

TIME TO DEGREE OF U.S. RESEARCH DOCTORATE RECIPIENTS

by Thomas B. Hoffer and Vincent Welch, Jr., NORC¹

This InfoBrief draws on data from the Survey of Earned Doctorates (SED) to document average time-to-degree differences among research doctorate recipients from U.S. universities. As in the past several annual *SED Summary Reports*,² three measures of time to degree are examined here:

- total elapsed time from completion of the baccalaureate to the doctorate (total time to degree)
- time in graduate school less reported periods of nonenrollment (registered time to degree)
- age at doctorate

This InfoBrief looks at the relationship between doctorate field and average time-to-degree differences. Broad field of study differences in time to degree are first examined over a 25-year span, then differences across more detailed fields are described in terms of standard Carnegie classifications of doctorate-granting institutions for the 2002–03 academic year, hereafter referred to as 2003.³ Data are also broken down within

fields of study by the recipients' primary source of financial support while earning their doctorate, and by whether the recipient earned a master's degree in the same field.

Trends in Time to Degree by Broad Field of Study

The 25-year trend for each of the three time-to-degree measures for the whole population of doctorate recipients is shown in figure 1. For the 2003 doctorate recipients, the median total time from baccalaureate to doctorate was 10.1 years, while the median registered time was 7.5 years and the median age at doctorate was 33.3 years. The trend for the total time-to-degree measure shows a slight increase from 1978 to 1996, followed by a slight decline through 2003. A similar pattern, albeit with a peak in 1993 instead of 1996, is apparent for median age at doctorate. In contrast, the registered time to degree increased up to 1998, leveling off at 7.5 years from 1998 to 2003.

The overall trends shown in figure 1 are disaggregated by broad field of doctoral study in tables 1 and 2.⁴ In 2003, the science and engineering fields (physical sciences, engineering, life sciences, and social sciences) had lower medians than the non-S&E broad fields (health, humanities, education, and professional/other fields) on all three time-to-degree measures. The total time to degree was shortest in the physical sciences (7.9 years) and longest in education (18.2 years), and the

¹ Thomas B. Hoffer is a principal research scientist at the National Opinion Research Center (NORC) at the University of Chicago. Vincent Welch, Jr., is a survey methodologist at NORC.

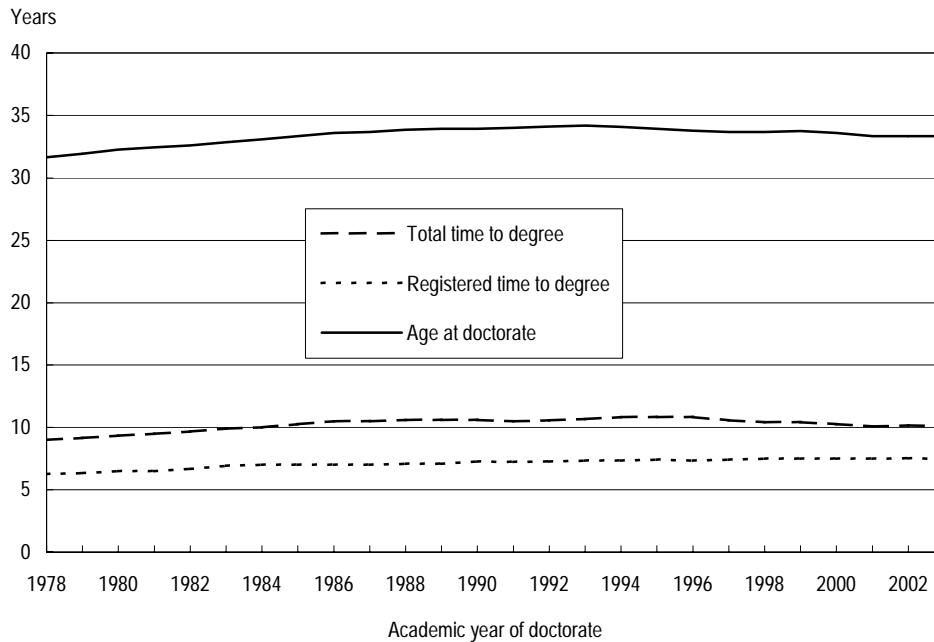
² The most recent reports are available at <http://www.norc.uchicago.edu/issues/docdata.htm>; bound copies are available from the authors.

