



# The 'Feminisation' of Psychology in South Africa

Kerry Skinner

SKNKER001

A dissertation submitted in partial fulfillment of the requirements for the award of the  
Degree of Master of Arts in Psychological Research

Faculty of Humanities  
University of Cape Town  
2005

## COMPULSORY DECLARATION

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

Signed by candidate

Signature: Signature Removed

Date: 11 October 2005

## **ACKNOWLEDGEMENTS**

A sincere word of gratitude is offered to Johann Louw for his supervision and support. I would also like to thank George Subotzky for his assistance in compiling the Department of Education's information, and Johann Mouton for granting us access to the SAKnowledgebase. Further thanks go to all staff at the University of Cape Town that have assisted me in anyway during this process.

## ABSTRACT

This study investigates the gender trends within psychology since 1990 using a quantitative assessment of student enrolments and graduations, professional registrations, academic staff composition, and publication output in psychology. The findings show visible trends in undergraduate, postgraduate, professional and academic psychology in South Africa. Among the current trends, five are noteworthy: • the rapid growth of the profession; • the disproportionate increase in the number of female psychologists; • the disproportionate number of White psychologists; • the increasing emphasis on practical aspects of the discipline and the decline of the scientific; and • the under-representation of women as authors in psychology publications. By the end of 2002, 74 percent of all students enrolling in an undergraduate major of psychology were women. Women dominated the number of graduations at postgraduate level more than three to one. At professional level, over two thirds of new registrations in 2002 went to women. In 2005, more than 50 percent of Associate Professors and Senior Lecturers are women. In contrast, female authors contributed to only a third of psychology publications between 1990 and 2003. The dramatic increase of women into psychology is not unique to South Africa, nor is it unique to the profession of psychology. Similar trends have been witnessed in other professions. Four possible reasons for these trends have been identified: • the overall increase of female participation in the labour market; • gender socialisation; • the role of women in supplying 'emotional work'; and • the move within the discipline from a scientific to an applied base. Studies show that female-typed occupations are devalued cross-culturally, and when women increase numerically, the perceived prestige and status of the field often drops. Whether such a judgment will remain valid for psychology remains to be seen.

## TABLE OF CONTENTS:

Declaration	I
Acknowledgements	II
Abstract	III

### CHAPTER 1: INTRODUCTION

1.1 Women in the workforce	1
1.2 The South African labour market	2
1.3 Higher education in South Africa	3
1.3.1 The public higher education system	3
1.3.2 The university sector	5
1.4 The South African academic workforce	6
1.4.1 Academic staff in the public higher education system	7
1.4.2 Female academic staff in the university sector	8
1.5 Publication output in South Africa	9

### CHAPTER 2: WOMEN'S PARTICIPATION IN PSYCHOLOGY

2.1 History of psychology in South Africa	12
2.2 Psychology in higher education	13
2.3 Professional psychology in South Africa	14
2.4 Professional psychology in other countries	15
2.5 Category (sub-field) differences in psychology	16
2.6 Publication output in psychology	17
2.7 Academic staff in psychology departments	18
2.8 Explanations	19
2.8.1 Gender socialisation	19
2.8.2 Women's numerical increase into the labour market	20
2.8.3 The role of women in supplying 'emotional work'	21
2.8.4 Women and the applied areas of psychology	22
2.8.5 The under-representation of women as academics and authors	22

2.9 Rationale of the study	23
2.10 Aim of the study	24

### **CHAPTER 3: METHOD**

3.1 Compilation of Department of Education (DoE) statistics for Higher Education	26
3.2 The Health Professions Council of South Africa (HPCSA)	29
3.3 Academic staff in psychology departments in the university sector	29
3.4 The Department of Education's website	31
3.5 SAKnowledgebase	31

### **CHAPTER 4: RESULTS**

4.1 The bigger picture: trends in higher education	33
4.1.1 Undergraduate enrolment data	33
4.1.1.1 Overall enrolment at undergraduate level	33
4.1.1.2 Psychology enrolment at undergraduate level	35
4.1.1.3 Engineering enrolment at undergraduate level	38
4.1.2 Graduation data	40
4.1.2.1 Overall graduation data	40
4.1.2.2 Psychology graduation data – first degree	40
4.1.2.3 Psychology graduation data – at postgraduate level	43
4.2 Psychology at a professional level	45
4.2.1 Overall increase in professional registrations	45
4.2.2 New registrations	46
4.2.3 Psychology categories	48
4.2.4 Total registrations at the end of May 2004	50
4.2.5 Professional registrations by Black South Africans	52
4.3 Academic staff	54
4.3.1 Women's overall representation in the university sector	54
4.3.2 Overall representation in the university sector by race	56
4.3.3 Academic staff in psychology departments	57
4.4 Women's publication output	58

4.4.1 Article output and productivity in psychology	58
4.4.2 Sex distribution of publication output	60
4.4.3 Race distribution of publication output	61

## **CHAPTER 5: CONCLUSION**

5.1 Limitations of this study	70
5.2 Strengths of this study	71

<b>References</b>	72
-------------------	----

## **Appendices**

Appendix A: Information on mergers and new university names	82
Appendix B: The breakdown of the three broad fields of study into the 22 CESM categories	84
Appendix C: The 'profile sheet' that was emailed to various psychology departments	85
Appendix D: The number of Honours and Master's degrees awarded in psychology by sex and race	86

# CHAPTER 1:

## INTRODUCTION

The representation of women has increased substantially in many scholarly disciplines and professions over the last few decades. Many professional and scientific disciplines have experienced significant increases in the number and proportion of women among their ranks. Within this group, psychology and other disciplines sharing similar characteristics have witnessed major shifts in sex composition. However, the increasing representation of women in psychology has been especially striking. This chapter presents a general overview of the position of women within South Africa in terms of their overall participation in the labour market and the public higher education system, their representation in academia and their contribution to publication output. The next chapter will then discuss women's involvement in psychology in these various areas. Possible explanations for women's increasing participation within these areas and women's attraction towards psychology are also discussed.

### **1.1 Women in the workforce**

One of the most dramatic changes in western society in the post-war years has been the intensification of women's participation in the paid labour force. All over the world, the number of working women has rapidly increased (Casale, 2004). Women, of course, have always worked, performing paid labour as well as housework. Nevertheless, in most cases, working for wages tended to be temporary and discontinuous, usually confined to the times in women's lives when their family duties were lightest or to moments of national emergency when they were called on to substitute men. Beginning in the early 1960s, in most industrialised countries, not only did women enter the paid labour force in increasing numbers, but their attachment to employment became much more permanent (Hagen & Jenson, 1988). Work became redistributed across the life-cycle; not only were unmarried younger women concentrated in the workforce, but older married women began entering paid labour in growing numbers (Hakim, 1996). Changes in paid work, education and the family have propelled this movement and have created a more decisive attachment to the labour market and the development of a more continuous career pattern for many women (Evetts, 1994).

The term 'feminisation' has been proposed by Howard in 1987 (Richter & Griesel, 1999), and refers to the growing movement of women into certain areas of study and work. It represents a

significant alteration of a field in terms of its sex composition (Philipson, 1993). The term feminisation has three distinct meanings:

- A statistical meaning, used in calculating the relative percentages of men and women in a given profession;
- A meaning related to the effects of the weight of numbers;
- The rate of access of women into a profession (European Trade Union Committee for Education (ETUCE) Working Group, n.d., p. 6).

In this study, feminisation will be used in the first sense.

The word 'sex' will be used throughout the present study instead of the word 'gender'. The term 'sex' refers to the biological differences between women and men and is captured by the terms 'male' and 'female'. On the other hand, 'gender' is taken to refer to the socially constructed 'masculine' and 'feminine' characteristics and associated roles attributed to men and women, which shape the lives and experiences of men and women differently (CREST, 2004a).

Many professional and scientific disciplines have experienced significant increases in the proportion of women among their ranks to the point that many have been 'feminised' in a numerical sense. Occupations that have undergone a perceptible sex transformation are: psychology (Philipson, 1993; Richter & Griesel, 1999; Sexton & Hogan, 1992; Ussher & Nicolson, 1992); medicine (Allen, 1988; Riska & Wegar, 1993); teaching (Wylie, 2000); law (Evetts, 1994); sales and manufacturing (Nicolson, 2000); bank telling, clerical work, real estate, book editing, and baking (Philipson, 1993); and health care (Nicolson & Ussher, 1992; Rosser, 1988).

The South African labour market has not been immune to these international trends and has undergone a 'female revolution' with women occupying 85% of net new jobs created between 1995 and 2001 (Casale, 2004). Standing *et al.* (1996, as cited in Casale, 2004, p.1) remarking on the South African labour market commented that "*[p]erhaps the most important change in labour supply over recent years has been the rising labour force participation of women*".

## **1.2 The South African labour market**

In September 2002, the overall level of employment in South Africa was estimated at 11.2 million people. Of these, 43.9% (4 841 000) were women: of whom 66.3% were African women and 33.7% were 'other' (Department of Labour, 2003). Casale (2004, p.1) using the national survey data for the period 1995 to 2001, reported that there is clear evidence of a 'feminisation' of the South

African labour force over this period. Between 1995 and 2001, the female population of working age (15-65 years) increased by close to 1.7 million women. Women's 'strict participation rate'<sup>1</sup> increased from 38.3% in 1995 to 50.7% in 2001, while men's 'strict participation rate'<sup>2</sup> increased from 58.6% in 1995 to 63.8% in 2001 (Casale, 2004). Although male participation rates were still significantly higher than female participation rates in 2001, the gap narrowed over the period, as has been the case in many other developed and developing countries that have been reviewed (Standing, 1999, as cited in Casale, 2004, p. 4).

The increase in the number of women into the labour market has been paralleled by an increase of women enrolling and graduating within higher education in South Africa. Data on higher education indicate that since 1988, the number of female students has increased so substantially that they now outnumber male students (Subotzky, 2003).

### **1.3 Higher education in South Africa**

#### **1.3.1 The public higher education system<sup>3</sup>**

Since 1990, there have been colossal changes within South Africa both socially and politically with the breakdown of the apartheid system and the opening up of higher education institutions to all South Africans. Firstly, there has been a rapid expansion of public and private education. Secondly, the racial and sex composition of the student and staff body in the public sector has changed noticeably in line with the government's equity goals (Bunting, 2002; Study South Africa (StudySA), 2004). Consequently, many more South Africans are completing higher education than during the apartheid era. The proportion of South Africans with tertiary education rose from 6% in 1996 to 8% in 2001 – the proportion of African people with tertiary qualifications grew from 3% to 5%; among Coloured people the rise was from 4% to 5%; among Indians from 10% to 15% and among Whites from 24% to 30% (StudySA, 2004).

The higher education sector has grown substantially over the past two decades. As far as enrolments are concerned, 1984 saw just under 250 000 students enrolled in South African universities and technikons (Cooper & Subotzky, 2001). This figure increased to nearly 700 000 in 2002, nearly tripling the number of students in 1984 (StudySA, 2004). The average annual increase in headcount

---

<sup>1</sup> The number of women in the total labour force divided by the size of the female working age population.

<sup>2</sup> The number of men in the total labour force divided by the size of the male working age population.

<sup>3</sup> As of January 2005, the public higher education sector consists of 16 universities and 8 technikons (universities of technology): see Appendix A for information on mergers and new university names.

enrolments has been around 4%. Enrolments in higher education reached their peak in 1998, and then fell by 23 000 (4%) between 1998 and 1999. In 2000, enrolments increased again by nearly 3% primarily due to a sharp increase in distance education (Bunting, 2002). By 2000, distance education accounted for about 39% of total enrolments (Subotzky, 2003).

In terms of sex, the number and proportion of female enrolments in the public higher education system increased steadily from 43% (146 543) in 1988 to 53% (323 039) in 2000 (Subotzky, 2003). In terms of race, White students formed the majority until 1994. By 2000, Africans were in the majority. African enrolments rose fourfold, from 29% (97 485) of the total in 1988, to 60% (368 289) of the total in 2000 (Subotzky, 2003). Together with Coloured and Indian students, Black<sup>4</sup> students made up 73% of all student headcounts in 2000 (Bunting, 2002). Conversely, the proportion of White enrolments dropped from 58% (196 204) of the total in 1988 to 27% (165 978) of the total in 2000 (Subotzky, 2003).

In terms of the Classification of Educational Study Material<sup>5</sup> (CESM) in 2001, the majority of all Master's degrees were awarded in the Social Sciences and Humanities (58% or 18 435) with nearly equal numbers in the Natural Sciences and Engineering (21% or 6 740) and Health Sciences (21% or 6 822) (CREST, 2004a). The proportion of Master's degrees awarded to women increased from 35% in 1992 to 44% in 2001 in Social Sciences and Humanities; from 34% to 48% in the Health Sciences and from 23% to 35% in the Natural Sciences and Engineering (CREST, 2004a). However, even though there has been an increase in the number of female Master's graduates in each of these categories, women still represented less than half of all Master's degree holders in 2001.

The number of women earning undergraduate and postgraduate degrees in all fields has grown substantially in the last two decades. However, the numerical increase of women into higher education has been felt in certain faculties more than others. Psychology (Richter & Griesel, 1999) and medicine (Keeton, 2004) are two disciplines that have witnessed a marked increase in the proportion of female students at all levels of qualification. Engineering (Pocock, 2004) and computer science (Galpin, 1992; Galpin & Sanders, 1993) on the other hand, have witnessed a more gradual increase of female students.

---

<sup>4</sup> The term "Black" is used to refer collectively to all those social groups which were disadvantaged through apartheid, i.e. African, Coloured and Indian. Capital letters will be used for the sake of consistency.

<sup>5</sup> See Appendix B for the breakdown of the three broad fields of study into the 22 CESM categories.

The concentration of women in the Health Sciences and Social Sciences is not unique to South Africa. A large study conducted at the University of Michigan in America, showed that females tend “to choose careers in the biological sciences – social sciences, environmental sciences and medicine – over the mathematically based sciences because they perceive the latter to be less people-orientated and to have less value to society” (Chamberlin, 2003, p. 13).

### 1.3.2 The university sector

The public higher education system remains a university dominated one. In 2000, the proportion of headcounts in the university sector was 65% compared to 35% in the technikon sector (Bunting, 2002). Universities will be discussed for the remainder of this section on higher education as psychology is only taught in the university sector in South Africa.

University student enrolments at all levels of study increased substantially over the period 1992 to 2001. Total student enrolments in 1992 came to 325 781. This increased by nearly 24% to 426 274 in 2001. In 1992, female students constituted 48.6% of the total student body; in 2001 this had changed to 56.7%. This meant that there were different percentage growth rates for female and male students over this period: the female student body increased by nearly 53% over this period compared to just over 10% for their male counterparts (CREST, 2004a). In terms of enrolments, female students constituted 51% of all undergraduate enrolments<sup>6</sup>; 45% of all lower postgraduate enrolments<sup>7</sup> and only 32% of all Master’s and Doctoral enrolments<sup>8</sup> in 1992. In 2001, these percentages had increased to 58%, 58% and 42% respectively (CREST, 2004a). It is interesting to note that African women were the fastest-growing sex-race group during this time, and that in 1998, they constituted 30% of total headcounts at university level (Cooper & Subotzky, 2001).

The trends with regard to student graduations are not dissimilar to the enrolment trends. Total graduations increased from 52 490 in 1992 to 73 012 in 2001 – an overall increase of just over 28%. At the end of 1992, the total number of female graduates constituted just over half of the total number of graduations (51%); this changed to 60% in 2001. Again this implies differential growth rates in graduations for female and male students. The overall growth rate for female graduations was 63% compared to 13% growth in male graduations for the same period (CREST, 2004a). The proportion of women in the lower postgraduate<sup>9</sup> category increased from 49% in 1992 to 57% in

---

<sup>6</sup> Undergraduate diploma/certificate; General Academic First degree; Professional First Bachelor degree.

<sup>7</sup> Postgraduate Diploma/Certificate; Postgraduate Bachelor degree; Honours degree.

<sup>8</sup> Master’s degree; Doctoral degree.

<sup>9</sup> Postgraduate Diploma/Certificate; Postgraduate Bachelor degree; Honours degree.

2001 and the proportion of female graduates with Master's and Doctoral degrees increased from 32% in 1992 to 43% in 2001. The comparable percentage growth in female student headcounts for each graduation category between 1992 and 2001 is: 40.7% (undergraduate); 94.7% (lower postgraduate); and 108.8% (Master's and Doctorate) (CREST, 2004a).

In terms of race, African graduates constituted 19% of all Doctoral awards, and Coloured and Indian graduates 5% each in 2000 (Black students were awarded 29% and White students 71% of all Doctoral degrees). In terms of sex and race, women were awarded 42% of all Doctoral degrees, and of these 79% were White women (Koen, 2003). However, the number of Master's and Doctoral degrees awarded to African candidates is increasing. From 1996 to 2000, the number of African male Doctoral candidates at universities increased from 394 to 1 048, while African female Doctoral candidates increased from 148 to 421. Among these cohorts, 8 women and 47 men obtained Doctorates in 1996 as compared with 40 African women and 116 African men in 2000 (Koen, 2003).

Therefore, looking at the overall trends in higher education headcounts, one can see that the number and proportion of both female and Black students has increased substantially over the last decade. This indicates a growing 'labour supply pool' of both women and Black candidates - for positions in academia (Koen, 2003). However, while a 'revolution' is occurring in the composition of the student body, little change has been witnessed in the composition of academic staff within higher education institutions (Gibbon & Kabaki, 2002). Despite the marked improvements in training level, there remain relatively few women and Black staff in academia, especially in senior positions within the higher education sector (Cooper & Subotzky, 2001).

#### **1.4 The South African academic workforce**

South Africa, with its history of colonialism, has a university system that, in terms of academic hierarchy, largely resembles the 'English model' (Bain & Cummings, 2000, as cited in CREST, 2004a, p. 91). The English academic hierarchy is almost pyramid-like in shape, with limited positions at the top. Similarly, there exists strong competition for promotion into senior academic ranks within the South African higher education system. Women have been slow to enter the academic labour force, although there is evidence that they are doing so in increasing numbers over the last decade. However, these changes have occurred mainly at the lower ranks of academia (De la Rey, 1998).

### **1.4.1 Academic staff in the public higher education system**

Academic (instruction/ research) staff refers to all personnel who (a) spend at least 50% of their time on instruction and/or research activities in the higher education sector, and (b) have obtained a higher education qualification equivalent to at least four years of higher education study (SAPSE/HEMIS definition as cited in CREST, 2004a, p. 16).

In 1988, academic staff in all public higher education institutions was made up of 11 770 permanent staff members. This number increased to 13 558 in 1998 and 14 740 in 2001 (Cooper & Subotzky, 2001; Department of Education (DoE), 2003). Women made up 27% of all academic staff in 1988 (Cooper & Subotzky, 2001). By 2001, the proportion of female staff had increased to 43% - White women made up 30%, African women 8%, Indian women 3% and Coloured women 2% of female staff members in 2001 (CREST, 2004a).

