

---

# Graduate Study in Psychology

---

1971 to 2004

---

John C. Norcross  
Jessica L. Kohout and Marlene Wicherski

University of Scranton  
American Psychological Association

*This article traces the evolution of graduate study in psychology in the United States and Canada during the past 3 decades. The authors summarize the 2003–2004 characteristics of graduate programs and departments in psychology and compare these data to those obtained in 1970–1971, 1979–1980, and 1992–1993. The most recent data were obtained from the 2005 edition of Graduate Study in Psychology and were based on 495 institutions, 601 departments, and 1,970 graduate programs. Information is presented for both entire departments (e.g., faculty characteristics, student profiles, admission criteria, Graduate Record Examination and grade point averages, tuition costs, financial assistance) and individual graduate programs (e.g., areas of study, number of applicants, acceptance rates, enrollment statistics, retention rates). Particular attention is devoted to the emergence of PsyD programs in professional psychology, the ascendancy of neuroscience programs in academic psychology, and the steady rise in acceptance rates across programs over the past 33 years.*

**Keywords:** graduate study, admissions, acceptance rates, graduate school, higher education

**G**raduate education in psychology is a large and vital enterprise. More than 40,000 full-time students are enrolled in approximately 2,000 psychology graduate programs at any given time. Psychology has become one of the top PhD-granting fields in science (National Opinion Research Center, 2003). Clinical and counseling psychology, the largest subfields in the discipline, are slated for continued growth (U.S. Department of Labor, Bureau of Labor Statistics, 2004), particularly in PsyD programs.

Since 1967, the American Psychological Association's (APA) *Graduate Study in Psychology* has been the premier resource for prospective graduate students and faculty advisors alike. Originally published every two years but now appearing annually, *Graduate Study in Psychology* presents comprehensive information on graduate programs in the United States and Canada that are publicly designated as psychological in relevant institutional brochures and catalogs. Listed American institutions must have earned full accreditation by one of the six regional accrediting bodies recognized by the U.S. Secretary of Education, and all departments must meet a series of criteria to establish that they are, in fact, psychological in nature. Depart-

ment representatives supply descriptive statistics and narrative comments on multiple topics, including department information, accreditation status, programs and degrees offered, student data, application and admission statistics, faculty characteristics, financial and tuition information, and application deadlines. All information is provided voluntarily by department self-report: "The American Psychological Association is not responsible for the accuracy of the information reported" (APA, 2004, p. v).

No other single publication provides as much information on as many graduate programs and departments in psychology (Norcross, Hanych, & Terranova, 1996). Several published resources furnish detailed information on doctoral programs in select subfields, such as clinical and counseling psychology (Sayette, Mayne, & Norcross, 2004), industrial–organizational psychology (Society for Industrial and Organizational Psychology, 2000), and sports psychology (Sachs, Burke, & Schrader, 2001); however, none approaches *Graduate Study in Psychology* in scope of programs or comprehensiveness of information. The biannual APA Survey of Graduate Departments of Psychology (e.g., Fennell & Kohout, 2002) and the annual APA Faculty Salary Survey (e.g., Wicherski, Washington, & Kohout, 2004) detail faculty characteristics and salaries but have different intended uses and lack the high response rate of *Graduate Study in Psychology*.

Periodic statistical analyses of *Graduate Study in Psychology* data have explicated the status of graduate education and chronicled changes in the discipline. In the first

---

John C. Norcross, Department of Psychology, University of Scranton; Jessica L. Kohout and Marlene Wicherski, Research Office, American Psychological Association.

The authors' observations and opinions do not necessarily represent those of the American Psychological Association.

Interested readers are referred to the homepage of the APA Research Office (<http://research.apa.org/>) for complete statistical analyses of the 2003–2004 *Graduate Study in Psychology* data. The analyses reported there provide additional statistics by type of degree and type of program.

We gratefully acknowledge the contributions of the APA Education Directorate to this project. In particular, we thank Joan Freund for coordinating the online update and collection of information for the *Graduate Study in Psychology* and Paul Nelson for oversight and support of the project. The annual collection of information is a cooperative initiative between staff in various APA offices, including the Education Directorate, Publications and Databases, Internet Services, and the Research Office.

Correspondence concerning this article should be addressed to John C. Norcross, Department of Psychology, University of Scranton, Scranton, PA 18510-4596. E-mail: [norcross@scranton.edu](mailto:norcross@scranton.edu)



**John C.  
Norcross**

comprehensive statistical analysis, Stoup and Benjamin (1982) used four waves of data and found a general decline in scores on the Graduate Record Examination (GRE) between 1976 and 1979, but students entering APA-accredited clinical psychology programs had higher GRE scores than students attending nonaccredited clinical programs. They reported a general decrease in the number of applications to doctoral programs between 1973 and 1979. Couch and Benedict (1983) subsequently presented trends gleaned from the 1980–1981 edition of *Graduate Study in Psychology* on admission variables. They reported a drop in GRE scores for doctoral and master's programs, but students admitted to master's programs were obtaining higher grade point averages (GPAs) than in previous years. Norcross and colleagues (1996) summarized the 1992–1993 characteristics of graduate programs in psychology. They found an enormous increase in the number of graduate programs, from 982 in 1979 to 2,023 in 1992, as well as a related decrease in the mean number of applications to all types of graduate programs (except industrial–organizational programs).

Since that 1996 article, members of the APA Research Office have posted analyses of the data from *Graduate Study in Psychology* on the home page (e.g., Murray & Williams, 1999; Pate, 2001); however, to our knowledge, articles based on these analyses have not been published in journals, nor have articles tracked the changes and constancies in psychology's graduate programs. The collective need for current data and historical perspective on graduate study has intensified in direct proportion to the growing number and expanding diversity of graduate programs in psychology. The proliferation of PsyD programs (e.g., Norcross, Castle, Sayette, & Mayne, 2004) and neuro-

science programs (e.g., Stricker, 2004), in particular, requires systematic appraisal.

This article summarizes the 2003–2004 characteristics of graduate programs and departments in psychology and systematically compares these data with those obtained in 1970–1971, 1979–1980, and 1992–1993. Using the 2005 edition of *Graduate Study in Psychology* (APA, 2005), we describe the contemporary characteristics of faculty, students, admission criteria, application credentials, acceptance and enrollment rates, tuition costs, and financial assistance in graduate psychology departments and programs across the United States and Canada. The results from the 2003–2004 academic year are compared with those secured over the past 30 years in order to trace the evolution of graduate education in psychology.

## **Methodology and Its Enhancements**

The most recent data were drawn from the 2005 edition of *Graduate Study in Psychology* (APA, 2005), which reports information from the 2003–2004 academic year. Keeping with convention and with Stoup and Benjamin's (1982) precedent, we labeled the academic years as 1970, 1979, 1992, and 2003, which signify the fall semesters for the entering class upon which the data were collected.

Data were collected for both entire departments and individual graduate programs. The following variables were collected for *entire psychology departments*: year the department was established; number of faculty (total number, number of female faculty, number of minority faculty); degrees offered; number of students (total number, number of female students, number of male students); application information (methods, fees); admission requirements for master's programs and doctoral programs separately (minimum and median GPAs and GRE scores); importance of various admission criteria; tuition amounts (state resident and nonresident); financial assistance; and employment of graduates. The following variables were collected for *individual graduate programs*: name/area of study; degree awarded; APA accreditation status; number of degrees awarded in the past year; number of applicants, acceptances, and enrolled students in 2003–2004; total number of students enrolled; number of students withdrawn or dismissed; and number of openings anticipated for 2004–2005.

In comparison to earlier versions of *Graduate Study in Psychology* (and the statistical reports based on them), the 2005 edition offers several enhancements. First, starting in 2002, the data were collected electronically on a structured questionnaire. The APA Research Office and the APA Education Directorate collaborated on the online instrument and the resulting database. This data collection procedure appears to have improved consistency of the response options and has addressed earlier appeals for APA to standardize its questionnaire format and to stay with that format for a number of years. Second, the criteria for department inclusion in the guide have narrowed over the years, and those departments without public designation as *psychological* in nature are no longer listed. Third, the 2005 edition returns to providing the number of applicants and



**Jessica L. Kohout**

acceptances for each graduate program, whereas some earlier editions listed only the number of enrollments. We are thus able to generate acceptance rates for individual programs, as could Stoup and Benjamin (1982) but not Norcross et al. (1996). Fourth, the 2005 edition of *Graduate Study in Psychology* provides data on several new items, including program ratings on the relative importance of GPA and GRE scores as admission criteria (see Table 3) and the total number of students enrolled in particular graduate programs (see Tables 7 and 8).