³ The measure of "registered time to degree" was changed to a measure of entrance into graduate study in the SED 2004 survey form. Therefore, this InfoBrief on time to degree was designed to be a 25-year overview of time to degree and registered time, ending in 2003. Note that total time to doctorate from the bachelor's degree award is still measured in the 2004 SED, and in 2004, this measure showed no change from 2003. See the Data Notes for further information on the response rates for the variables on time to degree and age used in this InfoBrief.

⁴ While the data presented here are aggregated into 8 broad and 18 midrange fields of study, the SED collects and routinely reports on about 280 detailed fields of doctoral study. Slight year-to-year variations in the number of detailed fields occur as emerging fields are added and obsolete specializations are dropped.



FIGURE 1. Median total time to degree, registered time to degree, and age at doctorate: Academic year 1978–2003



SOURCE: National Science Foundation, National Institutes of Health, U.S. Department of Education, U.S. Department of Agriculture, National Endowment for the Humanities, and National Aeronautics and Space Administration, Survey of Earned Doctorates, 2003.

median ages at doctorate correlated closely with the total time-to-degree measure. Doctorate recipients in the S&E fields typically earn their degrees while in their early 30s; the median for all 2003 doctorate recipients in the S&E fields was 31.8 years old. In comparison, age at doctorate was 34.6 years in the humanities, 37.2 years in health, 43.5 years in education, and 37.5 years in the professional/other fields category. The broad fields of health sciences, education, and professional/other fields include large numbers of individuals who have worked full time before starting their graduate degree programs, and many continue to work full time while earning their doctorates. This consideration notwithstanding, the registered time-to-degree levels were lower for the health, education, and professional/other doctorate recipients than for humanities graduates though the latter showed lower median total times to degree and earned their doctorates at a younger median age.

The 25-year trends for the broad fields of study generally parallel the overall trends shown in figure 1.

Total time to degree reached its highest levels during the early or mid-1990s in all broad S&E fields and education; in contrast, the health fields peaked in the 1996–98 period, and the professional/other fields had the longest durations (14.0 years) in 1999–2001. Total time to degree in the humanities reached its highest levels in the late 1980s. Registered time to degree increased steadily from 1978 until the mid- or late 1990s and then remained fairly stable during the 2000–03 period in all broad fields except the social sciences (where the 25-year peak occurred in the early 1990s) and professional/other fields (where the peak was 2003). The general trend in age at doctorate, like that for total time to degree, declined in all broad fields from the early to late 1990s to the 2003 academic year. (See tables 1 and 2.)

Time-to-Degree Differences between Fields of Study and Types of Doctoral Institutions

Table 3 shows time-to-degree differences for 2003 by more detailed science fields of study. Chemistry has the lowest times to degree on all three measures. For the registered time-to-degree variable, mathematics (6.8

TABLE 1. Median total time to degree, registered time to degree, and age at doctorate, by academic year and broad field of science and engineering: Academic years 1978–2003

