

Gender Differentials in Fields of Study among Graduates

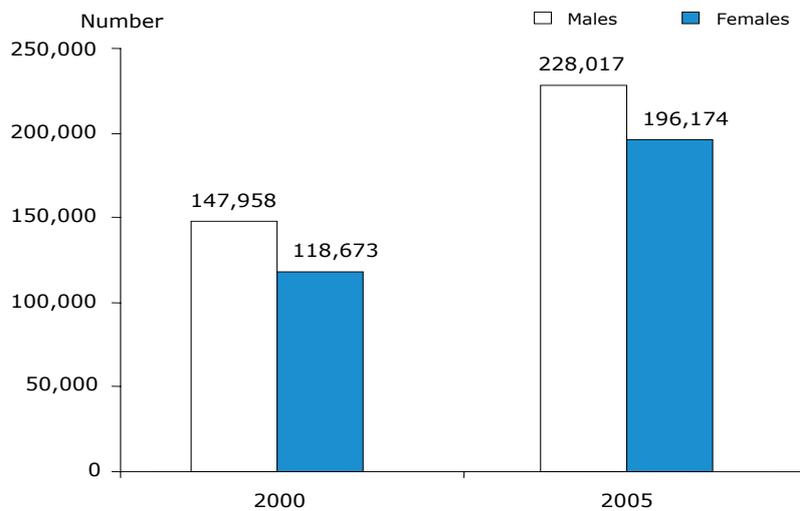
By
Miss Ang Seow Long
Prices, Statistical Co-ordination & Information Division
Singapore Department of Statistics

Introduction

In 2005, there were about 228,000 male and 196,200 female resident university graduates (Chart 1). Compared with 2000, female university graduates registered a rise of 11 per cent per annum, higher than the 9 per cent per annum growth recorded by their male counterparts.

The faster growth of the female graduates vis-à-vis their male counterparts translated to a decline in the ratio of male to female graduates between 2000 and 2005. In 2000, the ratio stood at 1,247 males to 1,000 females, but dropped to 1,162 males to 1,000 females in 2005.

CHART 1 RESIDENT UNIVERSITY GRADUATES BY SEX, 2000 AND 2005



Although male university graduates outnumbered females at the overall level, there were some fields of study which were predominantly the domains of female university graduates. This article looks at the gender concentrations in fields of study among university graduates, as well as the differences in the gender concentrations by broad age groups based on data from the General Household Survey 2005.

Top Five Fields of Study

The top five fields of study in 2005 were Business & Administration, Engineering Sciences, Humanities & Social Sciences, Natural, Physical, Chemical & Mathematical Sciences, and Information Technology. About 85 per cent of university graduates attained their highest qualifications in these fields of study (Table 1).

TABLE 1 RESIDENT UNIVERSITY GRADUATES BY FIELD OF STUDY, 2005

Field of Study	Number	Per Cent
Total	424,191	100.0
Business & Administration	136,200	32.1
Engineering Sciences	94,699	22.3
Humanities & Social Sciences	52,702	12.4
Natural, Physical, Chemical & Mathematical Sciences	38,796	9.1
Information Technology	36,516	8.6
Health Sciences	16,733	3.9
Mass Communication & Information Science	12,030	2.8
Architecture & Building	11,916	2.8
Education	9,055	2.1
Law	8,413	2.0
Fine & Applied Arts	5,084	1.2
Others	2,047	0.5

The proportions of university graduates in the fields of Health Sciences, Mass Communication & Information Science, Architecture & Building, Education, and Law were smaller, accounting for 2 to 4 per cent each.