The overall racial composition of the academic workforce in higher education has changed marginally over the last decade. The percentage of White academic staff in permanent positions has declined from 89% to 79% between 1988 and 1998, while the percentage of Black academic staff has increased from 11% to 21%. In 1988, 6% of staff were African, 2% were Coloured, 3% were Indian and 89% were White. In 1998, this had shifted to 13% African, 3% Coloured, 5% Indian, and 79% White academic staff (Cooper & Subotzky, 2001). In technikons, the change was more marked, with the percentage of White academic staff declining from 89% in 1988 to 76% in 1998 and the percentage of Black academic staff increasing from 11% to 24% (Cooper & Subotzky, 2001). Significant discrepancies continue to exist considering that African academics comprised only 20% of academic staff in universities and technikons, but constituted 76% of the national population and about 57% of student headcounts in 1998 (Koen, 2003).

Although it is not a significant part of this study, one has to comment on one further demographic characteristic of the academic workforce in South Africa. Recent figures show that permanent academics within the higher education system are 'aging' (Koen, 2003). In 1992, about 10% of academics were older than 55 years (Budlender & Sutherland, 1995 as cited in Koen, 2003, p. 509). In 2000, 25% of all staff were 'under 35 years'; 62% were aged between '35 and 54 years'; and 13% of all staff were '55 years and older'.

In terms of sex, female staff are best represented in the younger age groups - below 34 years of age (CREST, 2004a). In 2001, 60% of academic staff under the age of 25 years, were women; 35% of

staff in the age group '45 to 54 years', were women; 25% in the '55 to 59 year' age group, were women; and only 19% of all '60 and over' staff members, were women. Thus, as the age level of academic staff members increases, the proportion of female academic staff in these age groups decreases - age level clearly overlaps with rank and qualification levels (CREST, 2004a). Thus, with more men in the 'older' age groups and more women in the 'younger' age groups, it is not surprising that more men are found in the senior rank positions. King (1994) suggests that promotion is affected by ascriptive considerations such as age, seniority and length of service. In the study by CREST (2004a, p. 88), the researchers calculated what chance the average male academic (compared to the average female academic) has of being a Professor. In the age group of 30 to 39 years, men with a Master's degree have a three times greater chance of being a professor than a woman with the same qualification. A man's chance of being a Professor increases as he gets older ie. in the above 60 age group, a man with a Master's degree has a seven times greater chance of being a professor than a woman of equal qualification.

#### **1.4.2 Female academic staff in the university sector**

The total percentage of female academics at universities has increased from less than a third (30%) in 1992 to 40% in 2001 (CREST, 2004a; De la Rey, 1998). But despite this increase, female academics remain under-represented in the two most senior ranks of Professor and Associate Professor<sup>10</sup>. In 2001, the academic staff in the university sector comprised of 18% professors, 11% associate professors, 26% senior lecturers and 45% lecturers and below (Koen, 2003). Of these, women represented 14% of all professors, 26% of all associate professors, 37% of all senior lecturers, 54% of all lecturers and 56% of all junior lecturers (CREST, 2004a). These percentages however, show an increase from the 1992 statistics (except in the junior lecturer position where a drop of 4% is recorded). In 1992, women only represented 7% of professors, 15% of associate professors, 26% of senior lecturers, 46% of lecturers and 60% of junior lecturers (CREST, 2004a). It is interesting to note that women only reached parity with men at the lecturer level after 1995 (Gibbon & Kabaki, 2002).

The 'pyramid-like' shape of academia, in which men are in the senior ranks and women are in the lower ranks, has not changed significantly over the last decade within American universities (Kite *et al.*, 2001). Similarly, in South Africa, women are markedly under-represented in the higher

---

<sup>10</sup> The five academic ranks in order of seniority are Professor, Associate Professor, Senior Lecturer, Lecturer and Junior Lecturer.

academic ranks and adequately represented (more than 50%) in the three lower ranks (CREST, 2004a; De la Rey, 1998).

According to previous research, rank and productivity are highly related, and it has been found that “rank is the best predictor of publication, however measured” (Nakhaie, 2002, as cited in CREST, 2004a, p111). Rank is therefore considered a central institutional variable in any analysis of scientific productivity. In the next section, publication output will be discussed.

### **1.5 Publication output in South Africa**

A large South African study by CREST (2004a) reported a sex gap in productivity, measured in the number of articles published, with women producing less. While women make up more than two-fifths of the academic professional staff in higher education, less than one third (29%) of all active publishing scientists on the SAKnowledgebase are women (CREST, 2004c).

In another study of scientific output in South Africa, Pouris (1996, as cited in Bawa & Mouton, 2002, p.311) identifies a steady decline in the proportion of publications by South African authors in ISI (Institute for Scientific Information) journals as compared with world output. Pouris’ analyses clearly show how publication output in South Africa experienced a gradual growth between 1980 and 1987 (increasing from 2 200 publications in 1980 to 3 400 in 1987). Over that period, South Africa’s output as a proportion of world output increased from 0.4% to nearly 0.7%. However, after peaking in 1987, overall output has remained pretty much the same at an average of 3 300 publications per year until 1994. This in effect has meant a drop in proportion of world share from 0.7% in 1987 to 0.4% in 1994 (Bawa & Mouton, 2002).

In terms of sex, publications in South Africa are much more likely to be authored by men than by women (Bawa & Mouton, 2002; CREST, 2004a; De la Rey, 1998). Female authors only produced 17% of the total scientific output during the period 1990 to 1998 (Bawa & Mouton, 2002). Female and male authors have two similarities: the overwhelming majority of both are White and employed at universities. However, most publishing women tend to be younger and less qualified than their male counterparts; tend to be concentrated in the lower ranks of Lecturer and Senior Lecturer, and are much more likely to be working in the Social Sciences and Humanities than in other fields (CREST, 2004a).

In terms of race, White authors produced by far the largest proportion of scientific articles during the 1990s (93.5%). Indian South Africans produced 3.2% of the total output, African authors 2.1%, and Coloured authors 1%. However, the data shows that the output by African authors has increased from 20 units (1%) in 1990 to 59 units (2%) in 1994 and 63 units (3%) in 1998. For Indian South Africans the number of units has decreased from 93 in 1994 to 71 in 1998 (Bawa & Mouton, 2002).

Recent studies show a gradual 'aging' of the publication population (Bawa & Mouton, 2002; Kraak, 2003). Higher education institutions and science councils are struggling to recruit and retain young scholars who publish. Hence, there has been a general decline in the number of articles produced by authors in the '30 to 39 year' and '40 to 49 year' age groups, and a parallel increase in the output of authors in the '50 to 59' and '60 years and older' age groups. These results show that more than 40% of all articles produced were generated by authors in the '40 to 49 year' age groups and approximately a quarter of the output was produced by each of the '30 to 39 year' and '50 to 59 year' age cohorts (Bawa & Mouton, 2002). Combined age, sex and race data suggest that a 'serious crisis is looming', as the White male 'over 50' publication population moves closer to retirement, there is little evidence of a commensurate younger Black or female cohort 'waiting in the wings' (Kraak, 2003, p. 5).

The lower publication rate amongst women is not unique to South Africa (CREST, 2004a). A review of more than fifty studies from around the world determined that male scientists publish nearly twice as much as female scientists (Zuckerman, 1991). Indeed, this pattern is considered to be one of the most persistent differences in research production found in studies all over America and Europe (CREST, 2004a). There is evidence to suggest however, that the sex gap in publication output may be gradually closing in South Africa (CREST, 2004a; Shefer, Shabalala & Townsend, 2004).

One's published work is arguably the most crucial indicator of one's academic success given that a 'good' publication record facilitates access to funding and other recognition and rewards such as scientific rating (CREST, 2004a). Unwin (1998) observes that authorship and publications are increasingly becoming critical determinants of academic status, appointments, tenure and promotions, particularly in the university sector. Publications can therefore be considered to be of vital importance, as they are often viewed as an important criterion for the appointment and promotion of most academics (Duncan, Stevens & Bowman, 2004). Perhaps the low rate of publication output by women and the under-representation of women in senior ranks within academia are in some way related.

Women's overall movement into the workforce and into the higher education system has been striking within South Africa. However, there has not been a corresponding increase in the number of women in senior academic positions or in publication output. Similarly, there has been a significant increase in the number of Black men and women entering the workforce and higher education sector, with little improvement in their representation as academics or authors. In 2002, the number of women and Black authors and academics was still marginal in contrast to the number of White men in these areas. The proportion of women and Black South Africans in higher education showed a different pattern. By 2002, women and Black students were in the majority in the public higher education sector and were entering the labour market in increasing numbers.

The increase in the number of women into the higher education sector and the labour market has not been evenly distributed - certain professions and scholarly disciplines have witnessed a greater influx of women. This study will focus on psychology, where there is evidence that 'feminisation' has been particularly rapid and wide-ranging. The next chapter will summarise the evidence we have of this trend, in South Africa and in other countries. Possible explanations for this movement will also be discussed.

## **CHAPTER 2: WOMEN'S PARTICIPATION IN PSYCHOLOGY**

Women's participation has increased in many disciplines and professions over the past two decades, but the growth has been particularly striking in psychology. This chapter is based on existing information about women's participation in psychology, in South Africa and in other parts of the world. It will consist of a brief history of psychology in South Africa, followed by an overview of students in psychology, professionals, academic staff in psychology departments, and psychology publication output in South Africa.

Information on racial demographics will also be included, as the aim of this study is to provide an accurate and comprehensive portrait of psychology in South Africa. Decades of apartheid legalization have clearly left its imprint on the profession. Thus, the focus on sex without regard to race would ignore a powerful dimension of social stratification within psychology. Race will therefore be included where possible, but will not be the main emphasis of this study.

### **2.1 History of psychology in South Africa**

"Psychology in South Africa is more similar to, than different from, psychology anywhere else in the world" (Painter & Terre Blanch, 2004, p. 520). The development of psychology in South Africa follows a path that closely parallels the discipline's international history. Academically, the South African scene increasingly resembled the architecture of disciplinary formation and specialisation internationally, with clear distinctions developing between the various 'sub-disciplines' (Painter & Terre Blanch, 2004).

According to the history constructed in D. Louw (1995, as cited in Richter *et al.*, 1998), psychology has been taught as a separate discipline in South Africa since 1917, when the first sub-department of Psychology was established in the Department of Philosophy at the University of Stellenbosch. Nearly ten years later, the first independent Psychology department was founded at Rhodes University.

The first psychological organisation that attempted to organize or represent psychologists in South Africa was founded in 1948 (Duncan, Stevens & Bowman, 2004). The establishment of the 'South African Psychological Association' (SAPA) consisted of a total of 34 psychologists, all of whom

were White. After the establishment of this first professional body, psychology increasingly experienced 'exponential growth' and 'rapid professionalisation' (Louw & Foster, 1991). In 1964, legalization was passed which made the voluntary certification of psychologists possible (Louw, 1990). A decade later, psychology became a statutorily recognised profession, with the promulgation of the Mental, Dental, and Supplementary Health Service Professions Act No.56, of 1974. This Act, registered under the South African Medical and Dental Council (SAMDC) (currently known as the Health Professions Council of South Africa (HPCSA)), restricted the title of 'psychologist' to registered professionals (Louw, 1992; Richter *et al.*, 1998). From then onwards, psychologists could register in one or more of five professional categories, namely clinical, counselling, educational, industrial and research psychology.

This historical sketch of psychology in South Africa has been brief as this is not the purpose of the study. However, this background information is important for placing the findings of this study in context.

## **2.2 Psychology in higher education**

As an academic discipline, psychology enjoys immense popularity. Between 1979 and 1983, psychology was by far the most popular major subject in the Arts and Social Sciences in South African universities (Louw, 1992). Louw, commenting on a survey conducted among South African universities, estimated that approximately 20% of all students enrol for a course in psychology. Evidence shows that the majority of these students are female. The number of women in undergraduate and postgraduate psychology is reported to have 'increased phenomenally over the last two decades' (Richter & Griesel, 1999, p. 135).

An increasing movement of female students into psychology has also been reported in several other countries. This trend has been noted especially in Canadian (Boatswain *et al.*, 2001), British, and American studies (Radford & Holdstock, 1995), although the increase of female psychology students in these countries appears to have begun much earlier than in South Africa. For example, in the United Kingdom, the number of female students with a first degree (undergraduate degree) in psychology reached parity with male students before 1970. The Hansard Society in America noted that psychology undergraduates and postgraduates in American universities are much more likely to be female than was the case in the 1980s (Nicolson, 1992). In 1990, the proportion of Bachelors<sup>11</sup>, Master's and Doctoral degrees awarded in psychology to women in American universities was

---

<sup>11</sup> What would be referred to as an undergraduate (first) degree in South Africa.

already 73%, 69% and 61% respectively. Furthermore, the proportion of female students gaining psychology degrees is anticipated to 'inch upward in the future' (APA Task Force, 2000).

Virtually all South African departments of psychology offer training that leads to professional registration in one of the five categories of psychology, namely clinical, counselling, educational, industrial and research psychology. The competition for places in these postgraduate training courses is growing. Less than 20% of all applicants for clinical training are accepted, 30% for counselling, and about 75% for industrial psychology. For students wishing to do a Master's degree in research, the acceptance rate is considerably higher (Louw, 1992). For example, from a first year class of psychology students in 1993, only 6.8% of these students went on to complete an Honours degree in psychology and only 2.9% of them completed a Master's degree in psychology (Richter *et al.*, 1998). This demonstrates the limited selection of students for training at Master's level. However, even with the limited number of students into professional training, the proportion of female students obtaining Master's degrees has increased (Richter & Griesel, 1999). In a study by Mayekiso, Strydom, Jithoo and Katz (2004), it was found that female students represented at least 50% or more of the students selected for clinical training in the last ten years. Their analysis of male representation in clinical training showed that there had been a steady decline in the number of male students in professional training courses during this time. Between the years 1995 and 1997, men represented between 35% and 55% of the students in clinical training. From 1998 onwards, men dropped to 25% and more recently, in 2004, only 16% of trainees in clinical programs were male. It is clear therefore that the proportion of female students in professional clinical training programmes has increased over the last decade.

A Master's degree is currently the core of the psychological profession and a minimum requirement for registration in any one of the five professional categories. An additional 12-month internship at an accredited institution is required for registration as a psychologist (Louw, 1992). Since 2003, the requirements for clinical psychology include an additional year of community service after the year of internship (Ahmed & Pillay, 2004). The increasing number of women obtaining Master's degrees has important implications for the demographic make-up of the profession.

### **2.3 Professional psychology in South Africa**

Records from the Health Professionals Council of South Africa (HPCSA), under which the Professional Board of Psychology is registered, reflect that the number of women entering the profession has risen dramatically over the last two decades. Since the late 1980s, more women than

men have been registering with the Board per year. However, it was only at the end of 1996 that there were equal numbers of male and female psychologists (2130 and 2125 respectively) registered in South Africa (Richter & Griesel, 1999).

Richter and Griesel (1999), commenting on psychology's racial demographics at the end of 1996, report that "psychology remains a largely white profession" with the number of Black psychologists, although increasing, constituting less than 10% of total registrations with about equal numbers of men and women (p.135). Recent statistics provided by the Health Professions Council of South Africa in 2004, indicate that Whites comprise just over 82%, and Blacks nearly 18% of psychologists currently registered in South Africa (of the registered Black psychologists, 68% are women and 32% are men). In terms of women and race, White women and Black women account for the same proportion of registrations (68%) compared to men, however, White women are by far in the majority in terms of numbers (Duncan, Van Niekerk & Townsend, 2004).

#### **2.4 Professional psychology in other countries**

Research has shown that psychology is becoming a female dominated profession around the world, and in some countries dramatically so (Richter & Griesel, 1999; Sexton & Hogan, 1992). In *International Psychology* (1992), edited by Sexton and Hogan, five countries were identified as having a highly 'feminised' psychology profession. These countries include the Dominican Republic, where 95% of all new psychologists are female (Pacheco, 1992); the Philippines, where the ratio of female to male psychologists is 5 to1 (Aldaba-Lim, 1992); in Argentina, where the female to male ratio is 4 to1 (De Kohan, 1992); and Venezuela (Salazar, 1992) and Poland (Chlewinski, 1992), where the ratio is 3 to1. Other countries reported a higher proportion of male to female psychologists. These countries were Norway, New Zealand, Egypt, Japan and Korea (Sexton & Hogan, 1992). Although these countries reported a larger number of male psychologists at professional level, they also commented on the increasing number of female psychology students at university level, suggesting changes in the gender ratios in the future. At the beginning of the 21<sup>st</sup> century, these changes are becoming increasingly visible at a professional level in the majority of countries around the world (Denmark, 1998). The perceptible increase of women in professional psychology in South Africa therefore is characteristic of this global trend (Richter & Griesel, 1999).

## **2.5 Category (sub-field) differences in psychology**

Women are beginning to fill a large number of positions in all areas of psychology worldwide. However, there is a tendency for category (sub-field) differences to exist between women and men (Ussher & Nicolson, 1992). Globally, trends demonstrate that women are more likely to be involved in the practical side of psychology; concentrated in the people-orientated, so-called 'health-service-provider' areas of psychology (Russo & Denmark, 1987; Sexton & Hogan, 1992) and are less likely to be involved in research psychology (Frosh, 1992; Philipson, 1993; Sexton & Hogan, 1992; Ussher & Nicolson, 1992).

Richter and Griesel (1999) found similar trends in South Africa: women are more concentrated in the applied categories - namely clinical, counselling and educational psychology and less well represented in the more scientific categories – such as research and industrial psychology. In the period 1994 to 1996, Richter and Griesel (1999) reported that 80% of registered counsellors were female. In comparison, only 35% of industrial psychologists and 68% of research psychologists were female.

In terms of race, White psychologists remain in the majority. In 2000, 90% of registered clinical psychologists were White and 80% of the interns and psychometrists were White (Mayekiso *et al.*, 2004; Pillay & Kramers, 2003). However, Mayekiso *et al.*, (2004) reported that although the total number of Black clinical psychologists remains marginal, there has been an increase in the number of Black trainees since 1994. Between 1994 and 1998, African students only accounted for between 13% and 14% of clinical trainees, and from 2000 onwards, this percentage increased to between 25% and 31%. Ahmed and Pillay (2004) have also reported an increase of Black students in clinical training programs.

In terms of the total number of registrations across categories, the distribution of new registrations has remained relatively stable over the last two decades. However, Richter *et al.*, (1998) reported in their study that since 1976, there has been a small overall decline in the proportion of registrations in the clinical and industrial categories, with growth occurring in the educational and research categories. The number of new registrations in the counselling category was reported to be relatively stable.