Year	All fields			Physical sciences ^a			Engineering			Life sciences ^b			Social sciences		
	TTD	RTD	Age	TTD	RTD	Age	TTD	RTD	Age	TTD	RTD	Age	TTD	RTD	Age
1978	9.0	6.3	31.7	7.0	5.9	29.3	7.6	5.8	30.2	7.3	5.9	29.9	8.2	6.2	30.8
1979	9.2	6.3	31.9	6.9	5.9	29.1	7.6	5.7	30.3	7.3	5.9	29.8	8.5	6.4	31.4
1980	9.3	6.5	32.2	7.0	5.9	29.2	7.7	5.7	30.3	7.2	6.0	29.8	8.7	6.6	31.5
1981	9.5	6.5	32.4	6.9	6.0	29.0	8.0	5.8	30.6	7.2	6.0	29.8	9.0	6.7	31.9
1982	9.7	6.7	32.6	7.0	6.0	29.3	8.0	5.9	30.8	7.5	6.0	30.1	9.2	6.9	32.2
1983	9.9	6.9	32.8	7.2	6.1	29.5	8.1	5.9	30.8	7.7	6.2	30.3	9.5	7.0	32.5
1984	10.0	7.0	33.1	7.3	6.1	29.7	8.0	5.9	30.7	8.0	6.4	30.7	9.8	7.2	32.8
1985	10.3	7.0	33.3	7.3	6.2	29.8	8.2	6.0	31.0	8.2	6.4	31.0	10.0	7.3	33.2
1986	10.5	7.0	33.6	7.3	6.1	30.1	8.2	6.0	31.0	8.3	6.4	31.2	10.1	7.3	33.4
1987	10.5	7.0	33.7	7.5	6.2	30.1	8.2	6.0	31.1	8.5	6.6	31.3	10.5	7.4	33.6
1988	10.6	7.1	33.8	7.6	6.3	30.3	8.2	6.0	31.1	8.6	6.6	31.5	10.6	7.6	34.2
1989	10.6	7.1	33.9	7.5	6.3	30.3	8.3	6.1	31.2	8.7	6.6	31.7	10.5	7.6	34.0
1990	10.6	7.3	33.9	7.8	6.5	30.6	8.3	6.3	31.3	8.7	6.9	31.9	10.6	7.9	34.2
1991	10.5	7.2	34.0	8.0	6.5	30.6	8.6	6.3	31.5	8.7	6.8	31.9	10.7	7.7	34.3
1992	10.6	7.3	34.1	8.2	6.7	30.7	8.9	6.4	31.6	9.0	6.9	32.1	10.7	7.7	34.4
1993	10.7	7.3	34.2	8.4	6.7	30.9	9.0	6.5	31.6	9.0	7.0	31.9	10.6	7.7	34.3
1994	10.8	7.3	34.1	8.5	6.8	31.0	9.0	6.5	31.7	9.0	6.9	31.9	10.4	7.6	34.1
1995	10.8	7.4	33.9	8.4	6.9	31.0	9.2	6.5	31.7	9.0	6.9	31.9	10.5	7.6	34.1
1996	10.8	7.3	33.8	8.3	6.8	31.1	9.0	6.5	31.7	9.0	7.0	31.9	10.3	7.5	33.7
1997	10.6	7.4	33.7	8.2	6.9	30.9	8.8	6.6	31.4	8.8	7.0	31.7	10.0	7.5	33.5
1998	10.4	7.5	33.7	8.0	6.7	30.7	8.8	6.7	31.6	8.6	7.0	31.7	9.9	7.6	33.2
1999	10.4	7.5	33.7	8.0	6.8	30.7	8.7	6.7	31.4	8.5	6.9	31.5	9.9	7.6	33.2
2000	10.3	7.5	33.6	7.9	6.8	30.7	8.7	6.8	31.4	8.5	7.0	31.4	9.8	7.6	33.0
2001	10.1	7.5	33.3	7.8	6.7	30.6	8.4	6.7	31.2	8.5	7.0	31.3	9.7	7.6	33.0
2002	10.2	7.5	33.3	7.8	6.8	30.5	8.6	6.7	31.4	8.3	7.0	31.2	10.0	7.8	33.0
2003	10.1	7.5	33.3	7.9	6.8	30.6	8.6	6.9	31.4	8.3	6.9	31.2	10.0	7.8	33.1

^a Includes mathematics and computer science.

^b Includes biological and agricultural sciences.

RTD = registered time to degree.

TTD = total time to degree.

NOTE: Age is age at receipt of doctorate.

SOURCE: NSF/NIH/USED/USDA/NEH/NASA, Survey of Earned Doctorates, 2003.

years), engineering (6.9 years), and biological sciences (6.9 years), and physics and astronomy (7.0 years) were the next closest fields to chemistry (6.0 years). The longest registered time-to-degree total was found for anthropology (9.6 years).

One of the most widely used frameworks for classifying postsecondary education institutions is the Carnegie classification system. Using this system, over 82 percent of the 40,710 doctorate recipients in 2003 earned their degrees at doctoral/research–extensive

universities, while another 12 percent earned their doctorates at doctoral/research–intensive universities.⁵

⁵ These institutional classifications are defined in the 2000 Carnegie system as follows (see <http://www.carnegiefoundation.org/Classification/> for the full taxonomy):

- **Doctoral/Research Universities–Extensive:** awarded 50 or more doctoral degrees per year across at least 15 disciplines.
- **Doctoral/Research Universities–Intensive:** awarded at least 10 doctoral degrees per year across three or more disciplines, or at least 20 doctoral degrees per year overall.