At the same time, the 2005 edition has discontinued or rephrased certain questions, which preclude historical comparisons on a few items. Data on the percentage of first-year students continuing (see Table 1) and the percentage of first-year students who were women (see Table 1) in a graduate department are no longer collected; instead, data are secured for the number of students withdrawn or dismissed across all years for individual graduate programs. Likewise, the 2005 edition does not request undergraduate courses required or recommended for graduation admission, as did earlier editions.

**Table 1**  
*General Characteristics of Doctoral Departments in Psychology by Year*

Characteristic	1970–1971 <sup>a</sup> N = 237		1979–1980 <sup>a</sup> N = 323			1992–1993 <sup>a</sup> N = 362			2003–2004 N = 414			
	M	Mdn	M	Mdn	n	M	(SD)	Mdn	M	(SD)	Mdn	n
Full-time faculty	25.7	20	22.1	20		22.4	(17.2)	20	21.4	(13.6)	19	414
Female						6.2	(3.7)	6	8.4	(5.4)	8	413
Minority						2.3	(2.2)	2	2.5	(3.8)	2	409
Part-time faculty			10.5	6		12.3	(18.2)	6	9.7	(16.3)	5	409
Female						5.5	(7.9)	3	4.7	(8.6)	2	404
Minority						2.5	(3.7)	1	1.2	(3.1)	0	402
Master's degrees awarded												
Previous 5 years	94.8	56	125.7	77								
Previous year						21.0	(36.8)	10	24.1	(32.3)	14	178
Doctoral degrees awarded												
Previous 5 years	48.0	35	61.4	50								
Previous year						12.4	(14.0)	9	12.6	(13.0)	10	389
Full-time students	86.5	69	82.2	65					103.9	(107.0)	77	407
Part-time students	51.4	12	36.8	15					39.6	(55.3)	18	211
First-year students (%)												
Continuing			91.3	94		92.9	(11.0)	96				
Female			55.8	56	212	66.8	(17.2)	70				
Ethnic minority			11.4	8	192	17.4	(13.1)	15	27.3	(20.1)	23	210

Note. Academic years correspond to the 1972–1973, 1981–1982, 1994, and 2005 editions of *Graduate Study in Psychology*, respectively. Ns refer to the number of departments, not the number of faculty.

<sup>a</sup> Data from Stoup and Benjamin (1982) and Norcross, Hanych, and Terranova (1996).





**Marlene  
Wicherski**

## Overview

A total of 495 institutions, 601 separate departments, and 1,970 individual graduate programs in the United States and Canada were included in the analysis. These numbers represent a 79.4% response rate from graduate psychology departments (601 of 757 identified departments) and a modest increase in the number of institutions and departments over the years. From 1992 to 2003, the number of responding institutions has risen from 458 to 495, and the number of psychology departments has risen from 559 to 601—net increases of 7%–8% in an 11-year span. During the same interval, the number of individual graduate programs has remained stable at approximately 2,000 (2,023 to 1,970).

The *Graduate Study in Psychology* data set was large and inclusive. All 50 states, Puerto Rico, the District of Columbia, and eight Canadian provinces were represented. Of the 601 departments, 32% offered only the master's degree, 23% only the doctoral degree, and 45% both the master's and the doctoral degrees. Fifty-two percent ( $n = 1,022$ ) of the programs awarded the PhD, 35% ( $n = 692$ ) the master's degree (MA, MS, or MEd), 5% ( $n = 90$ ) the PsyD, 1% ( $n = 11$ ) the EdD, and 8% ( $n = 155$ ) "other." The only notable difference in these findings from previous years is the increase in the number of programs offering the PsyD: from 0% in 1970 to 3% in 1992 to 5% in 2003. Canadian institutions accounted for 5% ( $n = 29$ ) of the departments and 6% ( $n = 129$ ) of the programs; on average, Canadian departments offered 4.4 graduate programs, and U.S. departments offered 3.2 graduate programs.

## Departmental Characteristics

We begin our summary of the large *Graduate Study* data set with a review of the general characteristics of psychol-

ogy departments that house graduate programs. Here and subsequently we refer to *master's-only departments* as those awarding graduate degrees solely at the master's level; *doctoral departments* refer to those awarding solely doctoral degrees as well as those awarding both master's and doctoral degrees.

Two basic descriptors of graduate psychology departments are their title and their year of origin. Not surprisingly, two thirds (66%) of the departments were labeled *Psychology Department*, followed by *Professional School* (9%), *Department of Counseling Psychology* (6%), *Department of School Psychology* (3%), and *Department of Educational Psychology* (3%). The remaining monikers typically contained the terms *psychology*, *education*, *human development*, or *psychological* in a lengthier title. The years in which the various departments were established ranged from 1863 to 2003, with an average of 1958 ( $SD = 26.1$ ,  $Mdn = 1965$ ). The 1960s witnessed the proliferation of graduate programs and departments in psychology; indeed, most (58%) departments were founded from 1960 onward.

Tables 1 and 2 display additional characteristics of graduate departments in psychology for the 1970–1971, 1979–1980, 1992–1993, and 2003–2004 academic years. Table 1 summarizes the data for doctoral departments; Table 2, the same data for master's-only departments.

With regard to faculty size, doctoral departments have remained essentially constant or have experienced a slight decline throughout the past three decades, as shown in Table 1. The 2003 mean number of full-time faculty of 21 ( $Mdn = 19$ ) represents a small decrease of 1 faculty member from 1992 but a medium decrease of 4 full-time faculty from 1970. The mean number of part-time faculty has also decreased slightly from 10.5 in 1979 and 12.3 in 1992 to 9.7 in 2003 ( $Mdn = 5$ ).

With regard to faculty composition, the mean number of full-time female faculty in doctoral departments has climbed from 6.2 in 1992 to 8.4 in 2003. Thus, approximately 40% of psychology faculty are now women. The mean number of full-time ethnic/racial minority faculty has also inched upward from 2.3 to 2.5. That translates to approximately 12% ethnic minority faculty.

Parallel trends are evident for master's-only departments in psychology. As shown in Table 2, the full-time faculty size in master's departments has gradually declined from an average of 16 to 13 over the past three decades, with a corresponding decrease in the median from 13 to 11 or 12. The mean number of part-time faculty, by contrast, has gradually increased in the master's departments, from 6 to 9 on average. Put another way, the ratio of part-time faculty to full-time faculty has steadily increased, in round numbers, from .44 to .68 in master's departments from 1979 to 2003. This pattern is consistent with national data indicating that contingent faculty have increased as a proportion of all faculty in graduate education (American Association of University Professors, 2005). The 2003 results on faculty composition for master's departments reveal a steady increase in the number of female faculty but no recent increase in the number of ethnic minority faculty. That translates into approximately 45% of female faculty

**Table 2**  
*General Characteristics of Master's-Only Departments in Psychology by Year*

Characteristic	1970–1971 <sup>a</sup> N = 118		1979–1980 <sup>a</sup> N = 217		1992–1993 <sup>a</sup> N = 189			2003–2004 N = 186			N
	M	Mdn	M	Mdn	M	(SD)	Mdn	M	(SD)	Mdn	
Full-time faculty	15.8	13	13.3	11	12.8	(7.8)	11	13.0	(7.6)	12	186
Female					4.3	(2.8)	4	5.9	(3.7)	5	186
Minority					1.7	(1.1)	1	1.6	(1.8)	1	186
Part-time faculty			5.9	3	7.7	(8.8)	5	8.9	(10.3)	5	179
Female					4.5	(5.2)	3	5.0	(6.0)	3	177
Minority					1.8	(1.3)	1	0.9	(1.7)	0	176
Master's degrees awarded											
Previous 5 years	61.9	29	100.3	64							
Previous year					19.8	(20.5)	13	18.3	(17.3)	13	165
Full-time students	37.1	21	36.2	24				39.4	(36.4)	28	179
Part-time students	38.9	14	33.6	14				33.0	(49.3)	18	136
First-year students (%)											
Continuing			81.2	86	88.2	(13.1)	90				
Female			60.4	60	70.1	(14.4)	71				
Ethnic minority			12.2	6	14.6	(16.1)	10	21.4	(22.3)	16	65

Note. Academic years correspond to the 1972–1973, 1981–1982, 1994, and 2005 editions of *Graduate Study in Psychology*, respectively. *N*s refer to the number of departments, not the number of faculty.