## **2.6 Publication output in psychology**

*“In South Africa it has been well illustrated that white males have dominated in psychology as a practice and in the production of knowledge, particularly as authors, where Black and female psychologists have been underrepresented”* (Shefer, 2004, p.188).

In South Africa, White males historically have dominated all spheres of professional and academic psychology. This has been particularly evident in terms of authorship, where both women and Black psychologists are under-represented, regardless of their growing numbers in professional registration (Seedat, 1998).

In a study on authorship trends in the South African Journal of Psychology (SAJP), Shefer *et al.* (2004) found that only 44% of authors, irrespective of order of authorship, were female between 1994 and 2003. Of those, 82.5% were White women and only 17.5% were Black women. It became clear from this study that a wide gap exists between the proportion of publications by men and women and the proportion of publications by White women and Black women. The number of publications by Black women is marginal in relation to the number of publications by White women and men in general (Shefer *et al.*, 2004). De la Rey and Ipser (2004) and Duncan *et al.*, (2004) also comment on the under-representation of Black women in psychology publication output.

The percentage of female authors, although just under half, does not reflect the growing number of women within the profession. However, there has been an increase in the number of female authors over the last decade. Women represented just under half of the authors over the past ten years (44%) and this was an increase on the figure of 31.5% reported by Seedat (1998) between 1948 and 1988.

Similar trends have also been identified in America and Canada. In an analysis of authorship trends in America, an increase in the number of female authors over the last twenty-five years was reported (Kite *et al.*, 2001). Similarly, in Canada, women have become better represented in the majority of Canadian Psychological Association journals (Gurevich, 2001).

As was discussed in Chapter 1 (see section 1.5.), publication output and rank position are mutually related (CREST, 2004a; Duncan, Stevens & Bowman, 2004; Duncan *et al.*, 2004). Therefore, as the number of women and Black authors is reported to be increasing, similar trends would be expected in terms of academic staff representation and promotion. As elsewhere in the world, South African women are making professional gains in all areas. However, in common with global trends, South

African women have not been found to be making corresponding gains in areas that confer status and influence, especially in the higher ranks of academia (Richter & Griesel, 1999).

## **2.7 Academic staff in psychology departments**

Research on the distribution of female or Black academics within psychology departments in the higher education sector has not been done comprehensively in South Africa. Research from abroad suggests that women's accession to senior faculty positions has not kept pace with their increasing representation in the profession. Furthermore, a scarcity of women in top positions in American academic psychology has persisted despite their increasing numbers in psychological training (Kite *et al.*, 2001). Within British university psychology departments the staff are mostly men (almost 80% are men, with 84% of senior staff being men), yet between 70% and 90% of undergraduate students are women (Nicolson, 1996). Similarly, in psychology departments in the USA, women were reported to be over-represented in the lower ranks with men more frequently in senior positions as heads of departments and professors (Nicolson, 1992).

In a recent report by the American Psychological Association (APA Task Force, 2000), however, it was noted that the representation of women in all university faculties in the USA has grown significantly over the last decade, particularly in the rank of Associate Professor (APA Task Force, 2000). Furthermore, it was noted that women's interest in research is higher than has been reported and that there is evidence to suggest that women are having greater success in obtaining external research funding.

Although evidence indicates that the visibility and status of women in psychology has increased greatly, faculty representation at universities, publication output and remuneration are still reported to lag behind the numerical increase (Richter *et al.*, 1999; Sentell, Pingitore, Scheffer, Schwalm & Haley, 2001). Within professional psychology in America, the annual salary of a female psychologist is 16% less than that of a male psychologist with the same qualification (Kite *et al.*, 2001). In South Africa too, in a study by Richter and Griesel (1999), it was reported that registered male psychologists earned substantially more than their female colleagues, regardless of the sector in which their income was earned.

Significant differences in male and female professional practices were also reported in Richter and Griesel's study (1999). More professional female psychologists in South Africa are involved in applied areas of psychology, are self-employed, and practicing their profession in a part-time,

privatised way. Few women continue their academic education or contribute in any way to scholarly publications after they leave their training. Similar trends are reported in American psychology - more women are involved in part-time, privatised health-services, and women are less likely than men to engage in research and management after their training (Denmark, 1998). Similarly, in Canada, women are concentrated in the service areas of psychology and are less likely to be employed in university settings (Denmark, 1998).

## **2.8 Explanations**

It is clear that professional psychology in South Africa is following the trends of other countries and is steadily becoming a profession dominated by women and applied psychology. There have been numerous suggestions aimed at explaining these movements both abroad (Philipson, 1993; Russo & Denmark, 1987; Sexton & Hogan, 1992; Ussher & Nicolson, 1992), and in South Africa (Richter & Griesel 1999; Shefer *et al.*, 2004). However, there are no clear explanations, nor single factors that can fully account for these trends. Nevertheless, four general explanations have been identified to explain the movement of women into psychology as a subject choice and as a profession. These include: • gender socialisation; • women's numerical increase into the labour market; • the role of women in supplying 'emotional work'; and • women's attraction to the applied areas of psychology. A brief section on the possible reasons for women's under-representation in academia will also be included. These explanations are brief, as the study focuses on the statistical meaning of the feminisation of psychology, rather than on the actual reasons for effects behind this process!

### **2.8.1 Gender socialisation**

"There has been a growing awareness in the education world of the tenacious persistence of gender as a predictor of option choice" (Rees, 1992, p. 36). Subject selection within secondary schooling acts as the main 'filtering out' process into certain areas of higher education. There are several mechanisms, explicit and implicit, which influence the selection of subjects, the success within these subject areas and individual men's and women's aspirations about careers. These mechanisms exist both within schools and in the external environments. They are located in the very different gender-determined expectations and aspirations families and communities have of female and male students (De la Rey, 1997). Of all determinants, it is clear that gender, class and race significantly affect what option and career choices women and men think are appropriate, and that this knowledge informs those decisions with regards to educational and occupational choice (Rees, 1992).

Gender role socialisation begins in the family, and nursery and primary schools continue the process as well as play a part in constructing gender through their organization and practices. These processes and practices are then continued by secondary and tertiary education systems, though perhaps in different ways, as children progress into adolescence and then adulthood. The media, interaction with other students and other factors also contribute to the gender socialisation process (Leo-Rhynie, 1999). Gender socialisation affects academic and occupational choice in three ways (Chevalier, 2004). First, socialisation affects the character traits of the individual. Second, children internalize sex-roles and reproduce them in their academic and occupational choices; and thirdly, socialisation influences the values attached to these activities.

### **2.8.2 Women's numerical increase into the labour market**

Throughout the 20<sup>th</sup> century, women's labour market participation has risen (Nicolson, 2000). Women's increased participation in the labour market has been fuelled by a number of historically unprecedented factors: • more women are enrolling and graduating within higher education (De la Rey, 1997); • explicit barriers to women's participation in the labour market have been removed (Hansen & Philipson, 1990); • women are having less children and at a later age, resulting in fewer child rearing responsibilities and thereby permitting longer time in the paid work force (Philipson, 1993); and • increasing numbers of married women have joined the workforce in order to maintain a good standard of living (Philipson, 1993). Therefore, the option of establishing a career has become more viable for an increasing number of women.

The growing representation of women in human services employment might be explained in terms of the interaction of job availability and gender socialisation. Many authors point to the similarity of the work performed in human services and women's traditional family roles. The family socializes women into nurturing and supportive roles, and as women move into the paid labour force, many continue to perform the same functions, albeit in the 'public sphere' (Brackman, Erie & Rein, 1988, p. 219). For compelling reasons, the field of psychology is therefore an attraction option for women considering a professional career.

The attraction of psychology to women is multi-faceted. There are general characteristics that attract women to certain occupations, e.g. the compatibility with child care and domestic concerns; the option of part-time work; pleasant colleagues and a friendly atmosphere; work that is not dangerous; work that is close to home; that can be easily interrupted; and that offers flexible working hours (Philipson, 1993; Hakim, 1996). Studies reveal that paid work is rarely a central life

interest for women and for most women takes second place to family obligations and concerns (Hakim, 1996). Psychology, as a profession, meets all these criteria. The majority of female psychologists in South Africa are currently practicing their profession in a part-time and privatised way (Richter & Griesel, 1999). However, perhaps more important than these logistical attractions, is the fact that the content and form of psychology is more compatible with the more traditional women's roles within the home.

### **2.8.3 The role of women in supplying 'emotional work'**

It has been noted by Ussher and Nicolson (1992), that the closer a profession is to the activities of nurturing, comforting, encouraging and 'emotional work', the more likely it is to be seen as a natural expression of women's style in general. Therefore, it is no coincidence that women have been attracted to the practical elements of psychology, as these roles require attributes that feel natural to women (Jordan, Kaplan, Baker Miller, Stiver & Surrey, 1991). Women have always been and still are assigned the role of 'emotional experts' because of their perceived womanly discernment and insightfulness in handling interpersonal relations (Riska & Wegar, 1993), and their natural ability for fostering growth and the development of others (Surrey, 1991). The increasing role of women in psychology reflects larger changes in society regarding the relative responsibility of men and women in providing intimacy and care. Such changes in this 'emotional work', a term coined by socialist Arlie Hochschild (1983) has been increasingly assigned to women.

Men's declining involvement in all areas of psychology, much like men's declining involvement in families, reinforces the widely held belief that it is women and not men who are responsible for tending to and reducing emotional pain and psychological problems. Thus, women are drawn to psycho-social healing occupations (Riska & Wegar, 1993). A widely held set of beliefs hold that certain specialities represent a suitable match for a women's 'apparent innate skills' (Brooks, 1998, p. 183). Specific jobs have, therefore, come to be associated with traits that are perceived as defined by gender. Research has historically shown that females, considerably more than males, show preferences for "occupations more directly ministrative, particularly to the young, the helpless and the distressed" (Terman & Miles, 1936, p.447). For this reason, women are attracted to the practical areas of psychology.

#### **2.8.4 Women and the applied areas of psychology**

Over the last few decades, there has been a global movement within psychology from a profession based on science to a profession dominated by practice (Sexton & Hogan, 1992). Psychology has literally become two separate professions, one a service-delivery profession and the other a scientific, academic discipline (Rice, 1997). The changes within the discipline have been interpreted as a result of the demands of the economy – the emergence of social-service-orientated economies (Richter & Griesel, 1999), and the general lack of funding for research (Sexton & Hogan, 1992). Both these factors run parallel to one another, and have resulted in a profession dominated by practice; and therefore a profession increasingly dominated by women (Frosh, 1992). This relationship between applied and scientific psychology has been referred to by Frosh (1992) as the ‘hard-soft’ dichotomy, with women tending towards the ‘soft’ areas of psychology and men towards the ‘hard’ areas of psychology. “‘Hard’ psychology is experimental, clear on statistics and the purity of research, concerned largely with part processes, physiology and cognitive science” (Frosh, 1992, p. 157). ‘Soft’ psychology on the other hand, is more people-orientated, and is concerned with subjectivity, with people’s experiences, and with caring, intuition, and emotions. Thus, as psychology becomes increasingly dominated by women, these ‘soft’ applied areas of psychology will prove to become characteristic of the profession in general.

#### **2.8.5 The under-representation of women as academics and authors**

The marginal number of female senior academics and authors is not unique to psychology or South Africa and will not be discussed in-depth in this paper. Numerous reasons have been given to explain this trend in South Africa (CREST, 2004a; De la Rey, 1998; Shefer *et al.*, 2004) and abroad (Kite *et al.*, 2001; Nicolson, 1992; Nicolson, 1996). The most common explanations are based on the barriers and obstacles women face in academia and scholarship. These include a complex combination of women’s choices (Bickel, 2000; Nicholson, 1996); the ‘glass ceiling’ (Evetts, 1994; Wickwire & Kruper, 1996); sexual discrimination (APA Task Force, 2000); feelings of ‘outsiderness and marginality’ (De la Rey, 1998); ‘ageism’ (CREST, 2004a); lack of confidence in their ability (Shefer *et al.*, 2004); constraints in combining family responsibilities with professional opportunities (De la Rey, 1998; Kite *et al.*, 2001; Nicolson, 1992); and the lack of suitable role models (Gilbert & Rossman, 1992; Shefer *et al.*, 2004).

Regardless of these obstacles and barriers, the number of women in senior academic positions in psychology departments is reported to have increased in American universities (Kite *et al.*, 2001).

This cannot be compared to staff in psychology departments in South Africa as this profile is not yet known; however, as South African psychology appears to be following the trends of countries such as America, one could expect a similar increase in representation of women in psychology departments in South Africa. Furthermore, women's contribution to publication output in psychology, is reported to be increasing in South Africa (Shefer *et al.*, 2004) and abroad (Gurevich, 2001; Kite *et al.*, 2001). Thus, the fact that women are gradually increasing in these areas, suggests that the barriers and obstacles in psychology may be more permeable than in general academia. Psychology is gradually becoming a more viable option for female researchers and academics, as well as for students and professionals.

The reasons for the feminisation of psychology are multi-faceted and complex. For this reason, the move within the discipline must be understood as being as much the unintended consequence of internal factors as they are of external factors to the profession. Psychology in South Africa, like other countries, has witnessed a marked increase in the number of women entering the profession. However, not much is known about the profile of women in other areas of psychology in South Africa, such as student enrolments and graduations, publication output, and academic staff representation. International trends show that women are continuing to move into all areas of psychology in increasing numbers and at a steady rate, suggesting similar trends for psychology in South Africa. The aim of this paper will be to explore the gender trends within psychology, at an academic and professional level to examine the extent that psychology has been feminised in South Africa.

## **2.9 Rationale of the study**

In a comprehensive review of the literature on gender trends within psychology, it was noted that the 'feminisation of psychology' is a worldwide and well-documented phenomenon. However, a great deal of information is known about the position of women in psychology internationally, and less is known about the profile of women in psychology in South Africa. In countries like America and Canada, extensive research has been conducted, and information on the profiles of psychology students, professionals, academics etc. is readily available (see Denmark, 1998; Gurevich, 2001; Kite *et al.*, 2001). However, in countries like South Africa, where there are a limited number of good data sources, little research has been conducted that includes more than one data source.

There have been a few studies that have focused on gender trends within specific areas of psychology, i.e. publication output (Seedat, 1998; Shefer *et al.*, 2004); professional registrations

(Richter & Griesel, 1999) and postgraduate selection (Mayekiso *et al.*, 2004). To date, there has been no study that has done a comprehensive analysis on the trends of those in the field of psychology (students, academics and professionals) at the various levels of psychology (higher education, professional registration, authorship, and academic staff representation). Furthermore, no study has comprehensively examined student records in psychology.

## **2.10 Aim of the study**

The main aim of the present study will be to provide an up-to-date description and analysis of sex trends within South African psychology over time, based on academic and professional records, academic staff representation and publication output.

Race, as a variable of analysis, will also be included. However, this will not be the main variable of enquiry, but rather an additional area of analysis.

The main aims of the present study will be to provide:

- A macro view of the sex and racial trends of ALL student enrolments and graduations (at undergraduate and postgraduate level) within the higher education sector, with a focus on university data;
- A detailed investigation into the sex and racial trends of PSYCHOLOGY student enrolments and graduations (at undergraduate and postgraduate) in the university sector;
- A detailed profile of PSYCHOLOGY registration trends within the Professional Board of Psychology, analysed by sex, sub-category and race;
- A overview of the sex and race differences in psychology publication output of South African authors, for the period 1990-2003; and
- A profile of the sex distribution of faculty representatives in all psychology departments at university level for the year 2005.

## **CHAPTER 3:**

### **METHOD**

This study will rely largely on the analysis of existing data from various data sources, as questions addressed by this kind of research are best answered using large, rich, nationally representative data sets collected over time (Hinde, 1991). A study of this nature, aimed at exploring temporal trends, would be impossible to conduct if a researcher had to collect his/her own data. The strengths of this kind of methodology therefore include considerable savings in time and cost in data gathering, the generalizability of results, and the use of high quality data sets that have been produced by experts in their respective fields. The reliability and validity of the data sets are very important. Existing statistics and secondary data may not always be accurate and researchers must be concerned with validity and reliability, as well as other problems unique to this research technique such as the fallacy of misplaced concreteness, different variable attributes, and missing data (Neuman, 2000).

This study has relied on the collection of data and information from a variety of sources. These databases contain valid information which has been collected and compiled by reliable investigators. These include:

1. Student enrolment and graduation data from the National Department of Education;
2. Professional registration data from the Health Professions Council of South Africa;
3. Formal requests to psychology departments for academic staff details for 2005;
4. Academic staff data from the Department of Education's website; and
5. Data on psychology publication output by the SAKnowledgebase at CREST (Centre for Research on Science and Technology at Stellenbosch University).

Each of these sources contains important information for investigating trends in psychology. However, each data source has a specific purpose. For example, the first data source, the DoE data set, will supply information about the demographics of students in psychology. The second data source (HPCSA) will give us information on professional registrations in psychology. The third source will tell us about the psychology staff currently employed in universities, and the SAKnowledgebase will give us information about how South African psychologists publish.

These sources were selected as they were the most comprehensive and reliable sources of information at the time of the study. These claims will be discussed further under the headings below. No previous study has made use of all five of these sources to trace gender trends within psychology.

### **3.1 Compilation of Department of Education (DoE) statistics for higher education**

An extraction of higher education information for the years 1990, 1995, and 2002 was obtained from the Education Policy Unit (EPU) at the University of Western Cape in 2004. This information was originally sourced from the Department of Education's SAPSE (South African Post-Secondary Education), and HEMIS (Higher Education Management Information Systems) databases. The SAPSE table format (1990-1998) was replaced with the HEMIS database format in 1999. These two databases contain the annual student records for all higher education institutions in South Africa. Every year, all higher education institutions are required to submit a comprehensive summary of all enrolment and graduation data to the Department of Education. This information, obtained from the Department of Education, is information that has been submitted by universities for the procurement of subsidies. Therefore, universities will be very careful in how they submit this information. For this reason, this data set is the most reliable data set for South African student numbers available in the country.

The analyses for the SAPSE data and HEMIS data for student enrolments and graduations included the following variables:

- Year
- Institution type (universities and technikons)
- Level of study
- Sex
- Race group
- Major/area of specialisation.

The 1990, 1995, and 2002 databases were selected as they were the most comprehensive datasets available at the time of the study and they contained all the records from the previous 21 universities<sup>12</sup> in South Africa.

The 1990 data was obtained in its original SAPSE electronic spreadsheet format. These were in the form of several Excel tables divided into year, sex and race group (i.e. the data for each year were in separate tables for African females, African males, White females, White males, etc). In order to do the analysis on these tables, they had to be converted into more workable Excel datasets. The 1995 and 2002 data was obtained in a collection of tabulated print-outs which had already been formatted.

