doctoral-level statistics departments. The comparison table from CBMS2000 is Table F.8. From fall 2000 to fall 2005, there were decreasing percentages of White part-time faculty, both men and women, in all types of mathematics departments and in doctoral-level statistics departments, except for an increase in the percentage of White, female, part-time faculty in masters-level mathematics departments. The percentage of Black, part-time, female faculty was down in doctoral-level mathematics departments, but otherwise the percentages of Black faculty were up or unchanged from 2000 to 2005. Percentages of Hispanic part-time faculty were generally down in 2005 from 2000, except for increases in these percentages for bachelors-level mathematics part-time female faculty, and for doctoral-level statistics male part-time faculty. The percentage of Asian part-time faculty increased among men and women in doctorallevel and masters-level mathematics departments, increased among men in bachelors-level mathematics departments, and decreased among both men and women in doctoral statistics departments.

For a small percentage of the faculty, race and ethnicity data were listed as "unknown" by 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 2005. 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 \% |
| PhD Mathematics Departments <br> All full-time men <br> All full-time women | $\begin{gathered} 12 \\ 3 \end{gathered}$ | 1 <br> 0 | $2$ | 66 14 | 1 <br> 0 |
| MA Mathematics Departments <br> All full-time men <br> All full-time women | $\begin{aligned} & 10 \\ & 4 \end{aligned}$ | 3 <br> 1 | 2 <br> 2 | $\begin{aligned} & 54 \\ & 22 \end{aligned}$ |  |
| BA Mathematics Departments <br> All full-time men <br> All full-time women | $\begin{aligned} & 6 \\ & 3 \end{aligned}$ |  | $2$ <br> 1 | $\begin{aligned} & 57 \\ & 25 \end{aligned}$ | 2 |
| PhD Statistics Departments <br> All full-time men <br> All full-time women | 18 7 | 1 <br> 1 | 1 <br> 0 | $\begin{aligned} & 55 \\ & 16 \end{aligned}$ |  |

Note: Zero means less than one-half of one percent.
Note: The column "Other/Unknown" includes the federal categories Native American/Alaskan Native and Native Hawaiian/Other Pacific Islander.

TABLE F. 6 Percentages of part-time faculty belonging to various ethnic groups, by gender and type of department, in fall 2005. Except for round-off, the percentages within each departmental type sum to $100 \%$.


Note: Zero means less than one-half of $1 \%$.
Note: The column "Other/Unknown" includes the federal categories Native American/Alaskan Native and Native Hawaiian/Other Pacific Islander.


[^0]:    ${ }^{1}$ 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 CBMS2005. This contrasts with publications of the Joint Data Committee since 2003, which list postdoctoral faculty as a category separate from other-full-time faculty. Before 2003, JDC data did not collect separate counts of postdoctoral faculty.

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