Gender Concentrations by Field of Study

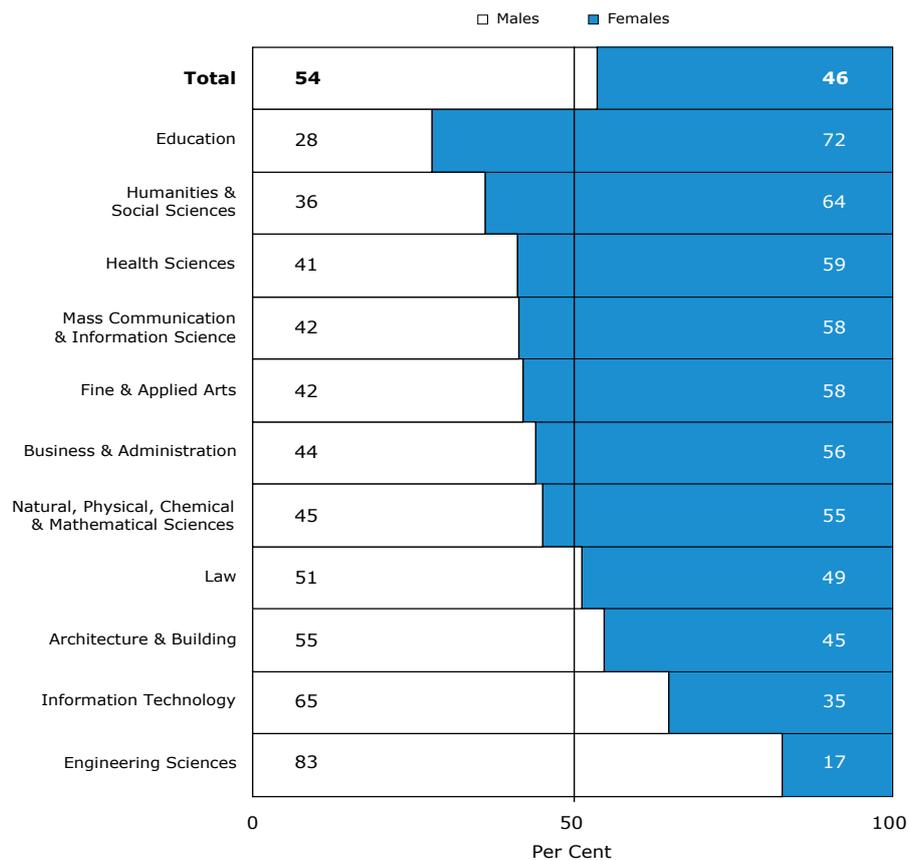
Female Graduates Predominated in More Fields of Study

Female graduates outnumbered male graduates in many fields of study,

showing their diversity in different subjects. Of the top five fields of study, three were the domains of female graduates, namely, Business & Administration, Humanities & Social Sciences, and Natural, Physical, Chemical & Mathematical Sciences. Female graduates constituted 55 per cent or more of the total resident graduate population in each of these three fields of study (Chart 2).

In other fields of study, particularly in Education, female university graduates were also predominant, accounting for more than 70 per cent. The proportions of female graduates in the fields of study

CHART 2 RESIDENT UNIVERSITY GRADUATES BY FIELD OF STUDY AND SEX, 2005



of Health Sciences, Mass Communication & Information Science, and Fine & Applied Arts were also higher than for male university graduates.

More Male Graduates in Engineering Sciences and Information Technology

Male university graduates, on the other hand, were concentrated mainly in Engineering Sciences and Information Technology. They accounted for 83 per cent and 65 per cent of the total university graduate population in each of these two fields of study. In Architecture & Building, male graduates also formed the majority although the differential between them and the female graduates was smaller. In the field of Law, however, the proportions of male and female graduates were almost equal in 2005.

Gender Differentials in Fields of Study by Age Group

Smaller Gender Differentials in the Younger Age Groups

Among graduates aged 40 years and over, there were 9 males to every 5 females. In the next younger age group of 30–39 years, males outnumbered females to a lesser extent, with 6 males to every 5 females.

In contrast, for graduates aged 25–29 years, there were only 4 males for every 5 females. The lower male-female ratio for this age group could be attributed to some males still pursuing university studies after fulfilling their National Service obligation.

The smaller gender differentials for those aged 30–39 years vis-à-vis those aged 40 years and over showed that female university graduates are fast catching up on their male counterparts in the pursuit of university education.