A number of terms that will be used in this section are defined below:

*'Total headcount student enrolments'*, as defined by the SAPSE Student Statistic Manual (1998, p. 5), refers to the total unduplicated number of students enrolled in all higher education institutions at a given census date, regardless of their course load.

*'Student enrolments'*, as defined by the SAPSE Student Statistic Manual (1998, p. 5), refers to students who have formally registered for their studies at any higher education institution after being admitted.

*'Student graduations'* refers to students who have fulfilled the requirements for an undergraduate degree/diploma/certificate or the requirements for a postgraduate degree/diploma/certificate, or Honours, Master's or Doctoral degree at any higher education institution.

An *'undergraduate'* degree, as defined by Cooper and Subotzky (2001), includes all undergraduate diploma/certificate courses and all first, second, third, fourth or higher year undergraduate bachelor courses.

A *'postgraduate'* degree, as defined by Cooper and Subotzky (2001), includes all postgraduate diploma courses; Honours courses as well as courses for postgraduate bachelor degrees; coursework modules of Master's and PhD; thesis/dissertation of Master's; and thesis of PhD.

The data that was used in this study, classified by sex and race, includes:

---

<sup>12</sup> See Appendix A for list of mergers and new university names as of January 2005.

## **Total headcounts**

- The *total headcount* of enrolments and graduations (at undergraduate and postgraduate level), from all universities in South Africa, for the years 1990, 1995, and 2002.

## **Psychology**

- The *total headcount* of *psychology* enrolments and graduations at both undergraduate and postgraduate level, from all universities in South Africa.

### Enrolment data

The headcount of undergraduate students electing psychology as a major subject choice or area of specialization, in the years 1990, 1995, and 2002, was determined for at each university and totalled across the universities of South Africa.

### Graduation data

#### *At undergraduate level*

The headcount of students who fulfilled the requirements for an undergraduate degree/diploma/certificate with psychology as a major subject choice or area of specialization for the years 1990, 1995 and 2002 was used. The number of 'undergraduate' graduations in 1990 from every South African university was tabulated and analysed in this paper.

#### *At postgraduate level*

The headcount of students who fulfilled the requirements for a postgraduate degree/diploma/certificate, or Honours, Master's or Doctoral degree with psychology as a major subject choice or area of specialization for the years 1990, 1995 and 2002 was used.

## **Engineering**

Engineering, as a discipline, has witnessed a gradual increase in the number of female enrolments within the university sector over the last few years (Pocock, 2004). For the present study, engineering was selected for comparative reasons to establish whether women have moved into this traditionally masculine discipline at the same rate that they have moved into psychology and the general student body. Therefore, for comparative purposes, this study will include:

- The *total* headcount of *all engineering* enrolments at undergraduate level, from all universities in South Africa, for the years 1990, 1995 and 2002.

### **3.2 The Health Professions Council of South Africa (HPCSA)**

#### *The Register of the Professional Board for Psychology*

The Professional Board for Psychology's database on professional registration is the only source of accurate information on registered psychologists in South Africa.

A copy of the HPCSA's electronic database containing all professional psychology registration information was obtained from the Professional Board for Psychology. The database included all registration details from 1956 to the end of May 2004. Registration information for the period before 1974 was excluded from the analysis, as the registration of psychologists with the Board was voluntary before this time. These early figures were therefore not necessarily representative of the profession. After the promulgation of the Mental, Dental, and Supplementary Health Service Professions Act No.56, of 1974, registration with the SAMDC (currently the HPCSA) became compulsory and only those who were registered with the Board could call themselves 'psychologists' (Louw, 1992, p.353).

The database contains the number of new registrations per year since 1956 and the total number of registered psychologists at the end of May 2004. This information is classified by sex, race and category (clinical, counselling, educational, industrial or research psychology).

The professional registration data that was used in the analysis, classified by sex, race and category type includes:

- The total number of registered psychologists at the end of May 2004; and
- The number of new registrations per year.

### **3.3 Academic staff in psychology departments in the university sector**

There is no database available that contains comprehensive information of psychology academic staff (reflecting demographic information and rank from all the psychology departments in South African universities). For this reason, the present study collected information on the academic staff

currently employed in all psychology departments around the country. The information that was analysed in the study includes:

- The number of permanent female and male academics currently employed in 2005 in all the psychology departments at the 16 universities in South Africa (See Appendix A – for the list of South African universities);
- The rank of each staff member (Professor, Associate Professor, Senior Lecturer, and Junior Lecturer).

Three methods were used to collect this information:

- 1) By website (the majority of universities have a website which contains information on the various departments within the university and the academic staff involved in these departments).

If the demographic information was not available on the website, the researcher contacted the psychology department of the respective university directly and explained the aim of the study. The department was invited to join the survey and was informed that participation was voluntary.

- 2) Telephonically - I contacted the Departments and asked to speak to a member of staff who could advise me about the demographic profile of their department. At times the secretary could give me this information and at other times I was put through to the Head of the Department.
- 3) By email – some universities could not give me this information over the phone, and preferred that I email a ‘profile sheet’ to them (see Appendix C for ‘profile sheet’).

I was able to obtain reliable information from all but one psychology department in South Africa. The University of Venda was not available for this study.

The collected demographic information was then tabulated and includes:

- The number of academic staff currently employed in departments of psychology in 2005, broken down by sex and rank.

### **3.4 The Department of Education's website**

The demographic details of academic staff in the university sector were sourced from the Department of Education's website – [www.edu.pwv.gov.za](http://www.edu.pwv.gov.za). This data was available in the 'reports' section of the DoE website: <http://education.pwv.gov.za/mainDocument.asp?src=docu&xsrc=repo>.

Academic staff information for the years 1986, 1990, 1995, 2000, and 2003 was selected.

The data that was extracted from the website includes:

- The total number of academic staff in 2003, divided by sex and race; and
- The total number of female and male academics in each rank position for the years 1986, 1990, 1995, 2000, and 2003.

### **3.5 SAKnowledgebase**

#### *Database of publications by South African authors*

The data on publication patterns is drawn from a dynamic database known as SAKnowledgebase. SAKnowledgebase is a database of public science in South Africa, which was developed in 1998 by the Centre for Research on Science and Technology (CREST) at the University of Stellenbosch. The aim of this database was to produce a comprehensive, accurate and effective database on South African scientific production.

SAKnowledgebase collects bibliographic information (excluding citations) on articles with South African author addresses, which appeared in journals accredited by the South African Department of Education. Information on the article title, authorship, journal, publishing detail and keywords is captured from a variety of bibliographic indexes, including the ISI (Institute of Scientific Information) Web of Knowledge and the Index of South African Periodicals. SAKnowledgebase aims to deliver a comprehensive, accurate and up to date database of article output from 1990 onwards. At present almost 100 000 articles are included in SAKnowledgebase (J. Mouton, personal communication, August 25, 2005).

As implied, SAKnowledgebase not only covers articles produced by the South African higher education sector, but also articles by the science councils, national research facilities and government

research organisations. The database also provides author-specific information by disaggregating the article output by selected demographic variables (gender, race, year of birth, highest qualification, areas of specialisation and institutional affiliation). The linking of these demographic data to the article authors is an on-going task. Since 1998, CREST has utilised a variety of sources, including its own national surveys, requests for demographic information from South African universities, technikons and science councils, as well as web searches, to add the demographic information of the authors of these articles. The almost 100 000 articles have been produced by more than 50 000 unique individual authors. Of these authors, the database currently contains some demographic information for approximately 45%.

On a technical note, SAKnowledgebase uses fractional counts to account for multiple authorships. In order to establish if authors have published solely or jointly, a system of article-equivalents is applied in the present study. This implies assigning  $1/n$  of a point for the occurrence of an author's name among  $n$  authors of an article (i.e. using fractional counts). This means that, for instance, if an article has four authors, each author is allocated 0.25 of an article; in the case of three authors, each receives 0.33 article equivalents.

In order to extract the requested article output in Psychology from SAKnowledgebase, the words “psychology” and “sielkunde” served as search criteria in three fields in the database: journal title, departmental affiliation and keywords.

The demographic information available on psychology authors is higher than the 45% mentioned above. The information on psychology has been checked and updated by senior psychologists already, which will provide less missing data than in the general database (J. Louw, personal communication, August, 25, 2005).

The data that was extracted from these datasets includes:

- The number of ‘psychology’ publications by South African authors in South African and international journals, broken down into sex and racial demographics, for the period 1990 to 2003.

## CHAPTER 4: RESULTS

### **4.1 The bigger picture: trends in higher education**

“The student profile of the South African higher education system in 1994 was characterised by a number of imbalances: White and male South Africans were over-represented throughout the system” (Bunting, 2002, p.147). Since then, however, higher education has been transformed radically, mirroring changes in broader society (StudySA, 2004). Many more South Africans are completing higher education than during the apartheid era. As participation rates in higher education increased, so too did the numbers and proportions of female and Black students in the higher education sector. Certain disciplines such as psychology witnessed a rapid influx of female students during this time (Richter & Griesel, 1999), in contrast to other disciplines such as engineering (Pocock, 2004), which have experienced a marginal increase.

Psychology, as a discipline, has seen a striking increase in the number and proportion of female students at all levels of qualification (Richter & Griesel, 1999). One could argue that the increase of female students into psychology is a result of the broader movement of women into all areas of study. This may be true, but the movement of women into psychology has been far more dramatic and rapid than the overall increase of women into higher education as our results will demonstrate.

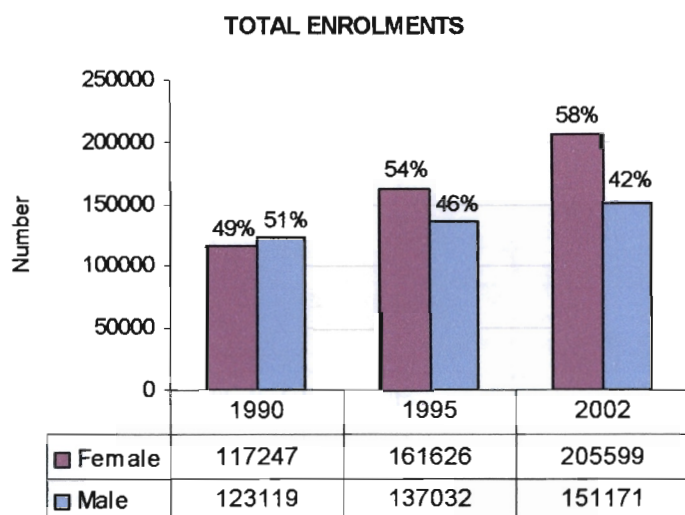
The present study, as indicated earlier, is about tracking the gender (and racial) trends within psychology in higher education over a period of at least 12 years. The movement of female students in undergraduate and postgraduate psychology will be traced over this period and compared with broader trends in higher education. All student information that is used in this section has been sourced from the Department of Education’s SAPSE or HEMIS database.

#### **4.1.1 Undergraduate enrolment data**

##### *4.1.1.1 Overall enrolment at undergraduate level*

The total number of university enrolments at *undergraduate* level increased substantially over the period 1990 to 2002. Undergraduate enrolments in 1990 came to 24 0366. This increased by 48% to 35 6770 in 2002. What is evident from Figure 1 is that the proportion of female to male students changed quite significantly over this time. In 1990, female students constituted 49% of all

undergraduate enrolments; in 2002 this had changed to 58%, nearly double the number of enrolments in 1990.



**Figure 1.** Total number of undergraduate enrolments by sex.<sup>13</sup>

Figure 1 shows an increase in both male and female enrolments with female enrolments growing at a much more rapid rate. Table 1 shows that although the number of male enrolments has increased, White male enrolments have declined over this period (from 26% in 1990 to 14% in 2002). This indicates that the gradual increase in the number of male students is as a result of an increase in Black male enrolments, not White (see Table 1).

**Table 1.** Total number and percentage of undergraduate enrolments by sex and race.<sup>14</sup>

	1990		1995		2002	
	N	%	N	%	N	%
<b>Female</b>						
African	49950	21%	93735	31%	112776	32%
White	52734	22%	48552	16%	62201	17%
Coloured	6932	3%	7835	3%	11575	3%
Indian	7631	3%	11502	4%	18554	5%
Unknown	0	0%	2	0%	493	0%
<b>total</b>	<b>117247</b>	<b>49%</b>	<b>161626</b>	<b>54%</b>	<b>205599</b>	<b>58%</b>
<b>Male</b>						
African	43050	18%	68802	23%	78588	22%
White	63575	26%	51258	17%	50601	14%
Coloured	8111	3%	7137	2%	7785	2%
Indian	8383	3%	9833	3%	13833	4%
Unknown	0	0%	2	0%	364	0%
<b>total</b>	<b>123119</b>	<b>51%</b>	<b>137032</b>	<b>46%</b>	<b>151171</b>	<b>42%</b>
<b>Total</b>	<b>240366</b>		<b>298658</b>		<b>356770</b>	

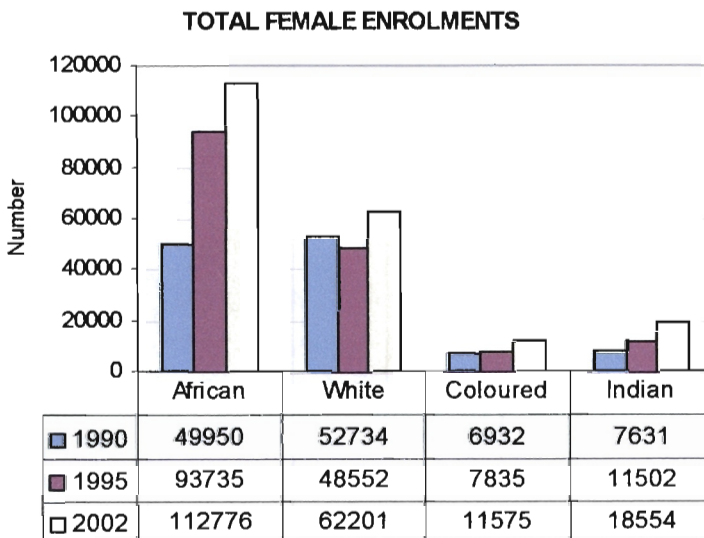
(The numbers of 'Unknown' students are less than 1%; they are therefore accepted as insignificant)

<sup>13</sup> Department of Education (DoE) 1990, 1995, 2002.

<sup>14</sup> DoE 1990, 1995, 2002.

Similarly, although females from all race groups have increased in numbers over this period, it has been Black women, especially African women, that have made their impact numerically (the number of White females has grown over this period by nearly 18% whereas the number of African females has grown by 126%). As a result of this increase, African females became the largest race-gender group by 2002, constituting 32% of all undergraduate enrolments, followed by African men (22%), White women (17%) and White men (14%). By 2002, African female enrolments were nearly double the number of White female enrolments and nearly four times the number of Indian and Coloured female enrolments.

As shown in Figure 2, the number of female enrolments in each race group has increased since 1990 – African females have nearly tripled in number and the numbers of Indian and Coloured females have nearly doubled.



**Figure 2.** Total number of Female enrolments by race.<sup>15</sup>

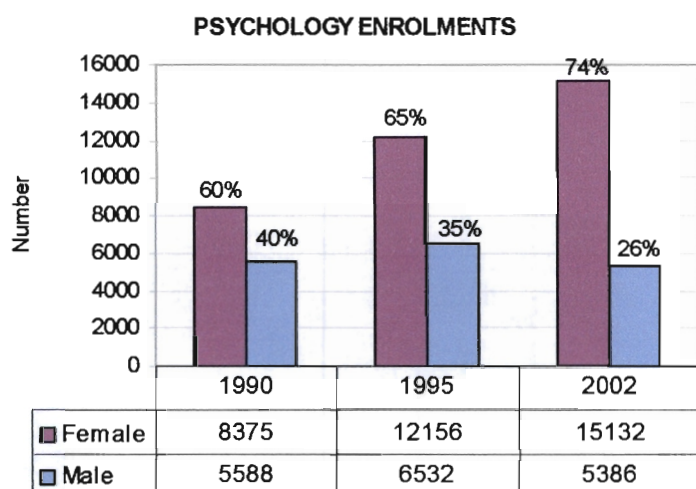
The results show a noteworthy trend – the total number and proportion of female students have steadily increased over the last twelve years. This trend has been particularly visible in undergraduate psychology, as will be shown below.

#### *4.1.1.2 Psychology enrolment at undergraduate level*

In South African universities, psychology is a very popular degree choice. Over the last twelve years the number of undergraduate students enrolling into psychology as a major has increased by nearly 47% from 13 963 in 1990 to 20 518 in 2002 (see Table 2). The majority of these students are female.

<sup>15</sup> DoE 1990, 1995, 2002.

In 1990, 60% of students enrolling into psychology as a major subject choice or specialization were female; (a female: male ratio of 3 to 2). In 1995, the proportion of female students rose to 65%. At the beginning of 2002, the percentage of female psychology enrolments had risen to 74%, with an increase in the ratio of females to males of nearly 3 to 1. The percentage of male enrolments, on the other hand, dropped from 40% in 1990 to 26% in 2002 (see Figure 3). The number of female enrolments has increased by 81% since 1990 - an annual growth of about 7%.



**Figure 3.** Total number and percentage of undergraduate psychology enrolments by sex.<sup>16</sup>

Figure 3 shows a rapid growth in the number and proportion of women enrolling in psychology. This trend is similar to the growing number of women in the general student body (see Figure 1). However, there are two important differences. Firstly, enrolments into psychology reached an equal number of male and female students at a much earlier date than did the general student enrolment population which only reached parity in 1993. Secondly, of the total enrolments into psychology, the proportion of female enrolments has increased on average at about 1.6 % per year (from 60% in 1990 to 74% in 2002). This is more rapid than the proportion change in the general female student body, which only increased on average at about .75% per year (an overall increase from 49% in 1990 to 58% in 2002, see Figure 1). Thus, the movement of women into psychology has been far more dramatic and rapid than the overall increase of women into higher education.

In terms of race, psychology appears to be following the general trends seen in overall enrolments. Psychology has witnessed an increase in the number of women and Black undergraduate enrolments since 1990. By 2002, African female were the largest group (31% or 6456) but were closely followed by the number of White women (30% or 6232). Correspondingly, White male enrolments have

<sup>16</sup> DoE 1990, 1995, 2002.