TABLE 2. Median total time to degree, registered time to degree, and age at doctorate, by academic year and broad non-science and engineering fields: Academic years 1978–2003

Year	All fields			Humanities			Education			Health			Professional/other		
	TTD	RTD	Age	TTD	RTD	Age	TTD	RTD	Age	TTD	RTD	Age	TTD	RTD	Age
1978	9.0	6.3	31.7	10.2	7.5	32.8	12.9	6.8	36.5	8.8	6.1	31.9	10.9	6.3	34.2
1979	9.2	6.3	31.9	10.3	7.7	33.0	12.9	6.9	36.5	9.0	6.2	32.2	10.9	6.5	34.3
1980	9.3	6.5	32.2	10.7	7.9	33.3	13.2	7.2	37.0	9.6	6.2	32.8	11.1	6.6	34.5
1981	9.5	6.5	32.4	11.0	8.0	33.6	13.5	7.2	37.3	10.0	6.4	32.9	11.1	6.7	34.4
1982	9.7	6.7	32.6	11.3	8.3	34.0	13.7	7.4	37.4	10.3	6.5	33.6	11.7	7.0	35.0
1983	9.9	6.9	32.8	11.2	8.2	34.0	14.2	7.6	37.8	11.0	6.7	33.9	12.1	7.0	35.4
1984	10.0	7.0	33.1	11.6	8.5	34.6	14.8	7.9	38.4	11.1	6.8	34.1	12.3	7.3	35.7
1985	10.3	7.0	33.3	11.9	8.5	34.8	15.2	7.9	38.7	11.9	6.9	35.2	13.0	7.5	36.2
1986	10.5	7.0	33.6	12.2	8.5	35.0	15.9	8.0	39.4	12.0	7.1	35.7	13.0	7.5	36.1
1987	10.5	7.0	33.7	12.1	8.6	35.1	16.2	8.2	39.9	12.2	7.1	35.7	12.7	7.5	35.7
1988	10.6	7.1	33.8	12.3	8.7	35.3	17.0	8.3	40.6	12.9	7.3	36.2	13.0	7.5	36.3
1989	10.6	7.1	33.9	12.6	8.7	35.8	17.3	8.5	41.2	13.5	7.3	36.7	13.3	7.8	36.7
1990	10.6	7.3	33.9	12.2	8.6	35.7	18.0	8.8	41.7	13.3	7.9	36.6	13.3	8.0	36.7
1991	10.5	7.2	34.0	12.3	8.7	35.8	18.5	8.4	42.2	14.0	7.4	37.6	13.6	7.8	36.8
1992	10.6	7.3	34.1	12.0	8.5	35.7	19.0	8.5	42.7	14.1	7.6	37.7	13.6	7.8	37.0
1993	10.7	7.3	34.2	12.0	8.5	35.7	19.3	8.5	43.1	14.0	7.9	38.3	13.3	7.8	37.5
1994	10.8	7.3	34.1	12.0	8.6	35.8	19.7	8.5	43.6	14.0	7.7	37.8	13.5	7.7	37.3
1995	10.8	7.4	33.9	12.0	8.6	35.4	19.9	8.5	43.8	14.0	7.7	38.0	13.5	7.9	37.7
1996	10.8	7.3	33.8	11.8	8.5	35.2	20.3	8.6	44.3	14.5	8.0	38.5	13.8	7.7	37.9
1997	10.6	7.4	33.7	11.7	8.7	35.3	20.0	8.6	44.1	14.7	8.0	38.6	13.7	8.0	37.3
1998	10.4	7.5	33.7	11.6	8.8	35.1	20.0	8.7	44.3	14.8	8.1	38.5	13.8	8.0	37.5
1999	10.4	7.5	33.7	11.7	9.0	35.1	19.8	8.5	44.3	13.9	8.0	37.2	14.0	8.1	37.5
2000	10.3	7.5	33.6	11.4	8.9	34.8	19.4	8.3	44.4	14.3	8.0	38.2	14.0	8.1	37.8
2001	10.1	7.5	33.3	11.5	9.0	35.0	19.0	8.3	43.9	13.3	7.7	37.2	14.0	8.2	37.9
2002	10.2	7.5	33.3	11.5	9.0	34.7	19.1	8.5	44.2	14.1	8.0	38.0	13.4	8.0	37.2
2003	10.1	7.5	33.3	11.3	9.0	34.6	18.2	8.3	43.5	13.0	8.0	37.2	13.8	8.3	37.5

RTD = registered time to degree.

TTD = total time to degree.

NOTE: Age is age at receipt of doctorate.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates, 2003.