<sup>a</sup> Data from Stoup and Benjamin (1982) and Norcross, Hanych, and Terranova (1996).

and 12% of ethnic minority faculty in master's programs in psychology.

With regard to size of the student body, doctoral departments averaged 104 full-time students and 40 part-time students in 2003, and master's-only departments averaged 39 full-time students and 33 part-time students. We found, as did all previous studies using *Graduate Study in Psychology*, a far higher proportion of part-time students in the master's-only departments. Across the years, the number of full-time students in doctoral departments has increased slightly—from an average of 85 students in the 1970s to 104 in the 2000s—while the number of full-time students in master's departments has remained about the same—34 to 39 in the 1970s to 33 in the 2000s. During these same intervals, however, the number of full-time faculty typically declined, as noted previously.

With regard to degrees awarded, doctoral departments annually awarded an average of 24 master's degrees and 12 doctorates, whereas master's-only departments annually awarded an average of 18 master's degrees. Direct comparisons of degree numbers across the years are confounded by survey modifications; earlier surveys inquired about the number of degrees awarded during a 5-year span, whereas more recent surveys have inquired about the number of degrees awarded in the previous year. Nonetheless, approximate comparisons are possible. There are no striking

differences in the number of degrees awarded per program in the past 11 years: Judging from the 1970 and 1979 data on degrees awarded in the previous 5 years, the number of degrees awarded per department appears to have remained relatively constant.

With regard to student composition, the percentage of first-year doctoral students who are ethnic minorities has steadily increased from 11.4% in 1979 to 17.4% in 1992 to 27.3% in 2003 (see Table 1). Likewise, the percentage of master's students who are ethnic minorities has steadily increased from 12.2% to 14.6% to 21.4% during the corresponding years (see Table 2).

### Application Methods and Fees

A slim majority of 51.1% of graduate departments in psychology offered graduate applications online. Specifically, 55.8% of doctoral departments and 40.5% of master's-only departments had online applications in 2003.

The average application fee in 2003 was \$35 for master's departments ( $SD = 16$ ,  $Mdn = 35$ ,  $n = 176$ ) and \$47 for doctoral departments ( $SD = 16$ ,  $Mdn = 50$ ,  $n = 405$ ). (Canadian fees were converted to U.S. dollars.) At the lowest end of the fee range were 4% of the departments that charged nothing; at the high end, 1% of departments charged \$100. Compared with the 1992 results, the mean and median application fees have jumped \$10 for master's

departments and \$15–\$20 for doctoral departments. These price increases slightly exceed the annual increases in the consumer price index ([www.bls.gov/cpi/home.htm#data](http://www.bls.gov/cpi/home.htm#data)), as was the case in the previous study (Norcross et al., 1996). Put differently, the constant dollar amount for graduate school applications has risen above the inflation rate.

## Admission Criteria

In previous editions of *Graduate Study in Psychology*, departmental representatives rated the importance of five or seven criteria in admissions decisions at their respective departments on a three-point scale (1 = *low*, 2 = *medium*, and 3 = *high*). In the 2005 edition, departmental representatives rated nine criteria on a four-point scale (0 = *none*, 1 = *low*, 2 = *medium*, and 3 = *high*). In order to permit historical comparisons, we excluded “none” ratings in our statistical analyses of the 2005 data. The data are not directly comparable to previous years, of course, because we do not know how prior respondents treated the question if they did not require a particular admissions variable, such as the interview. Nonetheless, the results do allow us to approximately track over years the relative emphasis accorded to multiple admission variables.

The average importance ratings of these admissions criteria are presented in Table 3 for both master’s-only departments and doctoral departments in 2003–2004. As seen in Table 3, the highest rated criteria in master’s departments were the applicant’s GPA, letters of recommendation, and personal statement—all receiving mean ratings of 2.5 or higher on the three-point scale. The highest rated criteria for doctoral departments were the applicant’s letters of recommendation, personal statement, GPA, interview, research experience, and GRE scores—again, all receiving mean ratings of 2.5 or higher. By contrast, for both types of departments, extracurricular activity, clini-

cally related public service, and work experience received mean ratings between 1 (*low importance*) and 2 (*medium importance*).

Several differences between master’s departments and doctoral departments emerged in these results, as in previous editions. One striking disparity is the importance accorded to research experience. For all years studied, research experience assumed far more importance in admission to doctoral-level departments. For the two years for which data are available, the preadmission interview exercised somewhat more importance in doctoral departments as well. For 2003–2004, the first year in which the importance assigned to scores on the GRE and the Miller Analogies Test (MAT) was assessed, an applicant’s entrance examination scores also assumed more importance among doctoral departments (a mean difference of 0.24 on a three-point scale with average standard deviations of approximately 0.50).

Over the years, the importance accorded to the various admission criteria has remained quite stable. The two exceptions are the small but steady decreases in importance accorded to work experience and clinically related public service from 1979–1980 to 1992–1993 and to 2003–2004. The average rating for work experience has declined 0.23 for master’s departments and 0.22 for doctoral departments during that period. The average rating for public service has declined 0.30 and 0.09, respectively.

## GREs and GPAs

The two most heavily weighted numerical variables in the graduate admissions process are applicants’ entrance examination scores (GREs) and GPAs. Seventy-four percent of reporting doctoral departments and 57% of master’s departments required GRE general test scores. Twenty-nine percent of doctoral departments and 13% of master’s

**Table 3**  
*Importance of Criteria in Admissions Decisions by Level of Department*

Criteria	1979–1980		1992–1993				2003–2004					
			Master’s		Doctoral		Master’s		Doctoral			
	M	M	M	SD	M	SD	M	SD	N	M	SD	N
Letters of recommendation	2.54	2.67	2.66	0.55	2.77	0.47	2.74	0.49	179	2.82	0.42	410
Research experience	2.10	2.58	2.06	0.70	2.55	0.63	2.04	0.74	165	2.54	0.65	405
Work experience	2.14	2.09	2.04	0.65	2.01	0.66	1.91	0.65	166	1.87	0.68	396
Clinically related public service	2.24	2.00	2.03	0.64	2.00	0.69	1.94	0.70	154	1.91	0.69	365
Extracurricular activity	1.39	1.38	1.42	0.56	1.35	0.54	1.46	0.54	147	1.41	0.55	357
Interview			2.42	0.71	2.50	0.70	2.30	0.76	106	2.62	0.60	345
Personal statement/goals & objectives			2.74	0.45	2.80	0.41	2.63	0.55	171	2.81	0.41	410
GRE/MAT scores							2.36	0.66	152	2.50	0.55	364
GPA							2.75	0.43	179	2.74	0.45	402

*Note.* Academic years correspond to the 1981–1982, 1994, and 2005 editions of *Graduate Study in Psychology*, respectively. Means are calculated on a coding scheme where 3 = *high*, 2 = *medium*, and 1 = *low importance*. For the 2003–2004 data, ratings of 0 (*none*) were excluded from the analysis. GRE = Graduate Record Examination; MAT = Miller Analogies Test; GPA = grade point average.

departments required GRE psychology subject test scores. Only 3% of reporting doctoral departments and 9% of master's departments required MAT scores. No further analyses were undertaken on MAT scores given the small number of institutions requiring them.

Table 4 presents the minimum required and the actual GRE scores and GPAs of incoming graduate students in psychology. These statistics are displayed separately for three time periods and for master's-only and doctoral departments. The minimum required Verbal plus Quantitative score averaged 1,066 for doctoral departments and 952 for master's departments in 2003. The actual Verbal plus Quantitative scores of incoming graduate students averaged 1,183 for doctoral departments and 1,055 for master's departments in 2003. (The Analytical Reasoning test was discontinued in 2002 and replaced with the Analytical Writing test.) The GRE Psychology Subject Test scores averaged 633 for incoming doctoral students and 577 for incoming master's students in 2003.