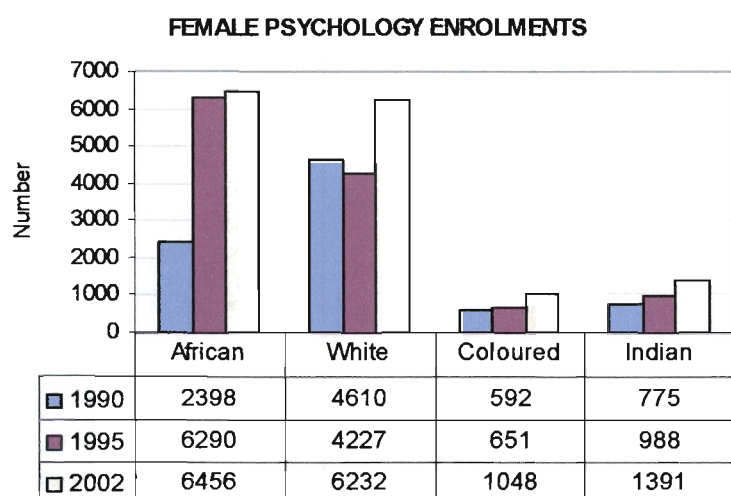
dropped (by 26%) since 1990 in line with the overall decrease in participation rates of White males in general (see Table 2).

**Table 2.** Total number and percentage of undergraduate psychology enrolments by sex and race.<sup>17</sup>

	1990		1995		2002	
	N	%	N	%	N	%
<b>Female</b>						
African	2398	17%	6290	34%	6456	31%
White	4610	33%	4227	23%	6232	30%
Coloured	592	4%	651	3%	1048	5%
Indian	775	6%	988	5%	1391	7%
Unknown	0	0%	1	0%	5	0%
<b>total</b>	<b>8375</b>	<b>60%</b>	<b>12155</b>	<b>65%</b>	<b>15131</b>	<b>74%</b>
<b>Male</b>						
African	1916	14%	3262	17%	2577	13%
White	2887	21%	2444	13%	2146	10%
Coloured	511	4%	446	2%	374	2%
Indian	274	2%	380	2%	287	1%
Unknown	0	0%	0	0%	2	0%
<b>total</b>	<b>5588</b>	<b>40%</b>	<b>6531</b>	<b>35%</b>	<b>5386</b>	<b>26%</b>
<b>Total</b>	<b>13963</b>		<b>18686</b>		<b>20518</b>	

(The numbers of 'Unknown' students are less than 1%, they are therefore accepted as insignificant)

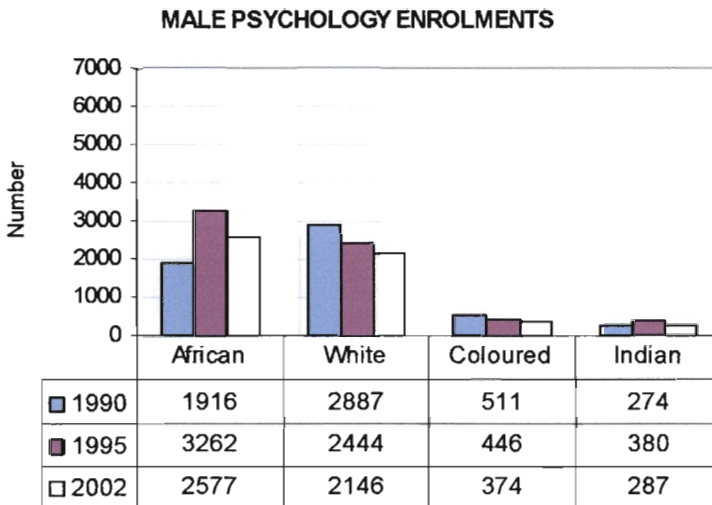
Women, particularly White women, have had a numerical dominance of this discipline since before 1990, and since 1995 all female race groups have been growing in number, especially African women (see Figure 4). Men, on the other hand, within each race group, have shown a gradual decline in number of enrolments (except African men who showed an increase in 1995 and then dropped again in 2002).



**Figure 4.** Total number of undergraduate female psychology enrolments by race.<sup>18</sup>

<sup>17</sup> DoE 1990, 1995, 2002.

<sup>18</sup> DoE 1990, 1995, 2002.



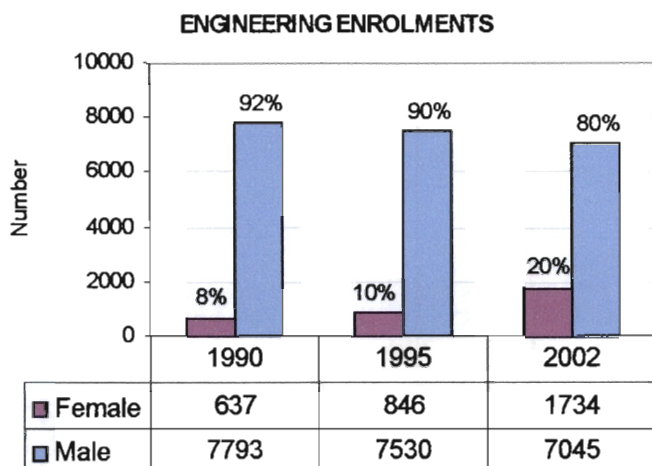
**Figure 5.** Total number of undergraduate male psychology enrolments by race.<sup>19</sup>

Figures 4 and 5 suggest that it is not just the increasing movement of women into the discipline but also the declining enrolment of men that have made this trend so noticeable (see Figure 5). Few disciplines, other than psychology (Richter & Griesel, 1999; Richter *et al.*, 1998) and medicine (Keeton, 2004) have witnessed such a rapid increase in the number and proportion of female enrolments. Engineering, on the other hand, has experienced a more gradual increase in the number of female enrolments (Pocock, 2004).

#### 4.1.1.3 Engineering enrolment at undergraduate level

Engineering, as a discipline, has witnessed a gradual increase in the number of female enrolments within the university sector over the years (Pocock, 2004). For the present study, engineering was selected for comparative reasons to establish whether women have moved into this traditionally ‘masculine’ discipline at the same rate that they have moved into psychology and the general student body. The results show that although the total number of women has increased in universities, this increase has not been reflected in engineering enrolments (see Figure 6).

<sup>19</sup> DoE 1990, 1995, 2002.



**Figure 6.** Total number and percentage of undergraduate engineering enrolments by sex.<sup>20</sup>

The data shows that engineering still remains an extremely male-dominated discipline, even though the number of female enrolments more than doubled since 1990. Women only made up for 8% of all engineering enrolments in 1990 and this increased to 20% in 2002. White male students remain in the majority, followed by African men. The number of African women increased dramatically from 1995 and by 2002 and nearly matched White women in number. Table 3 shows the domination of men in all race groups.

**Table 3.** Total number and percentage of undergraduate engineering enrolments by sex and race.<sup>21</sup>

	1990		1995		2002	
	N	%	N	%	N	%
<b>Female</b>						
African	73	1%	134	2%	628	7%
White	505	6%	532	6%	679	8%
Coloured	17	0%	35	0%	60	1%
Indian	42	0%	145	2%	367	4%
Unknown	0	0%	0	0%	1	0%
<b>total</b>	<b>637</b>	<b>8%</b>	<b>846</b>	<b>10%</b>	<b>1734</b>	<b>20%</b>
<b>Male</b>						
African	555	7%	1460	17%	2102	24%
White	6493	77%	5045	60%	3749	43%
Coloured	207	2%	242	3%	233	3%
Indian	538	6%	782	9%	952	11%
Unknown	0	0%	0	0%	9	0%
<b>total</b>	<b>7793</b>	<b>92%</b>	<b>7530</b>	<b>90%</b>	<b>7045</b>	<b>80%</b>
<b>Total</b>	<b>8430</b>		<b>8376</b>		<b>8779</b>	

(The numbers of 'Unknown' students are less than 1%; they are therefore accepted as insignificant)

<sup>20</sup> DoE 1990, 1995, 2002.

<sup>21</sup> DoE 1990, 1995, 2002.

The number of women entering the higher education system has increased dramatically over the years. Psychology, as a choice of study, appears to be an attractive option for a growing number of women entering university. Engineering, on the other hand does not seem to be as attractive.

#### 4.1.2 Graduation data

##### 4.1.2.1 Overall graduation data

The trends with regard to student graduations are not dissimilar to the general enrolment trends. The overall number of graduations at undergraduate<sup>22</sup> (first degree) and postgraduate<sup>23</sup> level has increased since 1990 - undergraduate numbers have increased by about 60%; and postgraduate numbers have increased by around 75% (see Table 4).

**Table 4.** The number and percentage of graduations at undergraduate and postgraduate level by sex.<sup>24</sup>

UNDERGRADUATE	Female		Male		Total
	N	%	N	%	
1990	15716	53%	14196	47%	29912
1995	24525	56%	19503	44%	44029
2002	30433	63%	17511	37%	47944
POSTGRADUATE					
1990	7227	46%	8614	54%	15841
1995	10578	49%	10888	51%	21466
2002	14904	54%	12817	46%	27721

Not surprisingly, the sex distribution of the student graduate body has changed as well. In 1990, female graduations comprised 53% of all undergraduate degrees, and 46% of all postgraduate degrees. In 2002, this had increased to 63% and 54% respectively. In undergraduate numbers, female graduates have been outnumbering men since before 1990. In postgraduate numbers, however, women only reached parity in 1995. This demonstrates that it has taken a few years longer for the growing number of female students to be reflected in postgraduate figures.

##### 4.1.2.2 Psychology graduation data – first degree

Similarly, psychology has seen a significant increase in the number of female graduates across all levels of qualification. An analysis of graduation data at the end of 1990 showed that the majority of students graduating with a first degree in psychology (a degree/diploma/certificate) were female at almost every university in South Africa. A summary of the graduation percentages is shown in Table

<sup>22</sup> Undergraduate diploma/certificate; General Academic First Degree; Professional First Bachelor Degree

<sup>23</sup> Postgraduate Diploma/Certificate; Postgraduate Bachelor degree; Honours degree, Master's and Doctoral degree

<sup>24</sup> DoE 1990, 1995, 2002.

5. The data from the Medical University of South Africa, University of Transkei, University of North West and University of Venda was not available. The names of some of these universities have subsequently changed (see Appendix A for information on mergers and name changes).

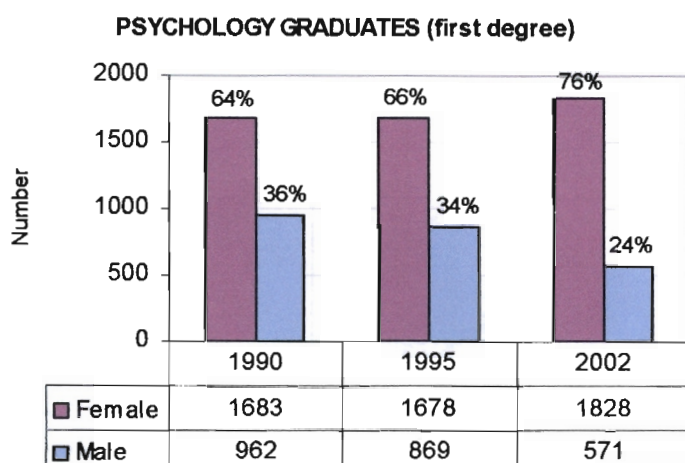
**Table 5.** Percentage of first degree psychology students who graduated from South African universities in 1990 by sex.<sup>25</sup>

University	Male %	Female %	University	Male %	Female %
University of Cape Town	20%	<u>80%</u>	Rhodes University	37%	<u>63%</u>
University of Durban-Westville	31%	<u>69%</u>	University of South Africa	38%	<u>62%</u>
University of Fort Hare	40%	<u>60%</u>	University of Stellenbosch	41%	<u>59%</u>
Vista University	48%	<u>52%</u>	University of Western Cape	43%	<u>57%</u>
University of Natal	25%	<u>75%</u>	University of Witwatersrand	24%	<u>76%</u>
University of the North	<u>62%</u>	38%	University of Zululand	<u>50%</u>	<u>50%</u>
University of the Free State	42%	<u>58%</u>	Medical Uni. of South Africa	not available	
University of Port Elizabeth	49%	<u>51%</u>	University of Transkei	not available	
Potchefstroom University	42%	<u>58%</u>	University of North West	not available	
University of Pretoria	32%	<u>68%</u>	University of Venda	not available	
Rand Afrikaans University	30%	<u>70%</u>			

The universities that obtained a female graduation percentage of more than 50% are underlined in the table. All universities, except the University of the North and the University of Zululand, had more than half of all psychology undergraduate degrees obtained by women. The University of Cape Town showed the highest proportion of female graduates (80%), followed by the University of Witwatersrand (76%). Thus, the majority (64%) of all undergraduate psychology degrees in 1990 were awarded to women.

By 2002, there had been a greater increase in the total number and proportion of female psychology graduates. Figure 7 shows an increase in the number and proportion of females graduating with an undergraduate degree/diploma/certificate in psychology and a gradual decrease in the number and proportion of males graduating in psychology. The ratio of female to male graduates increased from about 2 to 1 in 1990 to over 3 to 1 in 2002.

<sup>25</sup> DoE 1990, 1995, 2002.



**Figure 7.** Number and percentage of first degree psychology degrees awarded by sex.<sup>26</sup>

It is interesting to note that although there has been a growth in the total number of psychology enrolments over this period (see Figure 3); the actual number of psychology graduates has decreased (from 2645 in 1990 to 2399 in 2002). The drop in numbers at graduation level could be an indication that there is a problem with ‘throughput’ – psychology students are experiencing difficulty in moving to graduation. In the present study, the decrease in psychology first degree graduates is primarily due to a significant drop in the number of male graduates during this period (from 962 in 1990 to 571 in 2002). Thus, although the total number of female graduates has increased by 8.6% during this period, the total number of male graduates has dropped by an even greater 41% (see Table 6). White males have decreased the most over this period (from 27% of all graduates in 1990 to 11% of graduates in 2002).

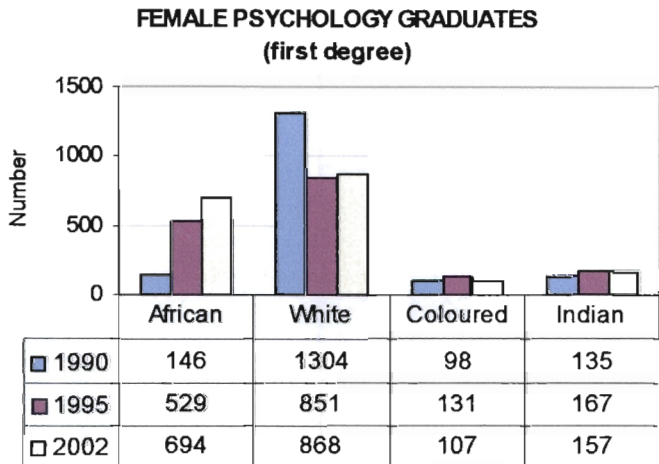
**Table 6.** Number and percentage of first degree psychology graduates by sex and race.<sup>27</sup>

	1990		1995		2002	
	N	%	N	%	N	%
<b>Female</b>						
African	146	6%	529	21%	694	29%
White	1304	49%	851	33%	868	36%
Coloured	98	4%	131	5%	107	4%
Indian	135	5%	167	7%	157	7%
<b>total</b>	<b>1683</b>	<b>64%</b>	<b>1678</b>	<b>66%</b>	<b>1828</b>	<b>76%</b>
<b>Male</b>						
African	145	5%	318	12%	236	10%
White	711	27%	411	16%	271	11%
Coloured	69	3%	103	4%	30	1%
Indian	37	1%	36	1%	35	1%
<b>total</b>	<b>962</b>	<b>36%</b>	<b>869</b>	<b>34%</b>	<b>571</b>	<b>24%</b>
<b>Total</b>	<b>2645</b>		<b>2547</b>		<b>2399</b>	

<sup>26</sup> DoE 1990, 1995, 2002.

<sup>27</sup> DoE 1990, 1995, 2002.

Table 6 shows that although the total number of female graduates has increased since 1990, the number of White female graduates has decreased. This suggests that although women are increasing in number and proportion, it has been an increase in Black females, namely African females that have maintained this growth. However, even with the growing number of Black female graduates, White women remain in the majority (see Figure 8).



**Figure 8.** Total number of female psychology undergraduate degrees awarded by race.<sup>28</sup>

The results show that female graduates with a first degree in psychology have for a long while outnumbered men (since before 1990). Furthermore, when looking at the actual figures, one can see that although White women are still in the majority, African women have had a larger part to play in the general increase in female graduates. Male graduates on the other hand, have decreased in number thus further elevating the proportion of graduations that are awarded to women.

#### *4.1.2.3 Psychology graduation data - at postgraduate level*

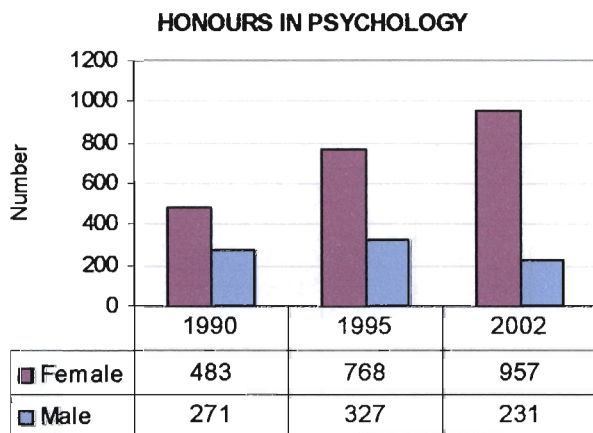
Similar trends have been witnessed at Honours and Master's level. Women, but specifically White women, have dominated postgraduate psychology since before 1990, and have been increasing in number and proportion since then, as shown in Table 7.

<sup>28</sup> DoE 1990, 1995, 2002.

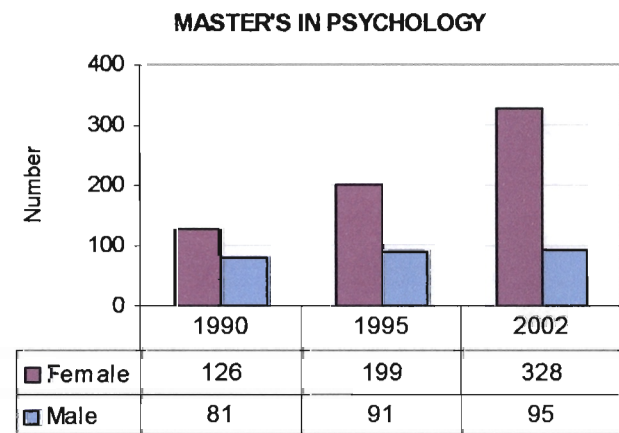
**Table 7.** Total number and percentage of Honours and Master's graduates by sex.<sup>29</sup>

HONOURS	Female		Male		Total N
	N	%	N	%	
1990	483	64%	271	36%	754
1995	768	70%	327	30%	1095
2002	957	81%	231	19%	1188
<b>MASTER'S</b>					
1990	126	61%	81	39%	207
1995	199	69%	91	31%	290
2002	328	78%	95	22%	423

A degree in Honours is a prerequisite for a Master's degree in psychology. And a Master's degree is a prerequisite for registration as a psychologist. Therefore, it is not surprising that the large number of female graduates at Honours level is also reflected in the increasing numbers of women at Master's level. By 2002, the ratio of female to male graduates was 4 to 1 at Honours level and 3 to 1 at Master's level. At the end of 2002, three times more women were likely to register as professional psychologists than men. This could explain why the number of new female professional registrations grew so substantially during this period and the number of male registrations remained constant (see section 4.2.2).