The time-to-degree measures were generally lower in the doctoral–extensive universities than in the doctoral–intensive and other institutions (table 3). Doctoral–extensive university graduates had lower median total time-to-degree than their counterparts at doctoral–intensive universities in all broad fields except the life sciences, where both averaged 8.3 years; and in all detailed fields except agricultural sciences, where both averaged 10.3 years. Age at doctorate is correspondingly lower for doctoral–extensive graduates than doctoral-intensive graduates, with the sole exception of the life sciences, where the median age was 31.2 years in both institutional classes. This equality in life sciences is probably due to the different proportions of doctorate

recipients in the agricultural and biological sciences in the two institutional classes, since age at doctorate was lower in the doctoral–extensive institutions in both agricultural and biological sciences. Registered time to degree compared more closely in these two Carnegie classes, with shorter durations realized by doctoral–intensive graduates in the biological sciences, economics, and sociology, as well as the broad field of education.

Time-to-Degree Differences and Sources of Support

Almost two-thirds of 2003 doctorate recipients received their primary support for doctoral study from program- or institution-based sources, such as teaching assistant-

TABLE 3. Median total time to degree, registered time to degree, and age at doctorate, by Carnegie classification of doctorate-granting institution and field of study: Academic year 2003

Field of study	All doctorate recipients				Doctoral/research-extensive				Doctoral/research-intensive				Other institutions			
	N	TTD	RTD	Age	N	TTD	RTD	Age	N	TTD	RTD	Age	N	TTD	RTD	Age
All fields	38,321	10.1	7.5	33.3	31,605	9.9	7.5	32.8	4,701	13.7	7.7	38.8	2,015	11.7	7.8	35.6
Life sciences	6,269	8.2	6.9	31.1	5,215	8.3	7.0	31.2	476	8.3	6.9	31.2	578	8.0	6.8	30.8
Agricultural sciences	860	10.3	7.2	33.5	803	10.3	7.2	33.4	53	10.3	7.6	34.8	*	*	*	*
Biological sciences	5,409	8.0	6.9	30.8	4,412	8.0	6.9	30.8	423	8.2	6.7	31.1	574	8.0	6.8	30.8
Physical sciences ^a	5,646	7.9	6.8	30.6	5,051	7.7	6.7	30.3	510	10.0	7.7	33.6	85	9.2	6.9	33.3
Chemistry	1,933	6.9	6.0	29.6	1,752	6.8	6.0	29.5	158	8.3	6.6	31.2	23	6.3	6.0	29.1
Computer science	803	9.6	7.8	32.5	672	9.0	7.7	31.9	117	14.4	9.2	37.5	14	20.3	8.2	42.4
Earth, atmospheric, and ocean sciences	738	9.8	7.5	32.7	630	9.4	7.3	32.3	84	12.3	8.1	34.9	24	12.2	7.4	35.3
Mathematics	947	7.9	6.8	30.3	884	7.7	6.8	30.3	54	9.3	7.0	33.5	9	11.3	8.2	34.1
Physics and astronomy	1,196	7.6	7.0	30.3	1,093	7.6	7.0	30.1	92	8.9	7.4	32.7	11	8.4	6.5	31.3
Social sciences	6,475	10.0	7.8	33.1	5,350	10.0	7.8	32.9	687	10.4	7.6	34.1	438	11.3	8.1	35.6
Anthropology	446	11.9	9.6	36.0	432	11.7	9.5	35.7	10	16.3	12.0	39.6	*	*	*	*
Economics	1,001	9.2	7.2	31.8	966	9.2	7.2	31.7	31	10.1	6.6	33.6	*	*	*	*
Political science and international relations	723	10.9	8.7	33.6	691	10.9	8.6	33.5	28	11.1	9.6	35.2	*	*	*	*
Psychology	3,056	9.1	7.3	32.2	2,157	8.7	7.2	31.7	513	9.7	7.3	33.4	386	10.9	8.0	35.3
Sociology	556	11.2	8.7	34.7	522	11.2	8.7	34.7	33	12.8	8.5	35.8	*	*	*	*
Other social sciences	693	12.0	8.4	35.6	582	11.9	8.4	35.2	72	13.4	9.0	37.2	39	14.3	8.0	37.4
Engineering	5,002	8.6	6.9	31.4	4,477	8.4	6.9	31.2	421	10.5	7.2	33.8	104	9.4	6.9	32.7
Education	6,182	18.2	8.3	43.5	4,010	16.9	8.5	41.6	1,862	21.0	8.0	46.6	310	20.9	8.0	47.1
Health	1,518	13.0	8.0	37.2	1,194	12.4	7.9	36.0	192	15.6	8.0	42.0	132	17.1	8.6	45.2
Humanities	5,124	11.3	9.0	34.6	4,680	11.0	9.0	34.3	258	12.7	9.0	37.5	186	17.0	10.4	42.0
Professional/other	2,105	13.8	8.3	37.5	1,628	12.6	8.0	36.0	295	18.9	8.9	44.8	182	19.8	10.0	44.2

*Suppressed because cell size < 5.