Younger Female Graduates Predominated in Three of the Top Five Fields of Study

Gender concentrations across the different age groups among university graduates differ in pattern for the top five fields of study.

In the field of study of Natural, Physical, Chemical & Mathematical Sciences, female graduates in the younger age groups outnumbered their male counterparts by a large margin. Among those aged 25–29 years, female graduates far outnumbered their male counterparts at 398 males to 1,000 females. However, there were more males than females aged 40 years and over in this field of study with a ratio of 1,358 males to 1,000 females (Table 2).

TABLE 2 RESIDENT UNIVERSITY GRADUATES BY FIELD OF STUDY AND AGE GROUP, 2005

Field of Study	Overall	Males Per 1,000 Females		
		25–29 Years	30–39 Years	40 Years & Over
Total	1,162	796	1,170	1,822
Top Five Fields of Study				
<u>Female Domains</u>				
Natural, Physical, Chemical & Mathematical Sciences	829	398	812	1,358
Business & Administration	794	426	764	1,630
Humanities & Social Sciences	570	449	447	892
<u>Male Domains</u>				
Engineering Sciences	4,804	2,781	5,069	11,696
Information Technology	1,863	1,504	2,096	2,401

The gender differences for Business & Administration also displayed a pattern similar to Natural, Physical, Chemical & Mathematical Sciences graduates. The ratio for Business & Administration graduates aged 25–29 years was lower at 426 males to 1,000 females compared with 764 males to 1,000 females for those aged 30–39 years. In contrast, there were more male than female graduates aged 40 years and over in this field of study with the ratio at 1,630 males to 1,000 females in 2005.

In Humanities & Social Sciences, female university graduates predominated across all age groups. At the overall level, female graduates in this field of study outnumbered

their male counterparts to a much greater extent than other fields of study among the top five. There were 449 males to 1,000 females among those aged 25–29 years, and 892 males to 1,000 females for graduates who were 40 years or older.

Female Graduates Fast Catching Up in Engineering Sciences and Information Technology

Although Engineering Sciences remained the domain of male university graduates across all age groups, female graduates were rapidly catching up in this field of study. For graduates aged 25–29 years, there were 2,781 males to 1,000 females compared with the much higher ratios

for those aged 30–39 years (with 5,069 males to 1,000 females) and those aged 40 years and over (with 11,696 males to 1,000 females).

The same trend prevailed for graduates in the field of Information Technology. While males outnumbered females in all age groups in 2005, the ratios of male to female graduates were smaller for those in the younger age group. Among graduates aged 25–29 years, the ratio was 1,504 males to 1,000 females, compared with 2,401 males to 1,000 females for those aged 40 years and over.

Conclusion

While male university graduates outnumbered their female counterparts at the overall level in 2005, not all fields of study were however the domains of male graduates. Gender concentrations in different fields of study showed that there were more female than male university graduates in a diverse range of subjects. For the top five fields of study, female graduates in the younger age groups either outnumbered their male counterparts or showed that they were catching up on their male counterparts in fields of study that were the domains of male graduates.

About the Data

Resident university graduates refer to Singapore citizens and permanent residents aged 15 years and over who are not attending educational institutions as full-time students and have Bachelor Degree, or Postgraduate Diploma (including National Institute of Education postgraduate diploma), or Masters, or Doctorate.

Field of study refers to the principal discipline, branch or subject matter of study that leads to the award of the highest qualification attained at university level. The Singapore Standard Educational Classification (SSEC) 2000, which comprises three integral components of 'Level of Education Attending', 'Educational Qualification Attained', and 'Field of Study', is used to classify the subject matter of study. More information on the SSEC 2000 is available from the SingStat website at

<http://www.singstat.gov.sg/stats/ssc/ssec.html>

Data for years 2000 and 2005 are obtained from the Census of Population (COP) 2000 and General Household Survey (GHS) 2005, respectively. Softcopies of the COP 2000 and GHS 2005 reports are available for online access at

www.singstat.gov.sg