Inspection of this table reveals a number of robust differences between master's and doctoral departments over the last 25 years. Doctoral departments required higher minimum GRE scores and secured higher actual GRE scores among their incoming students than did master's departments. For minimum scores on the GRE subtests, the average difference was on the order of 80 points; for actual scores on the GRE subtests, the average difference was approximately 70–75 points, again favoring the doctoral departments. Similar trends are evident on the GRE Psychology Subject Test, a difference of 56–57 points.

Across the 1979–1980, 1992–1993, and 2003–2004 figures, GRE Verbal scores have gradually but steadily declined in both doctoral and master's departments. The *minimum* Verbal score required for admission consideration in doctoral departments decreased from 560 to 546 to 529; in master's departments, from 511 to 489 to 449. Similarly, the *actual* Verbal score of incoming students in doctoral departments decreased from 608 to 593 to 571; in master's departments, from 537 to 517 to 504. The *minimum required* GRE Quantitative scores also decreased over the years for doctoral and master's departments; however, the *actual* Quantitative scores for incoming students increased over the same time period. Thus, the minimum thresholds of both GRE subtests for graduate admissions consideration have dropped, on average, some 20–50 points. The GRE Verbal scores of incoming graduate students have dropped by similar numbers, but not the GRE Quantitative scores, which actually exhibited modest increases over the years.

Graduate departments regularly require GPAs in making admissions decisions. Fully 82% of doctoral departments and 86% of master's departments required the overall (or cumulative) undergraduate GPAs. Fewer departments required psychology GPAs (20% of doctoral departments, 39% of master's departments) and GPAs for the past two years (21% of doctoral departments, 38% of master's departments).

Table 4 also displays the minimum required and the actual GPAs for first-year graduate students in psychology. In 2003–2004, the mean overall GPAs required for admission consideration hovered around 2.9 for master's departments and 3.1 for doctoral departments. The mean overall GPAs of incoming students were 3.37 for master's departments and 3.54 for doctoral departments. Overall undergraduate GPAs of new graduate students have increased slightly over the years: from 3.20 to 3.27 to 3.37 for master's students and from 3.46 to 3.50 to 3.54 for doctoral students.

## Application and Enrollment Data

The graduate application and enrollment statistics for different subfields in psychology are summarized in Table 5 for doctoral programs and in Table 6 for master's programs. The taxonomy of program types was created by the APA Research Office. As seen in the columns under the section labeled *N of programs* in both tables, the proliferation of psychology graduate programs has ended (with the exception of PsyD programs, to be discussed later). The total number of doctoral programs almost doubled (566 to 1,089) between 1973 and 1992 but has remained essentially the same since that time. The total number of master's programs quadrupled (178 to 931) between 1973 and 1992 but has actually decreased since the 1990s. The smaller number of master's programs probably represents a confluence of the discontinuation of some psychology master's programs and the elimination of nonpsychology master's programs from *Graduate Study in Psychology* due to the tightening inclusion criteria over the years. Within this static number of total doctoral programs are notable increases (defined as at least 25% growth since 1992) in the number of clinical neuropsychology, community, health, cognitive, personality, psychobiological, neuroscience, and social programs as well as concomitant decreases in experimental and quantitative programs (see Table 5). Within the declining number of master's programs listed in *Graduate Study in Psychology* are notable increases (at least 25% growth) in community, counseling, and industrial-organizational programs and sizable decreases in developmental, educational, and experimental programs.

Turning first to doctoral programs, we see steady decreases in numbers of applications to individual programs across all subfields of psychology over the past three decades. In fact, the average number of applications to a single doctoral program has dwindled from 106 in 1973, to 85 in 1979, to 69 in 1992, and to 60 in 2003. The only exceptions were substantial increases in applications to health psychology programs from 1992 to 2003 (data from earlier years were not available) and to industrial-organizational psychology programs from 1973 to 1992 (followed by a sharp decline to 2003). These numbers reflect only a decrease in the average number of applications per program, not to a decrease in the total number of applications to all graduate programs in psychology.

Despite dips in the mean number of applications, clinical doctoral programs reported receiving an average of  
(text continues on page 969)



**Table 4**  
Minimum Required and Actual Scores of First-Year Graduate Students by Year and Level of Department

Measure	Minimum required												Actual					
	1979-1980 <sup>a</sup>			1992-1993 <sup>a</sup>			2003-2004			1979-1980 <sup>a</sup>			1992-1993 <sup>a</sup>			2003-2004		
	M	Mdn	n	M	Mdn	n	M	Mdn	n	M	Mdn	n	M	Mdn	n	M	Mdn	n
Doctoral departments																		
GRE																		
Verbal	560	550	76	546	550	76	529	528	76	608	609	593	593	593	571	571	571	233
Quantitative	556	550	76	548	550	76	538	550	76	592	588	613	610	610	626	630	630	233
Analytical			28	543	550	28	547	550	28			638	640	640	636	640	640	124
Verbal + Quantitative	1,122	1,100	103	1,090	1,100	103	1,066	1,050	103	1,202	1,205	1,206	1,204	1,204	1,183	1,200	1,200	172
Psychology Subject Test	562	550	30	565	580	30	552	550	30	614	620	624	629	629	633	638	638	93
GPA																		
Overall	3.09	3.00	200	3.09	3.00	200	3.11	3.00	200	3.46	3.46	3.50	3.50	3.50	3.54	3.56	3.56	232
Psychology	3.22	3.20	69	3.26	3.25	69	3.17	3.00	69	3.60	3.63	3.66	3.67	3.66	3.66	3.70	3.70	65
Last 2 years	3.18	3.00	78	3.18	3.00	78	3.16	3.00	78	3.53	3.53	3.59	3.60	3.60	3.67	3.70	3.70	89
Master's departments																		
GRE																		
Verbal	511	500	53	489	500	53	449	450	53	537	540	517	520	520	504	500	500	72
Quantitative	509	500	50	490	500	50	453	450	50	532	530	533	540	540	549	540	540	70
Analytical			17	485	500	17	456	450	17			555	550	550	552	550	550	27
Verbal + Quantitative	1,017	1,000	57	984	1,000	57	952	1,000	57	1,065	1,068	1,033	1,040	1,040	1,055	1,050	1,050	57
Psychology Subject Test	519	522	12	505	500	12	495	500	12	556	558	549	550	550	577	570	570	24
GPA																		
Overall	2.86	3.00	129	2.86	3.00	129	2.92	3.00	129	3.20	3.26	3.27	3.25	3.25	3.37	3.40	3.40	99
Psychology	3.07	3.00	58	3.05	3.00	58	3.05	3.00	58	3.48	3.46	3.42	3.45	3.45	3.48	3.50	3.50	54
Last 2 years	3.01	3.00	50	3.00	3.00	50	3.03	3.00	50	3.43	3.43	3.38	3.41	3.41	3.44	3.50	3.50	37

Note. The academic years correspond to the 1981-1982, 1994, and 2005 editions of Graduate Study in Psychology, respectively. GRE = Graduate Record Examination; GPA = grade point average.  
<sup>a</sup> Data from Sloup and Benjamin (1982) and Norcross, Honych, and Terranova (1996).