^a Includes mathematics and computer science.

RTD = registered time to degree.

TTD = total time to degree.

NOTES: N is based on number of doctorate recipients who provided data for all three variables. Age is age at receipt of doctorate.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates, 2003.

ships, research assistantships/traineeships, and fellowships/dissertation grants (66 percent).⁶ Less than one-third (28 percent) reported that their primary source for financing their doctoral studies was their own resources

(including funds from savings, loans, spouse and family, and nonacademic employment). Foreign governments, employer contributions, and "other" sources accounted for the remaining 6 percent of the cases.

⁶ The SED asks respondents to complete a checklist of 13 different potential sources of support, such as fellowships and scholarships, dissertation grants, teaching and research assistantships, and various personal arrangements. A second question asks respondents which of the checked sources was the primary source of support and which was the second most important. Primary source of support for doctoral education is categorized here into the broad groupings of (1) teaching or research assistantships/traineeships, (2) fellowships/dissertation grants, (3) own resources, and (4) other sources. For the exact formats and wording, see the copy of the questionnaire in appendix D of the *Summary Report 2003* at <http://www.norc.uchicago.edu/issues/docdata.htm>.

As shown in table 4, the median total time to degree and median age at doctorate in all fields were lower for those with some form of institutional support (assistantship, fellowship, or grant) than for those who primarily used their own or some other resources. Registered time to degree was also generally lower for those whose primary support was institutional. Further research is needed to determine the reasons for the lower median times to degree among those who primarily relied on institutional support. Such support may reduce pressures

TABLE 4. Median total time to degree, registered time to degree, and age at doctorate, by primary source of graduate school support: Academic year 2003

Field of study	Research assistantship				Teaching assistantship				Fellowship/dissertation grants				Own resources or other sources of support			
	N	TTD	RTD	Age	N	TTD	RTD	Age	N	TTD	RTD	Age	N	TTD	RTD	Age
All fields	9,475	8.3	6.9	31.1	6,073	9.6	7.6	32.6	7,729	8.9	7.1	31.6	11,877	15.0	8.8	39.3
Life sciences	2,410	8.2	6.8	30.9	625	9.0	7.5	32.2	2,120	7.6	6.6	30.3	758	10.7	7.7	34.3
Agricultural sciences	420	9.3	7.0	32.6	53	12.4	7.1	35.1	130	10.0	7.0	33.1	203	12.6	7.7	36.5
Biological sciences	1,990	8.0	6.7	30.6	572	8.9	7.5	31.9	1,990	7.6	6.6	30.2	555	10.0	7.8	33.7
Physical sciences ^a	2,422	7.5	6.7	30.1	1,276	7.8	6.9	30.5	931	7.2	6.3	29.8	640	12.0	8.3	35.6
Chemistry	964	6.8	6.0	29.4	437	7.3	6.4	30.2	293	6.2	5.9	29.0	111	8.3	6.5	31.8
Computer science	360	8.4	7.4	31.2	77	9.4	7.7	31.7	101	8.3	7.0	31.2	189	15.1	9.2	38.7
Earth, atmospheric, and ocean sciences	303	9.5	7.4	32.1	88	9.3	7.4	32.3	183	8.8	7.0	31.5	126	15.5	8.6	38.5
Mathematics	128	7.5	7.0	30.1	489	7.7	6.9	30.2	153	6.9	6.0	29.2	127	10.1	7.5	32.9
Physics and astronomy	658	7.5	7.0	30.0	184	7.9	7.1	30.7	194	7.0	6.5	29.3	81	10.6	8.2	34.7
Social sciences	996	9.0	7.3	31.7	1,260	9.3	7.5	32.3	1,350	9.3	7.4	32.2	2,265	11.6	8.6	35.6
Anthropology	21	12.8	10.0	34.8	75	11.1	9.2	34.3	169	11.3	9.0	35.1	157	13.3	10.5	38.9
Economics	182	8.8	7.2	31.3	282	9.2	7.5	32.0	267	7.9	6.6	30.7	207	10.5	7.4	33.7
Political science and international relations	58	10.2	8.4	32.8	164	10.0	8.0	32.8	227	10.0	8.0	32.7	222	12.9	9.6	36.0
Psychology	532	8.2	7.0	30.7	489	8.2	7.0	31.1	400	8.0	6.6	30.6	1,257	10.5	8.0	33.8
Sociology	81	10.6	7.8	33.3	132	10.0	8.4	33.0	131	10.4	8.0	33.0	170	13.7	10.0	37.7
Other social sciences	122	10.8	8.0	33.4	118	11.0	8.0	34.2	156	11.8	8.2	34.1	252	15.7	9.0	40.4
Engineering	2,652	8.1	6.8	30.8	372	9.2	7.1	32.1	757	7.5	6.3	30.2	825	12.4	7.9	35.9
Education	404	12.0	7.3	35.2	467	13.7	7.6	37.7	513	14.3	7.9	38.7	4,027	20.0	8.7	45.5
Health	281	10.4	7.2	33.3	118	10.9	7.3	33.7	313	12.0	7.5	35.3	698	17.1	8.5	42.2
Humanities	85	11.0	8.5	34.2	1,570	10.6	8.6	33.6	1,375	10.3	8.5	33.2	1,765	13.6	10.0	37.7
Professional/other	225	10.6	7.5	34.6	385	11.2	7.5	33.9	370	12.0	8.0	35.1	899	17.7	9.1	42.1