**Figure 9.** Total number of Honours degrees awarded by sex.<sup>30</sup>



**Figure 10.** Total number of Master's degrees awarded by sex.<sup>31</sup>

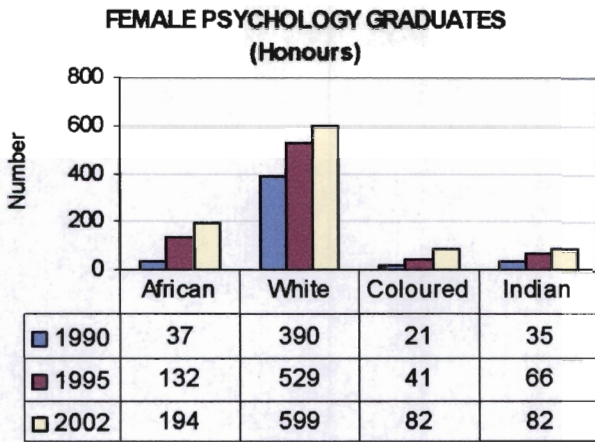
It is clear that White women, have dominated postgraduate psychology (see Figure 11 below). White women have been in the majority since before 1990. Considering Black women's, especially African women's, dramatic increase in the general student body and in undergraduate psychology, they are massively under-represented in psychology at postgraduate level (See Appendix D for the number of

<sup>29</sup> DoE 1990, 1995, 2002.

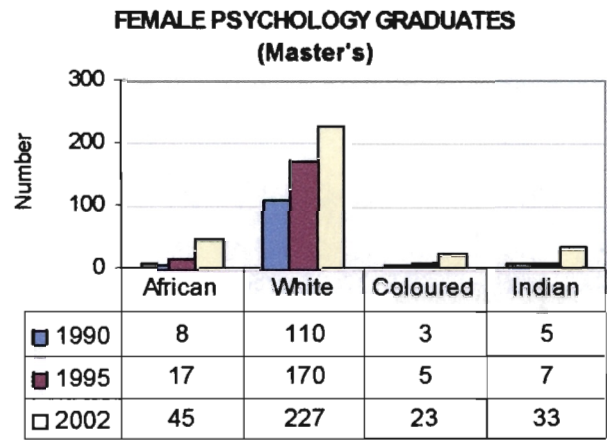
<sup>30</sup> DoE 1990, 1995, 2002.

<sup>31</sup> DoE 1990, 1995, 2002.

Honours and Masters degrees awarded in psychology by sex and race). Figures 11 and 12 show that as the qualification level gets higher, so too does the proportion of White women within postgraduate psychology.



**Figure 11.** Total number of female psychology Honours degrees awarded by race.<sup>32</sup>



**Figure 12.** Total number of female psychology Master's degrees awarded by race.<sup>33</sup>

There has been a general increase in the participation rates of students in higher education – as female participation in higher education increased, so too did the number of female students taking advantage of both undergraduate and postgraduate courses in psychology. Thus, as the number of women with a Master's degree in psychology increased, so too did the potential pool of psychologists increase. Therefore, looking at the sex and race composition of psychology Master's graduates over the last twelve years, it is no surprise that White women have come to dominate professional psychology during this period.

## **4.2 Psychology at a professional level**

### **4.2.1 Overall increase in professional registrations**

The Professional Board of Psychology historically has had more registered male psychologists than female psychologists. At the end of 1996, however, there were equal numbers of male and female psychologists (2 130 and 2 125 respectively) registered in South Africa under the HPCSA (Richter & Griesel, 1999). Since then, the total number of female psychologists has risen significantly and the total number of male psychologists has remained relatively stable. In the present study, it was found that at the end of May 2004, the total number of female psychologists within South Africa had risen

<sup>32</sup> DoE 1990, 1995, 2002.

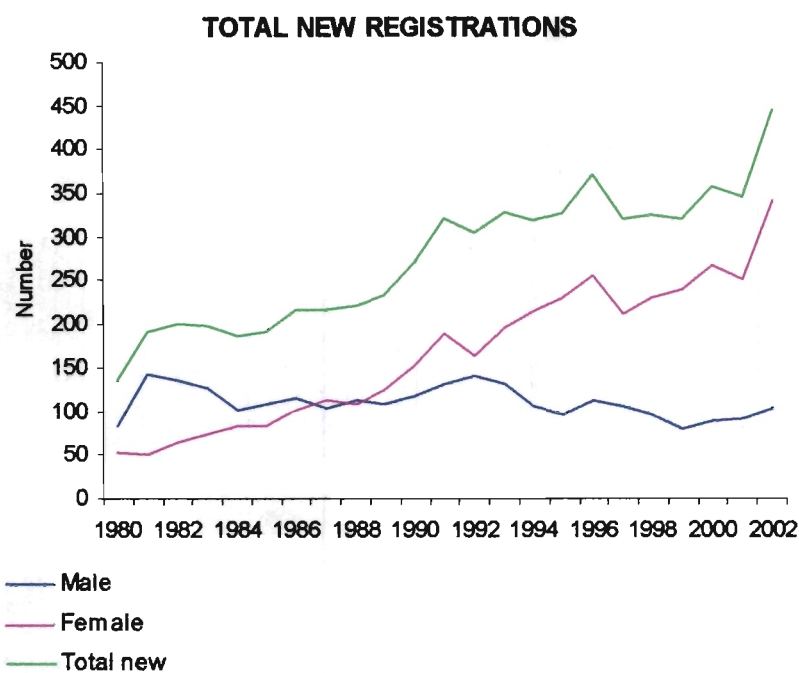
<sup>33</sup> DoE 1990, 1995, 2002.

to 3 465 (62%). The total number of male psychologists had remained relatively stable at 2 093 (38%). The dramatic increase in the proportion of female psychologists in relation to male psychologists has marked a dramatic alteration in the overall practitioner mix of psychologists within South Africa. This increase has been especially noted in clinical and educational psychology.

#### 4.2.2 New registrations

The growth of psychology and the changes in its sex composition can be best represented by looking at the number of 'new registrations' per year. 'New registrations' represent the number of qualifying applicants who register with the HPCSA at the end of each year. Every year the number of new psychologists entering the profession has increased, signifying the rapid growth of the profession as a whole. The number of new registrations grew at about 15% per year throughout the 1980s, increasing at the beginning of the '90's by 20% (Richter & Griesel, 1999).

Figure 13 (and Table 8) shows that the number of new female registrations has been growing at an accelerating rate since the 1980s, whereas the number of new male registrations has remained relatively stable. Although the number of new male registrations has remained constant over the last three decades, the ratio of male to female psychologists has decreased dramatically.



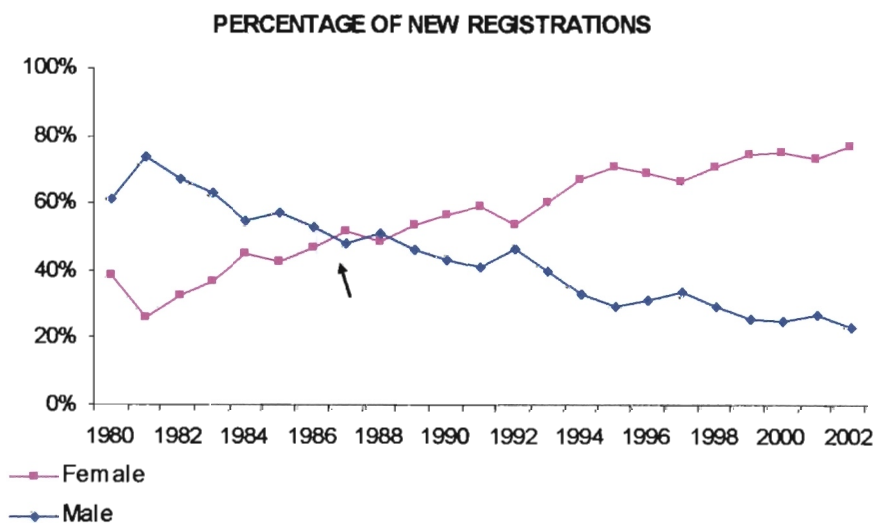
**Figure 13.** Total number of new registrations per year by sex.<sup>34</sup>

<sup>34</sup> HPCSA 2004.

**Table 8.** Number of new registrations by sex<sup>35</sup>

Numbers	Male	Female	Total
1980	83	53	136
1981	142	50	192
1982	135	65	200
1983	126	73	199
1984	102	84	186
1985	109	82	191
1986	115	101	216
1987	104	112	216
1988	113	109	222
1989	108	125	233
1990	117	152	269
1991	131	189	320
1992	141	163	304
1993	131	196	327
1994	105	214	319
1995	96	231	327
1996	114	256	370
1997	107	213	320
1998	96	230	326
1999	81	239	320
2000	89	268	357
2001	93	252	345
2002	104	340	444
<b>Total</b>	<b>2542</b>	<b>3797</b>	<b>6340</b>

The increase in new female registrations was especially notable in 1987, when the number of new male and female registrations reached parity (as illustrated by the arrow in Figure 14). However, it took a further eight years, (until the end of 1996), for the total number of male and female psychologists registered under the Board, to equalize.



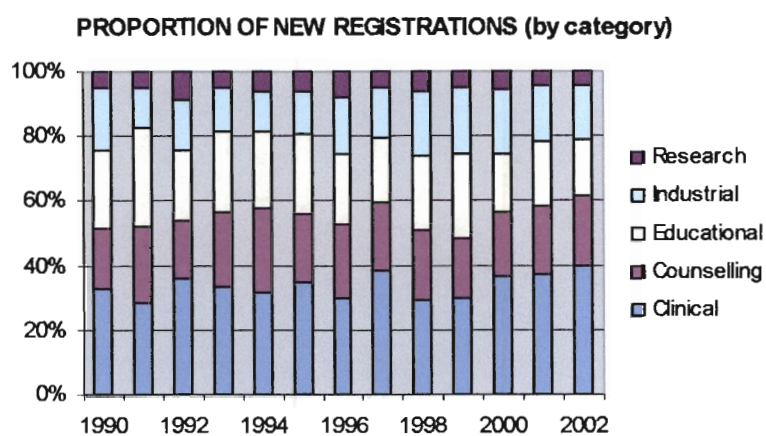
**Figure 14.** Total percentage of new registrations per year by sex.<sup>36</sup>

<sup>35</sup> Health Professions Council of South Africa (HPCSA) 2004.

<sup>36</sup> HPCSA 2004.

### 4.2.3 Psychology categories

The distribution of new registrations across the five categories in professional psychology has remained relatively stable since 1990, with a slight increase in registrations for clinical psychology after 2001. The distribution of new registrations per category is shown in Figure 15.



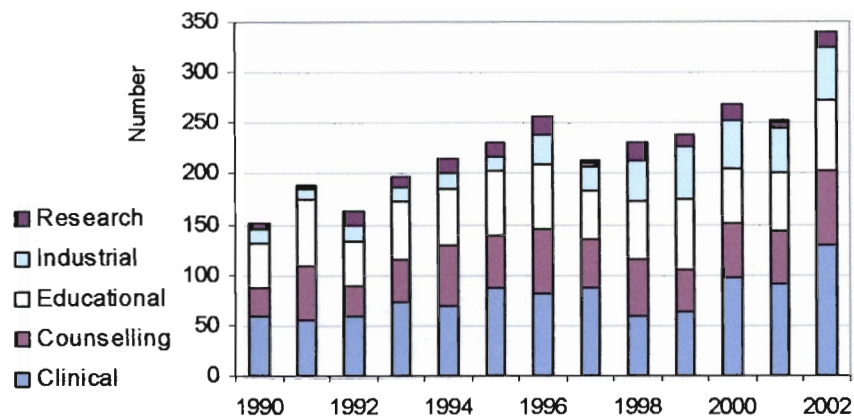
**Figure 15.** Total percentage of new registrations by category.<sup>37</sup>

From this graph, it is clear that South African psychology is dominated by applied psychology (clinical, educational, counselling and industrial psychology) and is much less involved in research psychology. In 1990, 88 new clinical psychologists (33%); 65 (24%) new educational psychologists, 52 (19%) new industrial psychologists; 51 (19%) new counselling psychologists and 13 (5%) new research psychologists, were registered with the Board. In 2002, new registrations comprised of 176 (40%) clinical psychologists; 96 (22%) counselling psychologists; 79 (18%) educational psychologists; 75 (17%) industrial psychologists; and 18 (4%) research psychologists.

Numerically, clinical psychology is the strongest category (Louw, 1992), and its numbers are steadily increasing. This increase has been dominated by women. In the last twenty years, all categories have reached parity in the numbers of new male and female registrations, and are now reflecting larger numbers of new female registrations in every category. Counselling psychology was the first category to have reached equal numbers of new male and female registrations in 1982, followed by clinical psychology in 1985, educational psychology in 1986, research psychology in 1992 and industrial psychology in 1998. The gender distribution of psychologists across the five categories is shown in Figure 16 and 17.

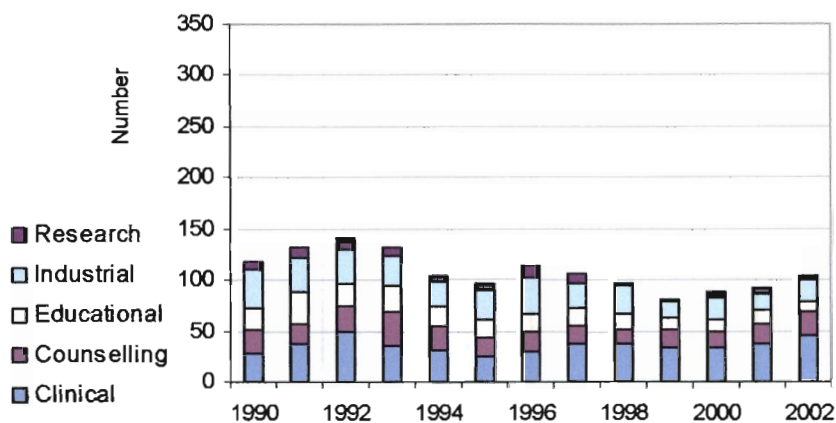
<sup>37</sup> HPCSA 2004.

**NEW FEMALE REGISTRATIONS (by category)**



**Figure 16.** Total number of new female registrations by category.<sup>38</sup>

**NEW MALE REGISTRATIONS (by category)**

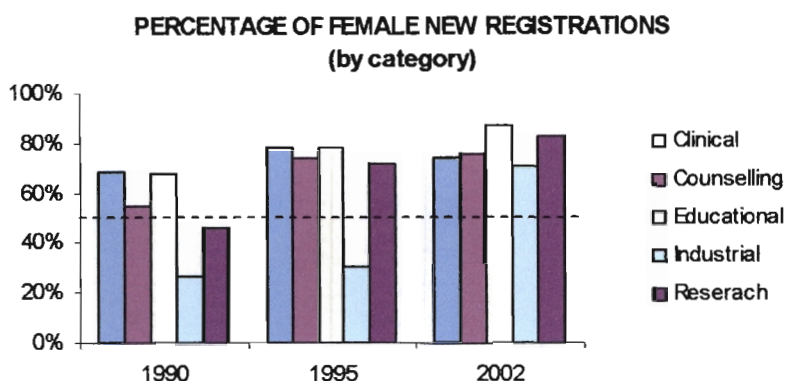


**Figure 17.** Total number of new male registrations by category.<sup>39</sup>

Figure 16 shows a noteworthy trend - a significant increase in the number of new registrations obtained by women especially in the categories of clinical, counselling and industrial psychology and a more gradual increase in research and educational psychology. By comparison, Figure 17 shows a relatively stable rate of new male registrations, with a slight drop in the number of men registering in the industrial, educational and research categories, and a small increase in the clinical category. Analysing these two graphs (Figures 16 and 17), a definite trend can be seen in all categories - the number of new male psychologists registering in each category is relatively constant; and the number of new female registrations in each category is steadily increasing. This increase in the number of women has meant that the proportion of women to men in each category has also substantially increased. Figure 18 shows the growing proportion (percentage) of female registrations per category.

<sup>38</sup> HPCSA 2004.

<sup>39</sup> HPCSA 2004.



**Figure 18.** Total percentage of female new registrations by category.<sup>40</sup>

By 1995, there were already more females than males registering in every category (as indicated by the dotted line) except in industrial psychology which only reached an equal number of new male and female registrations in 1998. By the end of 2002, all categories showed a higher proportion of new female registrations. The proportion of women in the industrial psychology category increased the most over this period (from 14 female registrations in 1990 to 53 female registrations in 2002). In 2002, the highest proportion of women was in the educational category. However, this category has been predominantly female dominated since 1982.

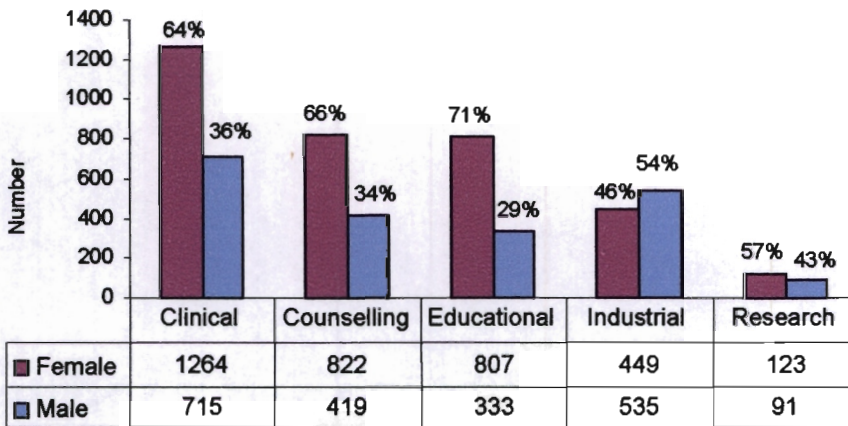
Although there are higher proportions of new female registrations moving into industrial psychology, this increase has not yet been reflected in the total number of industrial psychologists registered by the Board. The proportion of women in this category is still relatively low, considering the growing number and proportion of new female registrations into this category per year. However, if the number of women registering in industrial psychology continues to increase, these numbers will soon begin to reflect in the total numbers of industrial psychologists in South Africa.