**Table 5**  
Application and Enrollment Statistics by Area and Year: Doctoral Programs

Program	N of programs				Applications				Enrollments							
	1979		1992		2003		Mdn		M		Mdn		M			
	1973	1979	1992	2003	1973	1979	1992	2003	1973	1979	1992	2003	1973	1979	1992	2003
Clinical	105	130	225	216	314.4	252.6	191.1	142.0	290	234	168	126	12.0	15.4	8	8
Clinical neuro				20			72.3					37		10.7		6
Community	4	2	5	13	90.5	24.4	23.5	23	60		23	21	3.2	3.3	2	3
Counseling	29	43	62	66	133.4	90.9	120.2	71.0	120	84	110	59	7.3	6.8	6	7
Health			7	13		40.7	71.2				30	56	4.4	6.7	5	4
School	30	39	56	57	78.5	54.0	31.3	38.7	53	34	32	31	5.4	6.9	5	5
Other health service provider subfield				52			83.5					48		9.2		7
Cognitive			47	104			24.6	30.1			22	22	2.6	3.4	2	3
Developmental	56	72	97	111	54.1	38.9	27.6	25.5	41	30	24	22	2.8	3.4	2	2
Educational	23	28	30	35	67.8	39.7	20.0	19.7	34	26	12	13	6.0	4.9	4	4
Experimental	118	127	78	40	56.2	33.2	31.3	26.7	42	25	26	17	4.4	4.1	3	3
I/O	20	25	49	60	39.9	54.7	66.2	46.9	37	48	70	41	4.9	4.7	4	4
Neuroscience			53				22.0					16		2.8		2
Personality	23	15	10	18	42.5	24.7	12.3	47.8	33	17	6	31	1.0	2.8	1	2
Psychobiological/physiological			18				21.1					17		2.4		2
Quantitative	40	43	76	17	33.2	29.3	20.0	11.2	29	24	20	11	3.9	1.9	2	1
Social	58	72	59	85	46.7	30.9	47.1	43.1	40	24	37	35	3.3	3.2	3	3
Other fields	60	47	288	101	61.6	74.1	26.6	26.0	27	25	15	17	3.3	3.8	2	3
Total	566	645	1,089	1,079	106.1	85.2	69.4	59.6			31	33	5.6	6.7	4	4

Note. The academic years correspond to the 1975–1976, 1981–1982, 1984, and 2005 editions of Graduate Study in Psychology, respectively. Clinical neuro = clinical neuropsychology; I/O = industrial–organizational.

**Table 6**  
Application and Enrollment Statistics by Area and Year: Master's Programs

Program	N of programs					Applications					Enrollments							
	1973		1992		2003		1973		1992		2003		1979		1992		2003	
	Mdn	M	Mdn	M	Mdn	M	Mdn	M	Mdn	M	Mdn	M	Mdn	M	Mdn	M	Mdn	M
Clinical	36	52	104	100	80.6	56.0	58.1	47.9	60	50	45	39	15.8	16.7	10	12		
Community	3	7	8	23	25.9	29.1	46.8	21	12	36	12.9	18.1	12	11				
Counseling	17	29	50	114	50.6	70.3	54.3	39	70	43	18.7	24.2	14	16				
Health			3	3	19.0	20.0	10	6	7	22	7.7	8						
School	31	38	109	52	34.9	25.3	24.3	42.7	33	19	19	32	8.0	13.1	6	11		
Other health service provider subfield			65		44.4					30	20.2					13		
Cognitive	8	7	10	12	41.1	33.7	8.5	10.7	20	6	12	7	1.0	2.3	1	2		
Developmental	2	3	32	19	19.4	37.3	15.3	24.2	10	18	10	22	5.1	9.2	3	5		
Educational	60	68	140	104	46.8	22.8	29.7	48.0	33	19	15	24	8.3	15.9	5	10		
Experimental & general	8	13	61	79	21.7	27.8	36.4	36.0	22	25	28	30	9.7	10.9	7	8		
I/O			7		32.7					21	7.1					6		
Neuroscience			18		19.1					8	2.8					2		
Psychobiology/biopsychology	4	5	12	8	8.7	8.0	10.6	14.5	7	8	5	15	2.7	4.1	3	4		
Social	9	15	343	52	69.1	33.4	39.2	22.2	45	30	23	15	14.0	10.1	7	6		
Other fields																		
Total	178	237	931	654	50.0	37.1	36.2	40.5	22	28	22	28	11.6	15.2	6	10		

Note. The academic years correspond to the 1975–1976, 1981–1982, 1994, and 2005 editions of the American Psychological Association's Graduate Study in Psychology, respectively. I/O = industrial-organizational.

142 applications (*Mdn* = 126)—the highest number of any subfield. Despite the smaller number of applicants, doctoral programs were typically enrolling the same number of doctoral students. In fact, the grand mean for number of students enrolled in programs increased one student per program from 1992 to 2003 (5.6 to 6.7).

Turning to master's programs, we see that the mean number of applications to each program has generally been declining, similar to doctoral programs. The average number of applications to a master's program fell from 50 in 1973 to 37 in 1979 to 36 in 1992 and then slightly rose to 40 in 2003. The exceptions to declining applications were recent increases to master's programs in developmental, educational, and experimental psychology—precisely those subfields that lost master's programs in the past 11 years. The highest numbers of master's applications were again to health service programs: counseling, clinical, and community. At the same time, the mean number of students enrolled in individual master's programs has risen from 11.6 to 15 from 1992 to 2003. That is, the average master's program is enrolling 3 more students than it did 11 years ago.

## Acceptance, Enrollment, and Retention Rates

An anxiety-provoking consideration for applicants and a controversial topic for faculty members is acceptance rates for graduate programs in psychology. In this study, we computed acceptance rates by dividing the number of students accepted to a program by the number of applications. Enrollment rates were calculated as the number of students who enrolled in a program divided by the number of applications. Table 7 presents the acceptance and enrollment rates by subfields for doctoral programs, and Table 8 presents the data for master's programs.

The mean acceptance rates to doctoral psychology programs in 2003–2004 ranged from a low of 19% (personality, social psychology) to a high of 50% (educational psychology). These figures and the grand mean of 27.4% represent a large increase in acceptance rates from the 1970s and 1980s. Stoup and Benjamin (1982) found grand mean acceptance rates of 9.9% to 11.8% for doctoral programs. Although acceptance rates have risen across the board, the largest difference from the 1970s to 2003 is the

**Table 7**  
2003–2004 Acceptance and Enrollment Percentages for Doctoral Programs by Subfield

Subfield	N of programs	Acceptance rate				Enrollment rate				Total students enrolled
		M	<i>Mdn</i>	Q1	Q3	M	<i>Mdn</i>	Q1	Q3	Sum
Clinical	211	21.2	11.1	6.2	32.4	14.3	7.4	4.1	20.9	3,324
Clinical neuropsychology	20	25.8	22.4	13.3	40.5	17.2	14.6	8.6	23.1	213
Community	12	31.0	26.4	18.7	47.6	21.2	14.3	8.6	30.2	43
Counseling	64	21.5	17.0	9.3	25.2	15.4	10.2	7.1	19.3	447
Health	12	30.9	21.5	6.1	48.8	21.4	15.0	5.5	39.3	87
School	52	37.4	31.2	18.3	47.8	27.8	18.5	13.4	33.3	392
Other health service provider subfields	49	25.7	21.9	7.7	38.8	19.4	14.3	6.6	27.6	477
Cognitive	88	32.4	26.1	14.4	43.4	22.0	14.3	7.8	29.4	351
Developmental	99	27.2	20.7	12.5	34.8	19.0	14.0	8.5	21.7	374
Educational	31	50.0	50.0	33.3	70.0	34.0	30.0	16.7	48.3	170
Environmental	2	39.1	39.1	11.5	66.7	29.1	24.8			10
Experimental	31	37.6	30.0	16.7	50.0	26.7	18.2	11.8	30.0	163
Industrial/organizational	53	25.7	17.4	12.1	31.6	16.3	11.0	5.9	16.7	281
Neuroscience	49	26.9	25.0	13.9	32.5	19.7	16.0	8.3	25.0	148
Personality	15	19.2	12.5	7.1	19.5	9.0	8.7	3.8	11.4	45
Physiological	4	39.4	33.9	11.9	72.5	27.0	20.0	8.5	52.5	12
Psychobiology	13	25.0	25.0	11.2	35.2	13.7	8.3	7.0	17.6	34
Quantitative	14	42.6	36.0	21.1	64.6	27.0	20.0	6.7	51.9	32
Social	80	19.4	15.0	9.4	27.1	11.3	8.0	5.3	15.0	270
Other research subfields	76	33.2	27.3	16.7	50.0	24.2	20.0	11.3	33.1	339
Other fields	8	22.9	22.5	9.6	36.6	14.7	13.6	4.7	20.0	36
Total	981	27.4	20.8	10.6	38.9	18.8	13.0	6.7	25.0	7,247

Note. Acceptance rates are computed by dividing the number of students accepted to a program by the number of applications. Enrollment rates are the number of students who enrolled in a program divided by the number of applications. Q = quartile.