^a Includes computer science and mathematics.

RTD = registered time to degree.

TTD = total time to degree.

NOTES: *N* is based on number of doctorate recipients who provided data for all three variables. Age is age at receipt of doctorate.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates, 2003.

to earn money while enrolled and provide more time for studies, or it may be tied to other differences between students and their graduate programs. For example, students may opt to attend graduate school part time while continuing work in a career-track job because they prefer that arrangement to attending full time and receiving institutional support.

Among the three main types of institutional support, the time-to-degree measures were generally highest for those whose primary source of support was a teaching assistantship. Teaching assistantships were associated with longer total time to degree mainly in the physical sciences, engineering, and the biological sciences.

Time-to-Degree Differences and Intermediate Master's Degrees

Whether an individual earned a master's degree is another factor that may influence time to degree. This is because a master's typically requires a thesis, which—while it may be a useful preliminary to preparing a doctoral dissertation—takes additional time beyond coursework. The SED has collected data on the first master's degree earned by doctorate recipients for the past several years, and this information can be used to compare time to doctorate for those who did and did not earn a master's. In making this comparison, it is important to distinguish between individuals who earned a master's in the same field of

study as the doctorate and those who earned a master's in a field outside of their doctoral concentration. The time to degree for those in the latter category is likely to be longer. For this analysis, master's degrees earned in the same field of study as the doctorate are considered to be "doctorate-related degrees," while a master's earned in a different field than the doctorate is termed "non-doctorate-related degrees."

The results in table 5 indicate that individuals who did not report earning any master's degree (about 25 percent of the population) generally had lower median regis-

tered time to degrees than those who did earn a master's degree. Not surprisingly, among master's degree holders, registered time to degree was higher for those whose master's was in a field of study unrelated to their doctoral field.

Data Notes

The Survey of Earned Doctorates is an annual census of all new research doctorate recipients that began in 1957. The survey is sponsored by six federal agencies: the National Science Foundation, the National Institutes of Health, the U.S. Department of Education, the U.S.

TABLE 5. Median total time to degree, registered time to degree, and age at doctorate, by master's degree status and field of study: Academic year 2003