#### 4.2.4 Total registrations at the end of May 2004

At the end of May 2004, the total number of women psychologists outnumbered the number of male psychologists in every category except in industrial psychology as shown in Figure 19.

<sup>40</sup> HPCSA 2004.

**TOTAL NUMBER OF REGISTRATIONS (by category)**



**Figure 19. Total number and percentage of registrations per category at the end of May 2004 by sex.<sup>41</sup>**

The female-male category trends found in this study are similar to those identified in Richter and Griesel's study (1999). The educational category shows the highest gender disproportion with 71% of all educational psychologists being female. The next highest gender disproportion is seen in the counselling category with 66% of all counselling psychologists being female, followed by clinical psychology with females making up 64% of all clinical psychologists. The percentage of females is less in the research category (only 57%) with men still outweighing women in the industrial psychology category (54% male compared with 46% female). The percentage of women registered in the research category (57%) is not significantly lower than the proportion of women registered in the clinical category (64%). However, the number of women in these categories is significantly different - the total number of female clinical psychologists is greater than the total number of female research psychologists by nearly 7 to 1. It is therefore of interest to consider the number of female registrations per category because, while the proportion of females may be similar among these categories, the actual numbers of females entering these categories are very different (the number of female registrations per category is illustrated in Figure 16). This again emphasizes the growing domination of applied psychology in South Africa, a movement that has largely been propelled by women.

The number of female registered psychologists has increased rapidly in all categories since 1974. This runs parallel to the increasing number of female students obtaining Master's degrees in psychology, suggesting a continuation of this trend in the future. However, as these numbers have

<sup>41</sup> HPCSA 2004.

risen, it has been predominantly White women that have taken the stage. This is discussed in the section below.

#### **4.2.5 Professional registrations by Black South Africans**

At this point it becomes interesting to briefly examine the racial trends within psychology in South Africa. The under-representation of Black psychologists has been noted by Duncan *et al.* (2004), Pillay and Kramers (2003), and Seedat (1998).

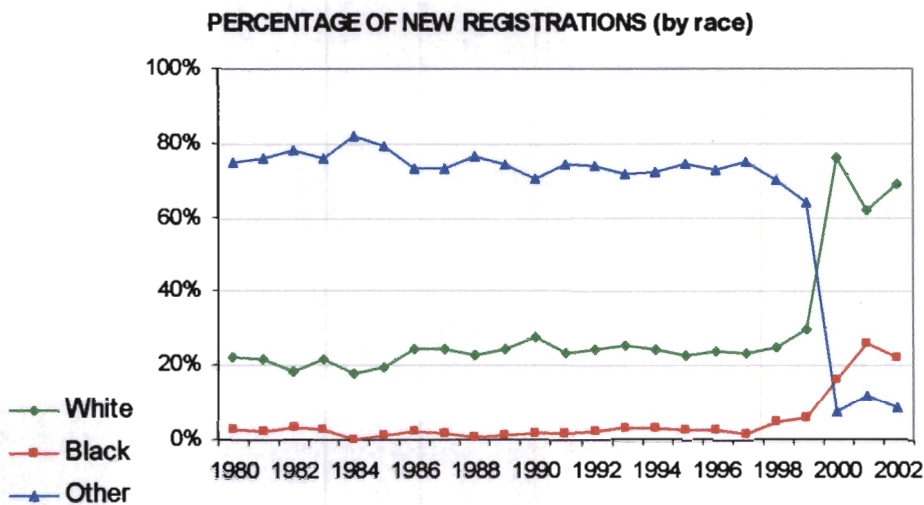
The racial composition within professional psychology over the last 20 years, “reflects the country’s historical preference for training White professionals over Black” (Pillay & Kramers, 2003, p.55). Richter & Griesel (1999) commenting on psychology’s racial demographics at the end of 1996, reported that “psychology remains a largely white profession” (p. 135). Nearly eight years later, little has changed regarding the percentage of Black psychologists in the profession.

There appears to be a significant discrepancy between the limited number of Black psychologists registering with the board, the limited number of Black students gaining postgraduate degrees in psychology and the large pool of potential Black students at undergraduate level. As yet, we do not understand what the explanation for this phenomenon could be. Factors such as the conceptualization of the profession as a “western profession”, the financial implications of studying and training, as well as the broader educational backlogs and disparities created by apartheid, are said to account for the dissolution of the potential pool of students before registration level (Pillay & Kramers, 2003, p.56).

In 2002, 60% of all students enrolling for a first degree/diploma/certificate in psychology were Black. These numbers then decline at postgraduate level. At Master’s level only 46% of degrees were awarded to Black students, with the majority of those awarded to African women (11%), followed by Indian women (8%), and then African men (7%) (This has increased from the 1990 figures of 4%, 2% and 2% respectively). The ratio of female students to male students is more than 3 to 1 in all racial groupings.

The lack of progress beyond the undergraduate level among this previously disadvantaged group is reflected in the limited number of new Black psychologists registering with the Board each year. However, the data we have on race representation in professional registration is not as clear-cut as one would have preferred. Until 1999, a large proportion of new registrations per year were recorded

under the 'Other' category. This category contained all registrations that were recorded by SAMDC as 'European', 'Unknown' or 'Blank'. After 1999, the number of psychologists identifying themselves in the 'Other' category decreased remarkably. This change has been as a result of the HPCSA's strategic aims for their registration forms to properly reflect the demographics of the health professions. The classification of one's race group was optional on the form, but since 1999, the forms have been changed so that race must be indicated for statistical purposes (A. Pieters, personal communication, July 26, 2005). Thus, it makes it very difficult to accurately identify the changing racial composition of the new registrations over this period. Figure 20 shows this difficulty quite clearly.



**Figure 20.** Percentage of new registrations by race.<sup>42</sup>

In terms of the total number of registered psychologists, Black psychologists are still reflected in a very limited number of professional registrations. At the end of May 2004, total registrations were comprised of 3% Indian, 5% African, 1% Coloured, 1% 'European', 42% White, and 48% 'Blank/Unknown'. The large proportion of 'Blank/Unknown' is as a result of the many years when the majority of new registrations were recorded as 'Other'. The racial and gender composition of all registered psychologists at the end of May 2004 is shown in Table 9.

<sup>42</sup> HPCSA 2004.

**Table 9.** Total numbers and percentages at the end of May 2004 by sex and race.<sup>43</sup>

Registrations	Female		Male		Total	
	N	%	N	%	N	%
White	1585	29%	762	14%	2347	42%
African	165	3%	94	2%	259	5%
Coloured	38	1%	22	0%	60	1%
Indian	134	2%	46	1%	180	3%
Other	1543	28%	1169	21%	2712	49%
<b>Total</b>	<b>3465</b>	<b>62%</b>	<b>2093</b>	<b>38%</b>	<b>5558</b>	<b>100%</b>

The 'other' category remains the largest. Thus, the racial trends within the HPCSA have proven to be difficult to analyse, and therefore have been excluded from the scope of this study. However, what can be deduced from these figures is that White registrations are clearly in the majority. White women by far outnumber any other race-gender group and the trends in new registrations suggest that this will continue to be the case.

The large number of female psychologists reflected in 2004 is a result of the growth in the number of new female registrations (in every category) throughout the 1980s and 1990s. This increase is a further reflection of the growth in the number of female students obtaining Master's degrees in psychology. Women have become increasingly prominent in undergraduate, postgraduate and professional psychology over the last two decades. Considering this trend, a parallel increase in the number of female academic staff in psychology departments might be expected. Women's participation in this area is investigated below.

### **4.3 Academic Staff**

In assessing female distribution in psychology departments in South Africa, it is useful to look at the representation of female academic staff in general.

#### **4.3.1 Women's overall representation in the university sector**

The number of women in academic positions is marginal compared with the large number of female students in higher education. Women's overall participation in academia has increased over the last two decades, but they remain largely under-represented, especially in senior positions.

---

<sup>43</sup> HPSCA 2004.

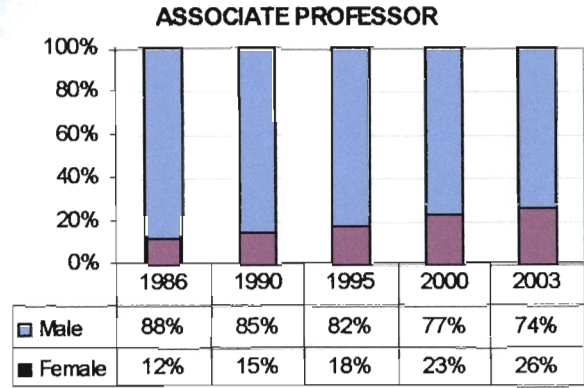
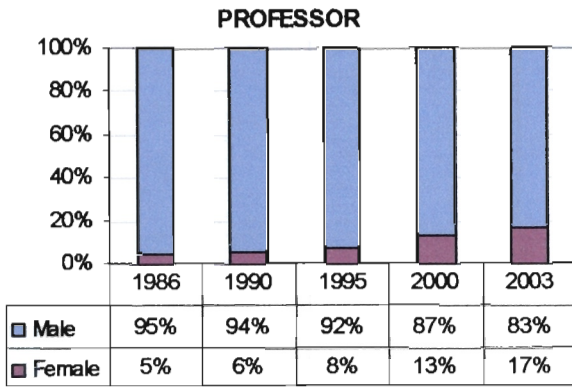
In 1986, there was a total of 8 938 academic staff employed in the university sector - of those 76% were male and less than a quarter were female (24%) (DoE, 1986). By 2003, the total number of academic staff had increased to 11 263 – of those 59% were male and 41% were female. Thus, between 1986 and 2003, the number of women in academia increased by 103%. The number of male academics on the other hand has remained relatively stable. An increase in the number of women has been noticed in all rank positions as shown in Table 10.

**Table 10.** Total number of academic staff by sex and rank. <sup>44</sup>

Date	Professor		Associate Professor		Senior Lecturer		Lecturer		Junior Lecturer	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1986	1800	86	725	101	2232	479	1831	1134	224	326
1990	1897	117	839	144	2185	678	1786	1470	244	372
1995	1963	169	895	199	2176	863	1932	1796	289	372
2000	1719	259	894	268	1913	1046	1842	1954	392	423
2003	1657	339	919	329	1760	1157	1833	2114	287	384

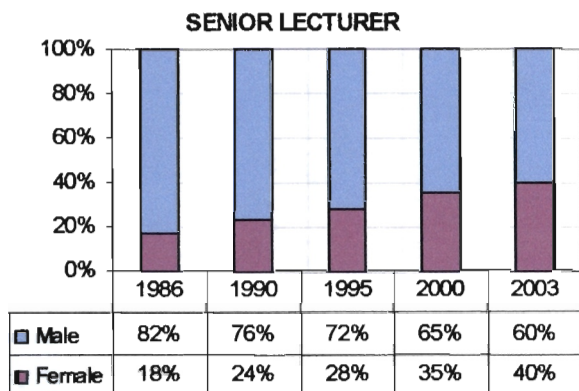
Over this period, the largest increase of women has been seen at professorial level (an increase of 294%); followed by an increase of 226% in the number of female associate professors; 142% in the number of senior lecturers; 86% in lecturers and 18% in the number of female junior lectures. This illustrates that women have moved into the top two positions in a rapidly increasing number since 1986. However, although the number of female professors has increased by such a large percentage, they remain under-represented in 2003 (see Figure 21). Professorship remains a largely male-dominated position. In fact, all three senior ranks of Professor, Associate Professor and Senior Lecturer, remain dominated by men in 2003. Therefore, while the numbers of women have increased since 1986, the proportions of women in these three rank positions have not yet reached parity with men (see Figures 21, 22 and 23).

<sup>44</sup> [www.edu.gov.za](http://www.edu.gov.za) 1986, 1990, 1995, 2000, 2003.

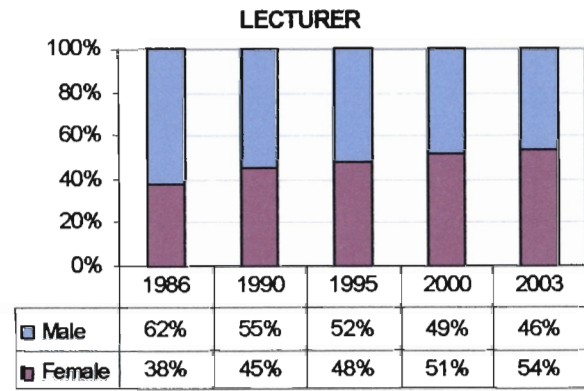


**Figure 21.** Percentage of Professors by sex.<sup>45</sup>

**Figure 22.** Percentage of Associate Professors by sex.<sup>46</sup>



**Figure 23.** Percentage of Senior Lecturers by sex.<sup>47</sup>



**Figure 24.** Percentage of Lecturers by sex.<sup>48</sup>

Women are best represented in the ‘Lecturer’ (and Junior Lecturer) category. Thus, even though women have increased in number in all rank positions, they only constitute more than 50 % of staff in the lowest two rank positions.

#### 4.3.2 Overall representation in the university sector by race

In a similar vein to the under-representation of female staff, the representation of Black staff in academia is still extremely low. In 2003, of the total 11 263 academic staff, the majority (68%) were White (7 598); 21% (2 403) were African; 7% (782) were Indian and 4% (460) were Coloured. Considering the large number of Black students enrolling and graduating from universities during

<sup>45</sup> [www.edu.gov.za](http://www.edu.gov.za) 1986, 1990, 1995, 2000, 2003.

<sup>46</sup> [www.edu.gov.za](http://www.edu.gov.za) 1986, 1990, 1995, 2000, 2003.

<sup>47</sup> [www.edu.gov.za](http://www.edu.gov.za) 1986, 1990, 1995, 2000, 2003.

<sup>48</sup> [www.edu.gov.za](http://www.edu.gov.za) 1986, 1990, 1995, 2000, 2003.

this time, larger numbers of Black academics would have been expected. Unfortunately, little information was available on race-sex trends, thus further analyses of racial trends within academia have been excluded from the scope of this study.

### 4.3.3 Academic staff in psychology departments

Although female academics remain under-represented in the general staff body, women make up the majority of staff in psychology departments (see Table 11). Women are better represented in the three senior rank positions in psychology departments than they are in the general staff population. The racial distribution of psychology staff will not be commented on in this section as this information is not available.

In the present study it was found that there is a total of 294 academic staff currently employed in all university psychology departments in South Africa.<sup>49</sup> Of these staff members, women made up 52% (152) and men 48% (142) of the total.

In terms of sex distribution between ranks, women outnumber men in all categories except that of Professor (see Table 11). Their numbers are particularly high in the ranks of Senior Lecturer and Lecturer (42 and 68 respectively).

**Table 11.** Number and percentage of academic staff in psychology departments by sex and rank in 2005.<sup>50</sup>

Rank	Female		Male		Total	
	N	%	Male	%	N	%
Professor	15	30%	35	70%	50	17%
Associate Professor	16	53%	14	47%	30	10%
Senior Lecturer	42	51%	41	49%	83	28%
Lecturer	68	58%	49	42%	117	40%
Junior Lecturer	11	79%	3	21%	14	5%
<b>Total</b>	<b>152</b>	<b>52%</b>	<b>142</b>	<b>48%</b>	<b>294</b>	<b>100%</b>

The proportion of women in the ranks of Associate Professor and Senior Lecturer is significantly higher than the proportion of women in these ranks in overall academia, as noted in the section above. Similarly, while the proportion of female professors is still low in psychology departments (30%) it remains larger than the proportion of female professors accounted for across academia (17% in 2003).

<sup>49</sup> Information from the University of Venda was not available.

<sup>50</sup> Formal Requests, 2005.

The distribution of female staff in psychology departments in South Africa is more representative than the distribution of female staff in general academia. Female staff make up for more than half of all academic staff in psychology departments country wide (see Table 11). Furthermore, women are better represented in the three senior rank positions in psychology departments than they are in the general staff population. Women's relatively good representation in psychology departments could be attributed to the large proportion of women studying psychology and to the growing number of women qualifying as psychologists. Thus, women are not only in the majority as psychology students and professionals, but also as psychology academic staff.

#### **4.4 Women's publication output**

Rank is reported to be reflective of publication output (CREST, 2004a; Duncan, Stevens & Bowman, 2004). The majority of researchers (publishing authors) are situated in the university sector, and are reported to be in senior rank positions (Duncan *et al.*, 2004). A large number of female academic staff in psychology departments are found in higher ranks such as Associate Professor and Senior Lecturer, relative to the numbers in overall academia. Yet, the level of contribution of women to psychology research output is not as high as would be expected (Shefer *et al.*, 2004). Female authorship in psychology does not reflect these growing numbers as will be shown below.

##### **4.4.1 Article output and productivity in psychology**

Over a thirteen year period (1990 to 2003) a total of 2 245 'psychology' articles were listed in the SAKnowledgebase. The total number of articles per year has fluctuated with the highest number of articles being published in 1992 (n = 208) and the least in 2003 (n = 118) (see Table 12).

**Table 12.** Article output and productivity of psychologists.<sup>51</sup>

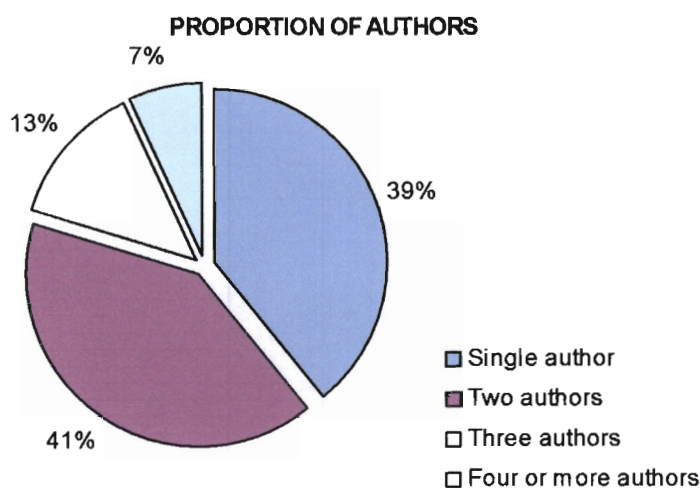
<b>Publication</b>	<b>Number of articles (a)</b>	<b>Number of authors (b)</b>	<b>Mean articles per author (a/b)</b>
1990	144	238	0.6
1991	128	221	0.6
1992	208	338	0.6
1993	150	255	0.6
1994	142	265	0.5
1995	154	289	0.5
1996	198	357	0.6
1997	179	324	0.6
1998	177	389	0.5
1999	164	344	0.5
2000	157	421	0.4
2001	151	325	0.5
2002	175	404	0.4
2003	118	278	0.4
<b>1990-2003</b>	<b>2245</b>	<b>1873</b>	

The annual numbers of authors are not mutually exclusive. Thus, these numbers will not add to 1873, which is the total number of authors for the period 1990 to 2003.