**Table 8**  
2003–2004 Acceptance and Enrollment Percentages for Master's Programs by Subfield

Subfield	N of programs	Acceptance rate				Enrollment rate				Total students enrolled
		M	Mdn	Q1	Q3	M	Mdn	Q1	Q3	Sum
Clinical	98	52.7	49.5	33.9	72.3	35.5	32.0	22.3	47.7	1,671
Community	22	53.8	55.8	22.6	81.4	41.8	41.4	20.0	60.6	416
Counseling	108	65.5	67.3	50.0	84.6	51.8	50.0	33.0	66.4	2,764
Health	3	70.3	72.7	38.2		56.2	36.4	32.4		23
School	49	48.9	47.8	28.3	72.5	39.7	34.3	19.3	56.1	682
Other health service provider subfields	64	64.5	69.5	43.1	83.2	49.2	40.0	30.8	66.3	1,395
Cognitive	10	52.8	45.8	31.8	77.7	27.3	31.7	11.3	40.0	25
Developmental	19	47.9	50.0	31.2	66.7	33.0	33.3	17.9	48.1	166
Educational	15	57.3	56.5	46.2	70.6	41.6	38.1	30.0	54.2	149
Experimental	38	55.4	50.8	40.0	71.9	38.0	34.5	19.8	50.0	261
Industrial/organizational	76	56.6	60.0	32.5	75.5	38.6	35.0	19.4	50.0	849
General	59	58.0	53.8	40.0	75.0	41.3	33.8	23.4	59.4	972
Neuroscience	6	32.3	35.9	8.8	52.6	25.8	25.3	9.1	38.6	50
Quantitative	5	72.7	83.3	47.2	92.9	63.5	61.9	47.6	81.0	18
Social	8	47.6	47.5	26.2	65.0	27.5	28.6	22.2	30.0	29
Other research subfields	41	60.7	60.9	42.9	78.8	43.1	39.4	32.3	58.2	443
Other fields	2	33.3	33.3			33.3	33.3			12
Total	624	57.4	57.9	38.8	76.5	41.9	37.5	25.0	55.0	9,925

Note. Acceptance rates are computed by dividing the number of students accepted to a program by the number of applications. Enrollment rates are the number of students who enrolled in a program divided by the number of applications. Q = quartile.

acceptance rate to clinical psychology doctoral programs, rising from the 4% to 6% range in the 1970s to 21% in 2003.

The mean acceptance rates to master's psychology programs in 2003–2004 ranged from a low of 32% (neuroscience) to a high of 73% (quantitative) and averaged 57.4%. The average acceptance rates for master's programs tended to be 25%–35% higher than for doctoral programs in the same subfield. The grand acceptance mean of 57.4% reflects a sizable hike from the mean acceptance rates of 34%–49% in the 1970s (Stoup & Benjamin, 1982).

Tables 7 and 8 also present the enrollment rates and numbers of doctoral and master's programs by psychology subfield. Enrollment rates are defined as the number of students who enrolled in a program divided by the number of applications (*not* the number of acceptances). The enrollment rates averaged 18.8 for doctoral programs and 41.9 for master's programs in 2003–2004.

The number of students newly enrolled in 2003–2004 in responding psychology doctoral programs was 7,247, and in responding master's programs, 9,925 (for a total of 17,172). Clinical and counseling psychology programs accounted for approximately 47% of these students. Assuming that the 21% of nonresponding graduate psychology programs enrolled slightly fewer new students than responding students, that translates into

approximately 20,750 new graduate students in psychology in 2003–2004.

The number of all full-time students enrolled in responding doctoral programs was 26,739, and the number of all full-time students enrolled in responding master's programs was 11,831 (total = 38,570). Assuming again that nonresponding programs were slightly smaller in size and enrollment than responding graduate programs, we estimated a total of 44,000 full-time graduate students in psychology in 2003–2004.

We calculated the annual retention rate for full-time graduate students in psychology as the percentage of students withdrawn or dismissed divided by the total number of full-time students enrolled. The retention rate in 2003–2004 was 97.5% (attrition rate = 2.5%) for doctoral departments; 674 of 26,739 full-time students withdrew or were dismissed. The corresponding retention rate was 94.8% (attrition rate = 5.2%) for master's departments; 615 of 11,831 full-time students withdrew or were dismissed.

These numbers represent annual retention rates for all full-time graduate students, whereas previous editions of *Graduate Study in Psychology* assessed the retention rates for first-year students. In those earlier editions, over 90% of first-year doctoral students continued in their programs, and 81%–88% of first-year master's students continued in



their programs (Norcross et al., 1996; Stoup & Benjamin, 1982). Direct historical comparisons are not possible because of changes in the wording of the question, but if one extrapolates across the years, retention rates are consistently high for full-time psychology graduate students.

## PsyD Programs

The rapid growth of PsyD programs in clinical psychology led us to investigate their application, acceptance, and enrollment rates. We restricted ourselves to clinical PsyD programs, because the number of PsyD programs in other subfields is small. In accordance with previous analyses of *Graduate Study in Psychology*, we examined these data separately for APA-accredited and non-APA-accredited programs. Further, we provide corresponding data for PhD programs in clinical psychology for comparative purposes.

Table 9 presents the results for non-APA-accredited PhD programs, non-APA-accredited PsyD programs, APA-accredited PhD programs, and APA-accredited PsyD programs in clinical psychology. In regard to comparisons of nonaccredited and accredited programs, we found that accredited programs regularly received more applications and accepted fewer applicants than did nonaccredited programs. Non-APA-accredited PhD programs accepted 20% of applicants, whereas APA-accredited PhD programs accepted 10%. Non-APA-accredited PsyD programs accepted an average of 60% of applicants, compared with 40% of APA-accredited PsyD programs. Non-APA-accredited programs were enrolling fewer students than accredited programs and, in PsyD programs, were anticipating fewer openings next year.

In comparing PhD and PsyD programs, we found that the number of applications was fairly similar but that the rate of acceptance was markedly higher among PsyD programs. The acceptance rate to PsyD programs was three times higher (0.20 vs. 0.60) in nonaccredited programs and four times higher (0.10 vs. 0.40) in APA-accredited programs. PsyD programs typically enrolled three to four times the number of new students as PhD programs. The PsyD programs enrolled a higher number and a higher proportion of part-time students seeking their doctorates in clinical psychology. Clinical PsyD programs also typically graduated their students in five years ( $M = 5.0$ ,  $Mdn = 5.0$ ,  $SD = 0.7$ ), compared with six years among clinical PhD programs ( $M = 6.0$ ,  $Mdn = 6.0$ ,  $SD = 1.2$ ). As shown in the bottom half of Table 9, new clinical PsyD students outnumbered new clinical PhD-level students in 2003–2004 by 57% to 43%.

Collapsing the data across the four types of programs presented in Table 9 affords an estimate of the number of new doctoral candidates in clinical psychology for the 2003–2004 academic year. Summing new enrollments results in 3,239 students; assuming a slightly smaller class size for nonresponding programs brings the number to approximately 3,800 students. This number represents an increase of about a thousand new doctoral candidates over the estimate of 2,700 new doctoral candidates in clinical psychology in 1992–1993 (Norcross et al., 1996).

Looking specifically at PsyD students, one sees that new PsyD students in responding clinical psychology programs numbered 1,853 in 2003–2004. This number represents approximately 25% of all new doctoral candidates in psychology (7,247 in responding programs; see Table 7).

## Tuition Costs and Financial Assistance

Table 10 displays the 2003–2004 tuition costs and financial assistance by type of graduate department. Tuition costs for doctoral departments were generally 30%–40% higher than those in master's departments. Annual tuition for state residents averaged almost \$10,000 in doctoral departments and almost \$5,000 in master's departments. As expected, tuition for nonstate residents was substantially higher, averaging \$14,691 and \$9,114, respectively, in doctoral and master's departments.

Assistantship stipends for doctoral departments were 40%–50% higher than for master's departments despite similar numbers of hours worked per week. Median and mean stipends for teaching assistantships and research assistantship were about \$10,000 in doctoral departments and \$5,000–\$5,500 in master's departments for an expected work week of 15–16 hours. Fellowships/scholarships offered comparable stipends for doctoral students but, on average, required 7 fewer hours of work per week than assistantships. Dollar differences between assistantships provided to first-year students and those provided to advanced students were practically nonexistent (for this reason, we do not provide data on stipends for advanced students in the table).