Field of study	No master's degree earned				Doctorate-related master's degree earned ^a				Non-doctorate-related masters degree earned ^a			
	<i>N</i>	TTD	RTD	Age	<i>N</i>	TTD	RTD	Age	<i>N</i>	TTD	RTD	Age
All fields	9,734	7.4	6.2	30.7	22,655	10.6	7.8	33.7	5,932	14.6	8.9	38.1
Life sciences	3,444	7.1	6.1	29.9	2,327	9.9	7.7	32.6	498	10.5	8.1	33.2
Agricultural sciences	104	8.5	5.5	32.4	668	10.3	7.2	33.4	88	14.2	9.0	36.3
Biological sciences	3,340	7.1	6.2	29.8	1,659	9.7	7.9	32.3	410	10.3	8.0	33.0
Physical sciences ^b	2,157	6.4	5.8	29.3	2,877	8.5	7.3	31.2	612	11.4	8.2	33.8
Chemistry	1,150	6.0	5.6	28.8	681	8.5	7.3	30.8	102	9.5	7.8	32.4
Computer science	144	8.1	6.9	31.7	473	9.2	7.7	32.1	186	12.9	8.5	35.4
Earth, atmospheric, and ocean sciences	188	7.1	6.0	30.0	399	10.1	7.7	33.0	151	12.4	8.6	35.5
Mathematics	252	6.4	5.9	29.4	613	8.0	7.0	30.6	82	11.4	8.2	33.5
Physics and astronomy	414	6.9	6.4	29.5	711	7.9	7.1	30.5	71	9.9	8.0	32.2
Social sciences	1,313	8.7	6.9	32.3	3,857	9.4	7.6	32.4	1,305	13.7	9.3	37.0
Anthropology	76	10.9	8.8	34.4	253	11.3	9.3	35.2	117	15.8	10.5	39.2
Economics	238	7.7	6.0	30.7	570	9.2	7.2	31.9	193	11.0	7.9	33.4
Political science and international relations	139	10.2	8.0	33.2	438	10.4	8.4	33.2	146	12.8	9.5	36.0
Psychology	709	8.3	6.5	32.0	1,960	8.7	7.2	31.6	387	16.2	9.5	39.3
Sociology	70	10.5	8.4	34.4	328	10.1	8.5	33.3	158	14.0	9.9	37.6
Other social sciences	81	11.1	8.4	34.5	308	11.1	8.0	34.6	304	14.0	8.8	37.5
Engineering	791	6.4	5.5	29.3	3,742	8.8	7.0	31.7	469	10.4	7.8	33.2
Education	705	14.8	7.0	43.8	3,577	18.0	8.0	43.0	1,900	18.9	8.9	44.0
Health	252	8.1	6.0	33.4	1,007	14.0	8.0	38.7	259	14.4	8.6	37.9
Humanities	766	10.0	8.2	33.4	3,886	11.1	9.0	34.3	472	16.8	11.0	40.3
Professional/ Other	306	10.9	6.6	35.6	1,382	14.0	8.3	37.6	417	14.5	8.9	38.3

^a Masters degree is considered to be related to the doctorate if it was in the same field of study as the doctorate.

^b Includes mathematics and computer science.

RTD = registered time to degree.

TTD = total time to degree.

NOTES: *N* is based on number of doctorate recipients who provided data for all three variables. Age is age at receipt of doctorate.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates, 2003.

Department of Agriculture, the National Endowment for the Humanities, and the National Aeronautics and Space Administration.

Each year, the SED collects detailed information on the postsecondary education histories of all new research doctorate recipients from U.S. universities, including when they started and completed their baccalaureate, master's, and doctoral programs. The SED is restricted to research doctorate recipients, almost all of whom earned a PhD (93 percent in 2003) or EdD (5 percent in 2003). Excluded from the survey are professional doctorate recipients such as those earning the MD, JD, PsyD, and DDS. The SED seeks to collect data from all new research doctorate recipients each year, and survey response rates have exceeded 90 percent in every annual cycle since the survey began.

There was some variation in the item response rates for the three variables that served as the focus of this InfoBrief. For the total time to degree (bachelor's to doctoral degree), the response rate was between 88

and 98 percent over the 25-year trend period; for age, the response rate was between 92 and 98 percent. The measure of registered time to degree was calculated from survey data and this variable was available for between 84 and 89 percent of the doctorate recipients over the 25-year period.

Further information about related reports from the Survey of Earned Doctorates is available from the NSF website at www.nsf.gov/statistics/doctorates. For more information about this InfoBrief, the Survey of Earned Doctorates, or related reports, contact

Susan T. Hill
Human Resources Statistics Program
Division of Science Resources Statistics
National Science Foundation
4201 Wilson Boulevard, Suite 965
Arlington, VA 22230
703-292-7790
sthill@nsf.gov

NSF 06-312

**PRESORTED STANDARD
U.S. POSTAGE PAID
National Science Foundation**

NATIONAL SCIENCE FOUNDATION
ARLINGTON, VA 22230
OFFICIAL BUSINESS

RETURN THIS COVER SHEET TO ROOM P35 IF YOU DO
NOT WISH TO RECEIVE THIS MATERIAL , OR IF
CHANGE OF ADDRESS IS NEEDED , INDICATE
CHANGE INCLUDING ZIP CODE ON THE LABEL (DO
NOT REMOVE LABEL).