Tuition costs have risen faster than inflation for doctoral tuition but not for master's tuition for state residents. Specifically, the average tuition increased 20% over inflation for doctoral candidates who are state residents and 22% for doctoral candidates who are not residents since 1992–1993. Similarly, tuition for nonstate master's students increased 16% over inflation during that time period. By contrast, tuition for master's students residing in state actually decreased by 1% in real dollars since 1992–1993. In parallel fashion, the average assistantship stipends have increased above inflation about 5%–10% since 1992–1993 for doctoral candidates but remained relatively constant in real dollars for master's candidates.

## Concluding Observations

*Graduate Study in Psychology* provides an unparalleled source of information on graduate education in psychology and its evolution over the past 30 years. At the same time, this rich mass of data bears several limitations. First, the data were self-reported by graduate departments without independent checks on their accuracy or veracity. Holmes (1984) cautioned that some reported GPA and GRE scores may be inflated. Second, some data were selectively reported or omitted by departments. Missing data complicate the usefulness of *Graduate Study in Psychology* and our analyses. Stoup and Benjamin (1982) advised that the results must be interpreted with caution because of the variability in the number of departmental representatives

**Table 9**  
Application, Acceptance, Enrollment, and Student Information for APA-Accredited and Nonaccredited Clinical Psychology Programs

Variable	Nonaccredited						APA-accredited					
	PhD programs (n = 26)			PsyD programs (n = 14)			PhD programs (n = 127)			PsyD programs (n = 44)		
	M	Mdn	SD	M	Mdn	SD	M	Mdn	SD	M	Mdn	SD
No. of applicants	96.0	102	68.1	64.3	72	39.9	161.0	141	88.0	156.3	127	86.9
Acceptance rate <sup>a</sup>	0.2	0.10	0.2	0.6	0.59	0.2	0.1	0.08	0.1	0.4	0.42	0.2
No. of students enrolled	6.8	5	4.8	27.0	29	16.6	9.8	7	12.4	34.9	28	23.5
Enrollment rate <sup>b</sup>	0.1	0.09	0.1	0.4	0.37	0.1	0.1	0.05	0.1	0.2	0.25	0.1
Projected openings next year	10.0	6	10.2	24.9	20	13.6	9.2	7	8.9	34.5	33	19.4
Total students enrolled	47.8	32	64.0	51.4	51	39.8	52.1	40	58.6	125.0	120	70.6
Full-time	1.7	0	4.2	19.9	1	24.8	3.1	0	8.9	25.6	12	35.4
Part-time												
Raw totals for all programs												
Number of applicants		2,399			772			20,286			6,722	
Number of applicants accepted		236			497			1,829			2,656	
Number of new students enrolled		169			351			1,217			1,502	

<sup>a</sup> Calculated by dividing the number of students admitted for acceptance by the number of applicants to a program.

<sup>b</sup> Calculated by dividing the number of students who actually enrolled by the number of applicants to a program.

**Table 10**  
2003–2004 Tuition Costs and Financial Assistance by Type of Department

	Doctoral departments (N = 312)			Master's-only departments (N = 111)		
	M	SD	Mdn	M	SD	Mdn
Annual tuition (\$)						
State resident (master's)	7,363	6,284	5,038	4,803	4,493	3,216
State resident (doctoral)	9,770	8,165	6,335			
Nonstate resident (master's)	12,296	5,691	11,195	9,114	5,037	8,346
Nonstate resident (doctoral)	14,691	6,781	14,092			
Teaching assistantship <sup>a</sup>						
Annual stipend (\$)	10,195	3,995	10,617	5,438	3,295	5,000
Hours worked/week	16.7	5.0	20.0	14.7	5.2	15.0
Research assistantship <sup>a</sup>						
Annual stipend (\$)	9,424	4,738	10,065	5,351	3,242	5,000
Hours worked/week	16.1	5.4	20.0	14.6	5.4	15.0
Traineeship <sup>a</sup>						
Annual stipend (\$)	13,889	5,237	13,648	6,300	2,162	6,000
Hours worked/week	12.7	8.8	20.0	13.6	7.9	16.0
Fellowship/scholarship <sup>a</sup>						
Annual stipend (\$)	10,127	6,365	11,500	3,204	3,243	2,000
Hours worked/week	7.4	8.8	0	7.2	8.8	0

<sup>a</sup> First-year students.

responding to any particular item. Third, approximately 21% of graduate programs in psychology did not return the electronic questionnaire. In the future, we hope that departments will be more diligent in returning complete and accurate data.

A superordinate conclusion from this wealth of data is that graduate psychology education continues to thrive. Approximately 27% of undergraduate psychology majors enroll in further education within two years of receiving their degree (Tsapogas, 2004). More than 40,000 full-time students are enrolled in approximately 2,000 psychology graduate programs. The largest subfields in the discipline are slated for continued growth, and graduate programs in health, cognitive, community, industrial–organizational, neuroscience, and neuropsychology are increasing. And student retention rates are high and stable. These patterns in psychology fit with national trends in the number of graduate enrollments, which continued to increase in 2002 across most science and engineering fields, following declines in the 1990s (Thurgood, 2004).

Psychology as a science and as a profession will be well-served by the rising percentage of ethnic minority and female students in graduate education. In fact, 27% of first-year doctoral students and 21% of first-year master's students are ethnic minorities. This is a triumph for psychology and higher education. In addition, at 68%, psychology continues to be one of the science fields with the highest representation of women among new doctorates (Burrelli, 2004). In terms of faculty, 40% to 45% of full-time faculty members in graduate psychology departments are women and 12% are ethnic minorities.

At the same time, the multiplying demands on faculty and the rising acceptance rates for applicants give reasons for concern. The average number of full-time faculty in graduate departments has declined, while the number of students and the number of degrees awarded has remained constant or increased. In fact, the number of enrolled students increased one student per program on average from 1992 to 2003. Such trends raise workload concerns, and even additional hires in professional staff who assist with advising and administration cannot remediate faculty workload. This pattern, too, is part and parcel of larger trends in higher education. In most fields, and psychology is one, current full-time equivalent faculty have not returned to earlier levels despite some increases (Thurgood, 2004).

The numbers of applications to individual programs are declining, but program enrollments are increasing. This pattern concretely translates into higher acceptance rates for psychology graduate programs. Indeed, mean acceptance rates have increased linearly from 34% in 1973 to 57% in 2003 for master's programs and from 10% to 27% during the same period for doctoral programs. Across the years, the overall undergraduate GPAs of new graduate students have increased: from 3.20 to 3.27 to 3.37 for master's students and from 3.46 to 3.50 to 3.54 for doctoral students. Although we would like to conclude that these data indicate that incoming graduate students in psychology are more academically accomplished than in previous years, the creeping GPA probably documents the pernicious effects of grade inflation (Johnson, 2003). All of this occurred during a time when mean GRE Verbal scores

dropped, continuing a historical trend toward lower GREs in graduate admissions in psychology.

The historical differences between master's-only departments and doctoral departments, on the one hand, and between APA-accredited and nonaccredited programs, on the other, remain robust. The doctoral application costs more than its master's counterpart. Minimum required and actual GREs and GPAs for incoming students continue to be higher for doctoral departments. Admission criteria in the graduate admissions process also differentiate master's from doctoral departments: The latter value research experience and the preadmission interview more than the former. Master's-only departments charge lower tuition, but assistantships to master's-level students are substantially lower in dollar amount (and in frequency; Kohout & Wicherski, 1993) than their doctoral-level parallels. APA-accredited doctoral programs in clinical psychology, as in previous studies of *Graduate Study in Psychology* (Norcross et al., 1996; Stoup & Benjamin, 1982), are significantly more competitive in admissions (and in admission requirements; Norcross, Sayette, Mayne, Karg, & Turkson, 1998) than are nonaccredited programs (both PhD and PsyD).

PsyD programs now house approximately 25% of all doctoral candidates in psychology. PsyD students in clinical psychology now outnumber PhD students in clinical psychology. "We're not in Kansas anymore," as Belar (1998) observed about graduate education in clinical psychology.

Arguably, the pivotal trend in graduate education in psychology over the past three decades is the emergence of PsyD training. Much has been written on the merits and demerits of the Vail model of training psychological practitioners (e.g., Kenkel, DeLeon, Albino, & Porter, 2003; Maher, 1999; Peterson, 2003), but we restrict our comments here to the empirical results. There are fewer PsyD programs than PhD programs in clinical psychology, but by virtue of enrolling more students per program, PsyD programs produce more psychologists. The average acceptance rate for PsyD programs is three to four times higher than for PhD programs—this can be seen as a boon or as a bust depending on one's perspective. But we cannot assume uniformity in PsyD acceptance rates; PsyD programs differ considerably depending upon their institutional setting (Peterson, 1992). In a recent study of APA-accredited PsyD programs in clinical psychology (89% response rate; Norcross et al., 2004), the average acceptance rate for PsyD programs was 41%, but that rate differed across programs housed in university departments (33% acceptance), university professional schools (41%), and freestanding institutions (51%). The probability of receiving financial assistance was also notably lower in PsyD programs; in that same study, 84% of students entering research-oriented clinical PhD programs received full financial assistance (both tuition waiver and assistantship) but only 18% of entering PsyD students received full financial assistance (Norcross et al., 2004; also see Mayne, Norcross, & Sayette, 1994). The institutional setting of the PsyD program had an effect here as well: 37% of students entering a PsyD program located in a university department received full

funding, compared with 9% in university professional schools and 6% in freestanding/independent institutions.

We caution against blanket assumptions about individual graduate programs based on collective results. For example, one cannot automatically assume that all PsyD programs are more expensive to the student than PhD programs. Some PsyD programs do provide considerable financial assistance to some students. Moreover, PsyD programs take a year less, on average, to complete, thus eliminating living and tuition costs for an entire year. We can report that, in general, PsyD programs provide less financial assistance than PhD programs and that PsyD students report more debt than PhD students (Kohout & Wicherski, 2005), but these trends will not necessarily apply to individual cases.

Another pivotal trend, this one in academic psychology, is the ascendancy of neuroscience programs. In 1992, there were insufficient numbers of such programs to even warrant a specific listing; in 2003, there were 53 doctoral programs and 7 master's programs in neuroscience. More neuroscience programs than that exist, but they are not administratively housed in departments primarily psychological in nature and hence are not included in *Graduate Study in Psychology*. In a recent study, Stricker (2004) identified 131 graduate training programs in neuroscience located in the United States and Canada; they are plentiful in number and diverse in administrative structure. Approximately 22% were located solely in medical schools, 28% were solely in schools of arts and science, and 40% were institution-wide, interdisciplinary programs cutting across multiple schools.

We are left with two overarching impressions from the wealth of 1971 to 2004 data. First, graduate education in psychology is abundant, vibrant, and evolving in the United States. The long-term impact of recent developments in graduate education, including the burgeoning number of neuroscience and PsyD programs, remains to be felt. Second, we look forward to systematic analyses of subsequent editions of *Graduate Study in Psychology* to assist in chronicling the evolution and in anticipating the future of graduate education in psychology.

## REFERENCES

- American Association of University Professors. (2005). *Inequities persist for women and non-tenure-track faculty. The annual report on the economic status of the profession: 2004-05*. Retrieved July 26, 2005, from [www.aaup.org/surveys/05z/zrep.htm#05](http://www.aaup.org/surveys/05z/zrep.htm#05)
- American Psychological Association. (2004). *Graduate study in psychology*. Washington, DC: Author.
- American Psychological Association. (2005). *Graduate study in psychology*. Washington, DC: Author.
- Belar, C. D. (1998). Graduate education in clinical psychology: We're not in Kansas anymore. *American Psychologist, 53*, 456-464.
- Burrelli, J. (2004). *Science and engineering doctorate awards (NSF 05-300)*. Arlington, VA: National Science Foundation.
- Couch, J. V., & Benedict, J. O. (1983). Graduate school admission variables: An analysis of 1980-1981 students. *Teaching of Psychology, 10*, 3-6.
- Fennell, K., & Kohout, J. (2002). *Characteristics of graduate departments of psychology: 1999-2000*. Washington, DC: American Psychological Association.



- Holmes, C. B. (1984). Use of *Graduate Study in Psychology* as a data source. *American Psychologist*, 39, 182–183.
- Johnson, V. E. (2003). *Grade inflation: A crisis in college education*. New York: Springer.
- Kenkel, M. B., DeLeon, P. H., Albino, J. E., & Porter, N. (2003). Challenges to professional psychology education in the 21st century: Response to Peterson. *American Psychologist*, 58, 801–805.
- Kohout, J., & Wicherski, M. (1993). *1991–1992 characteristics of graduate departments of psychology*. Washington, DC: American Psychological Association.
- Kohout, J., & Wicherski, M. (2005). *2003 doctorate employment survey*. Washington, DC: American Psychological Association.
- Maher, B. A. (1999). Changing trends in doctoral training programs in psychology: A comparative analysis of research-oriented versus professional-applied programs. *Psychological Science*, 10, 475–481.
- Mayne, T. J., Norcross, J. C., & Sayette, M. A. (1994). Admission requirements, acceptance rates, and financial assistance in clinical psychology programs: Diversity across the practice-research continuum. *American Psychologist*, 49, 605–611.
- Murray, T. M., & Williams, S. (1999). *Analyses of data from Graduate Study in Psychology: 1997–98*. Retrieved November 3, 2001, from <http://research.apa.org/grad98contents.html>
- National Opinion Research Center. (2003). *Doctorate recipients from United States universities: Summary report 2002*. Chicago: Author.
- Norcross, J. C., Castle, P. H., Sayette, M. A., & Mayne, T. J. (2004). The PsyD: Heterogeneity in practitioner training. *Professional Psychology: Research and Practice*, 35, 412–419.
- Norcross, J. C., Hanych, J. M., & Terranova, R. D. (1996). Graduate study in psychology: 1992–1993. *American Psychologist*, 51, 631–643.
- Norcross, J. C., Sayette, M. A., Mayne, T. J., Karg, R. S., & Turkson, M. A. (1998). Selecting a doctoral program in professional psychology: Some comparisons among PhD counseling, PhD clinical, and PsyD clinical psychology programs. *Professional Psychology: Research and Practice*, 29, 609–614.
- Pate, W. E., II. (2001, April). *Analyses of data from Graduate Study in Psychology: 1999–2000*. Retrieved November 3, 2001, from <http://research.apa.org/grad00contents.html>
- Peterson, D. R. (1992). The doctor of psychology degree. In D. K. Freedheim (Ed.), *History of psychotherapy: A century of change* (pp. 829–849). Washington, DC: American Psychological Association.
- Peterson, D. R. (2003). Unintended consequences: Ventures and misadventures in the education of professional psychologists. *American Psychologist*, 58, 791–800.
- Sachs, M. L., Burke, K. L., & Schrader, D. C. (2001). *Directory of graduate programs in applied sport psychology* (6th ed.). Morgantown, WV: Fitness Information Technology.
- Sayette, M. A., Mayne, T. J., & Norcross, J. C. (2004). *Insider's guide to graduate programs in clinical and counseling psychology*. New York: Guilford Press.
- Society for Industrial and Organizational Psychology. (2000). *Graduate training programs in industrial–organizational psychology and related fields*. Arlington Heights, IL: Author. Retrieved October 21, 2005, from [www.siop.org/GTP/](http://www.siop.org/GTP/)
- Stoup, C. M., & Benjamin, L. T. (1982). Graduate study in psychology, 1970–1979. *American Psychologist*, 37, 1186–1202.
- Stricker, E. M. (2004). *The 2003 ANDP survey of neuroscience graduate, postdoctoral, & undergraduate programs*. Retrieved July 14, 2005, from the Association of Neuroscience Departments and Programs Web site: [www.andp.org/surveys/reports/index2003.htm](http://www.andp.org/surveys/reports/index2003.htm)
- Thurgood, L. (2004). *Graduate enrollments in science and engineering fields reaches new peak: First time enrollment of foreign students declines* (NSF 04–326). Arlington, VA: National Science Foundation.
- Tsapogas, J. (2004). *Employment outcomes of recent science and engineering graduates vary by field of degree and sector of employment* (NSF 04316). Arlington, VA: National Science Foundation.
- U.S. Department of Labor, Bureau of Labor Statistics. (2004). *Occupational outlook handbook* (2004–2005 ed.). Retrieved July 14, 2005, from [www.bls.gov/oco/ocos056.htm](http://www.bls.gov/oco/ocos056.htm)
- Wicherski, M., Washington, T., & Kohout, J. (2004). *2003–2004 faculty salaries in graduate departments of psychology*. Washington, DC: American Psychological Association.