In the years 2000, 2002 and 2003 the average number of articles per author was at a low 0.4. This is because the number of publishing authors increased relative to the number of published articles – suggesting that a large proportion of articles during these years, were published by two or more authors.

Of the 2 245 articles published over the period 1990 to 2003, the majority (40%) were published by two authors (907). There were 881 (39%) single authored articles, 301 (13%) articles written by three authors and 156 (7%) articles written by four or more authors (see Figure 25). Thus, a large proportion of the total numbers of psychology articles are published by one or two authors.

<sup>51</sup> SAKnowledgebase, 2005.

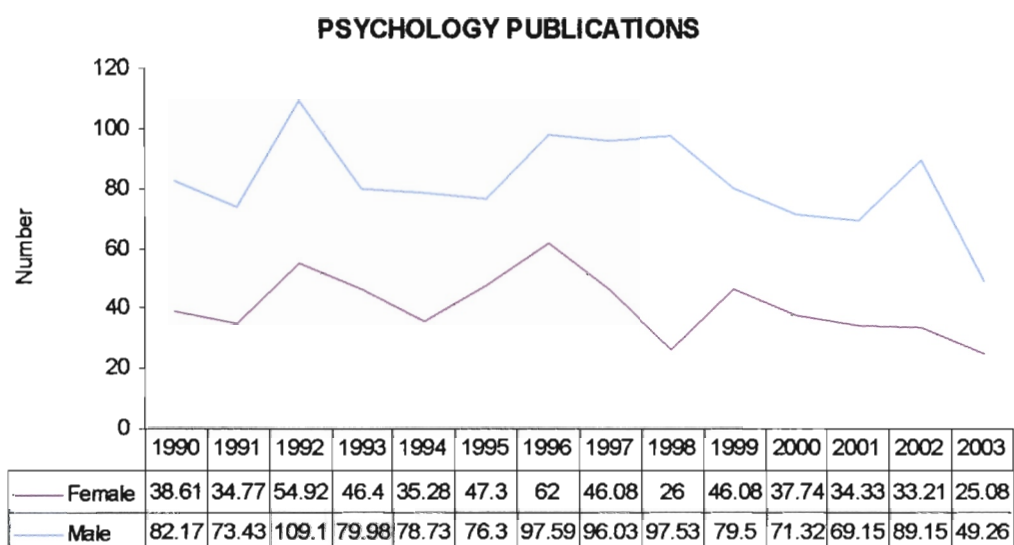


**Figure 25.** Proportion of article co-authorship, for the period 1990-2003.<sup>52</sup>

#### 4.4.2 Sex distribution of publication output

It is important to note that 23.5% of article equivalents are produced by authors of ‘unknown’ sex. While this is higher than we would have preferred, it is unlikely that the sex distribution of publications would be dramatically different if these were known. In terms of the sex distribution of ‘known’ article equivalents, women contributed only a third (33.1% or 568.8) during 1990 to 2003. Men on the other hand contributed the remaining 66.9% (1149.22) of publication output. The year to year contribution of female authors is well below the annual production output of male authors as can be seen in Figure 26. Thus, what can be inferred from this information is that male authors still dominate in publication output and that female authors remain largely in the minority. The female-male trends found in this study are similar to those identified in Shefer *et al.*’s study (2004). They reported that over a similar period (1994 to 2003) female authors produced 44% of articles in the South African Journal of Psychology.

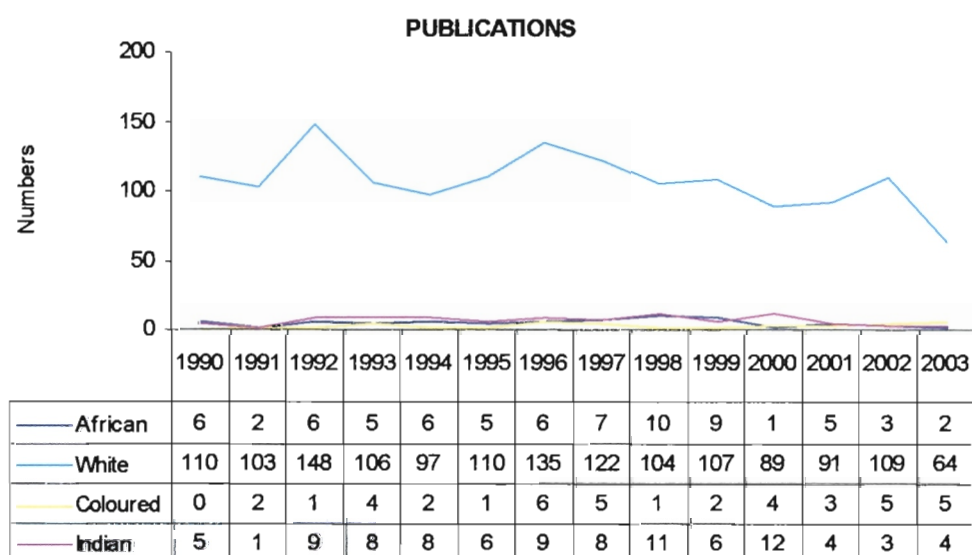
<sup>52</sup> SAKnowledgebase, 2005.



**Figure 26.** Total number of psychology articles equivalents by sex.<sup>53</sup>

#### 4.4.3 Race distribution of publication output

Not surprisingly, the majority of psychology articles are published by White authors. In 2003, 88% of authors were White, 5% were Indian, 4% were African, 2% were Coloured and 24% were unknown. Again, this relatively large 'unknown' figure gives reason to be cautious. However, Figure 27 shows that although a quarter of authors were unknown, White authors are undoubtedly in the majority over the entire period. No sex-race analyses were possible in this study.



**Figure 27.** Number of publications by race.

<sup>53</sup> SAKnowledgebase, 2005.

Figure 27 shows that the number of publications by Black authors has not increased over this period. The marginal number of Black authors in psychology publications is in line with the general low representation of Black people in academia, postgraduate psychology and in professional registration. The marginal proportion of Black authors found in this study has also been reported in Duncan *et al.* (2004).

In contrast, the under-representation of female authors in psychology publications cannot be attributed to women's overall low participation in other areas of psychology. Up until this section, our results have shown women to dominate in almost all areas of psychology – enrolments and graduations, professional registrations and academic staff representation (except in professorships and industrial psychology). Further research into women's low participation in publication output in contrast to women's domination in other spheres of psychology warrant further investigation.

To summarise: The results of this study have shown clear gender trends in psychology. These include:

- ↓ Female students outnumber male students in undergraduate psychology.
- ↓ More women are graduating with degrees in psychology, especially at Honours and Master's level.
- ↓ The number of registered female psychologists has increased rapidly over the last three decades, especially in the applied areas of psychology.
- ↓ Women make up for more than half of all academic staff in psychology departments country-wide.
- ↓ Women only contribute to a third of all psychology publication output.
- ↓ White women dominate in all these areas.
- ↓ Black women have shown some increase in number but still remain under-represented beyond undergraduate psychology.
- ↓ Men have been gradually decreasing in number at all these levels; yet maintain numerical dominance as professors, industrial psychologists, and in publication output.

The feminisation of psychology in South Africa shows a mixed trend. It is likely that, in the foreseeable future, the ratio of women to men will increase in these areas, possibly resulting in a numerical dominance of women in all spheres of psychology. However, what can be known for now is that psychology has become and will continue to be a feminised profession in South Africa.

## CHAPTER 5: CONCLUSIONS

One finding stands out in this study: **psychology has become a feminised discipline in South Africa**. This was not an unexpected finding as psychology has been feminised in many countries around the world. The feminisation of psychology in South Africa seems to have begun at a later stage than in other countries, especially in America (Kite *et al.*, 2001), Canada (Gurevich, 2001) and some Latin American countries (Denmark, 1998; Sexton & Hogan, 1992), but it appears to be following the same trends. Women are increasing in number in undergraduate and postgraduate psychology, professional psychology, and as academic staff in psychology departments. Women are also more likely to be attracted to the applied areas of psychology but are less likely to publish. The present study reflected these trends in South Africa.

For a start, the number of women entering the general higher education system has increased dramatically over the last few years. Psychology, as a choice of study, appears to be an attractive option for a growing number of women entering the university sector. In contrast, engineering does not appear to be as attractive and is generally still regarded as a 'male' discipline. Female students, particularly White female students, have had a numerical dominance in undergraduate psychology since before 1990, and since 1995 all female race groups have been growing in number, especially African women. Similar trends were witnessed at Honours and Master's level with White women largely in the majority. Men, on the other hand, within each race group, have shown a gradual decline in their numbers at all levels of psychology. As the number of women with a Master's degree in psychology increased, so too did the potential pool of psychologists increase. Therefore, looking at the sex and race composition of psychology Master's graduates over the last twelve years, it is no surprise that White women have come to dominate professional psychology too during this period.

The number of registered female psychologists has increased rapidly as a result of the increase in the number of new female registrations every year (in every category), during the 1980s and 1990s. Since 1996, more women than men have registered with the Board. The growth in the numbers of new female psychologists is especially noticeable in the applied categories, namely clinical, counselling, educational and industrial psychology, although all categories have shown a growing number of new registered female psychologists and a relatively consistent entry rate of new male psychologists. The female-male category trends found in this study are similar to those identified in the Richter and Griesel's study (1999): women are in the majority in clinical, counselling,

educational and research psychology; there are significantly larger numbers of women in the applied areas of psychology than there are in research psychology, and women remain under-represented in industrial psychology. However, women accounted for only 35% of all registered industrial psychologists in 1996 (Richter & Griesel, 1999), and this had increased to 45% in 2004, suggesting that women may too reach parity in this category in the near future.

An assessment of the racial trends within the profession has proven to be problematic. What became evident in this study is that little has changed in terms of the demographics of the profession since Richter and Griesel's study in 1996 (1999) – 'psychology remains a largely white profession'. White women by far outnumber any other race-sex groups and the trends in new registrations suggest that this will continue to be the case. The dramatic increase in the proportion of White female psychologists in relation to male psychologists has marked a dramatic alteration in the overall practitioner mix of psychologists within South Africa.

Women's overall participation in academia has increased over the last two decades, but they remain largely under-represented in senior ranks in universities. However, although female academics remain under-represented in the general staff body, women make up for more than half of all academic staff in psychology departments country-wide. Women are better represented in the three senior rank positions in psychology departments, especially as associate professors and senior lecturers, than they are in the general staff body. Similarly, while the proportion of female professors in psychology is still low, it remains larger than the proportion of female professors accounted for across academia. The good representation of women in psychology departments could be attributed to the large proportion of women studying psychology and to the growing number of women qualifying as psychologists. From this study, it looks as if women have broken through the reported 'glass ceiling' for promotion in psychology as noted by the good representation of women in senior ranks especially as associate professors. From these results, one would expect to see a better representation of female professors in the future.

Rank position is reported to be reflective of publication output. Considering the relatively large proportion of women in senior ranks in psychology, the contribution of women to psychology publication output was found to be disproportionately low in this study. Only a third of all psychology publications listed in the SAKnowledgebase between 1990 and 2003, were authored by women. The percentage of female authors reported in this study is 9% lower than the figures reported in the Shefer *et al.* (2004) study. A possible reason for this variation is that Shefer *et al.* (2004) only

represented in the SAJP than they are in international psychology publications. What became clear in this study and Shefer *et al.*'s study is that female authorship trends in psychology publication output do not appear to be reflective of the growing number of female students, professionals and academics in the other areas of psychology in South Africa. But why are women so under-represented in publication output?

There have been many reasons given to explain women's general low publication rate: the lack of suitable female role models and mentors (Gilbert & Rossman, 1992); sexual discrimination in publication selection (APA Task Force, 2000); women's feelings of 'outsiderness and marginality' in the realms of academia (De la Rey, 1998); 'ageism' (CREST, 2004a); and the double burden of work and family responsibilities (Kite *et al.*, 2001). However, there could possibly be another reason to explain for women's low research output in psychology. Although women are increasing in numbers as professionals and academics, they are found to be clustered in specific fields of psychology, namely the applied areas of psychology. For example, female psychologists are more likely to register in the clinical, counselling and educational psychology categories and female academic staff are more likely to be involved in instruction rather than research activities in universities (CREST, 2004a). Furthermore, women in universities are more likely to spend more time counselling and supervising students than their male counterparts (Shefer *et al.*, 2004). For these reasons, Kite *et al.* (2001) suggests that publication productivity should be measured rather in terms of the proportion of women and men involved in research rather than the mere numbers of articles produced by men and women. In other words, publication productivity should be measured as a ratio (percentage) of the mean number of women's publications to the mean number of men's publications. In the study by Kite *et al.*, (2001) the gender gap in productivity narrowed substantially when publication ratios were measured and variables such as field of specialisation, rank, teaching hours and research funding were controlled. Therefore, before one can accurately state that women are under-represented in psychology publications, a study following Kite *et al.*'s (2001) precedent should be conducted. Further research in this area is therefore warranted.

Numerous reasons have been suggested in the literature to explain the change in the complexion of psychology: a decrease in the perceived status and prestige of the profession (Philipson, 1993; Ussher & Nicolson, 1992); the emergence of social service-orientated economies (Richter & Griesel, 1999); a decrease in the number of men interested in psychology (Radford & Holdstock, 1995); the move within the profession from a scientific base to an applied base (Frosh, 1992; Rice, 1997); and a decrease in research funding (Sexton & Hogan, 1992) to name only a few. Many of

these reasons are extremely complex and cannot be viewed in isolation from one another. Nevertheless, the increase of women into the profession is obviously the most basic explanation for the feminisation of psychology. Women are clearly attracted to psychology.

Psychology has become an attractive subject choice for female students in universities and is increasingly becoming an attractive option for women wishing to establish a professional career. Women are socialised in the family into nurturing and supportive roles and this affects their academic and occupational choices (De la Rey, 1998; Rees, 1992). Similarly, women are assigned the role of 'emotional work' in society and are responsible for providing care and intimacy to the needy (Terman & Miles, 1936). Women are also more drawn to professions that are compatible with child care and domestic concerns. For these three reasons, the 'soft' areas of psychology appeal to women. Women can be involved in a profession that is people-orientated, that is involved in caring, intuition and emotions (Frosh, 1992), in roles that require attributes that feel natural to women (Jordan *et al.*, 1991), and that can be practiced in a part-time and privatised way. The attraction of psychology to women is therefore, multi-faceted - "the working conditions, the form, and the content of the occupation all appear to be compatible with dual roles of labour force participant, on the one hand, and domestic worker and mother on the other" (Philipson, 1993, p.50).

The increase in the number of women into academic and professional psychology has been noted elsewhere in the world, although the rate of feminisation varies greatly from country to country (Sexton & Hogan, 1992). The significant increase in the number of students entering into undergraduate and postgraduate courses in psychology in South Africa seems to have begun at a later stage than in other countries such as in America and Britain (Radford & Holdstock, 1995). Similarly, the number of female psychologists only reached parity in 1996 in South Africa as compared to some Latin American countries where female psychologists had already outnumbered males psychologists since 1979 (Denmark, 1998). It became clear from this study that South African psychology is following the trends of these countries, and is steadily becoming an academic discipline and profession dominated by women and applied psychology. It is therefore important to identify the trends in psychology internationally as this would give us some indication about possible trends in psychology in South Africa. A large study of this kind would yield interesting results and merits a further detailed investigation.

Among the current trends identified in psychology in South Africa, three are bound to have repercussions in the future: • the disproportionate increase in the number of female psychologists; •

the disproportionate increase in the number of White (female) psychologists; and • the move in specialization away from the research and academically orientated subfields towards the health-provider specialities (Sexton & Hogan, 1992). Should these trends continue, they will precipitate a different form of psychology in South Africa in the future.

The increase in the number of White women entering psychology is a complicated issue and warrants more discussion than is possible in this paper. More than ten years after South Africa's first democratic election, psychology remains a largely White profession, whose 'relevance' in South African society has been largely questioned (De la Rey & Ipser, 2004). In this study, there appeared to be a significant discrepancy between the limited number of Black psychologists registering with the Board and the large pool of potential Black students at undergraduate level. Our results showed that women of every race group are entering into undergraduate psychology in increasing numbers, but few appear to be progressing beyond this level. Clearly, there are factors that are affecting the progress of Black students into postgraduate and professional psychology.

Pillay and Kramers (2003) have suggested that perhaps it is the conceptualization of the profession as a "western profession" that deters Black students from advancing their careers in psychology. Another factor identified by Ahmed and Pillay (2004) and Pillay and Kramer (2003), is the financial implications of studying and the long training required in psychology. A more general explanation for Black students' lack of advancement into postgraduate studies in psychology and in the general student body can be explained by Cooper and Subotzky's (2001) book, *The Skewed Revolution*. Black students have entered the higher education system in increasing numbers since 1990, but the vast majority of Black students (especially African students) enrol for either a three-year technikon diploma or a three-year university undergraduate qualification; rather than pursuing more professional qualifications with a longer time-span. Thus, the broader educational backlogs and disparities created by apartheid still exist and may be a very possible explanation for the lack of progress of Black students into postgraduate studies. If these factors are not taken into account and the needs of these students are not met, psychology will remain a largely White profession in South Africa – a profession that is only relevant and representative of the minority of the population.

The increase in the numbers of women into psychology is also a complicated issue and the effects of this transformation are not yet fully understood. It is not clear whether the increased level of

feminisation will have any of the hypothesized negative effects, however the “idea that a high entry of women is a sufficient condition for the decline of a formally powerful and prestigious male occupation is found often enough in the sociological literature to warrant some comment” (Riska & Wegar, 1993, p.37). According to Denmark (1998), female-typed occupations are de-valued cross-culturally, and when women enter previously male-dominated fields, the prestige of the field often drops. Studies on other occupations that have been feminised also indicate that when men abandon an occupational category, remuneration in that field decreases (Philipson, 1993). Strober & Arnold (1987, as cited in Philipson, 1993, p.15) suggest that there exists a ‘tipping point’ of female employment, “beyond which men begin to move rapidly out of the occupation, fearing that the occupation will become female and hence reduced in both status and pay.”

Ostertag and McNamara (1991, as cited in Boatswain *et al.*, 2001, p. 277) interpret the increasing proportion of women into psychology as reflecting the reduction in the number of men entering the field. In countries like Sweden, there has been a clear decrease in the number of men entering the profession (Boatswain *et al.*, 2001) suggesting that too few men rather than too many women have thought about the feminisation of the profession. However, this interpretation is not accurate for countries like South Africa and Canada. The trends found in this study show that the number of men entering professional psychology has remained relatively stable over the years and rather that the number of new female registrations has grown substantially. Our results showed, however, that this may not continue to be the case, as the number of men entering psychology at higher education level has dropped significantly over the last decade. In Canada, the numbers of both men and women entering the profession have increased, however the increase of women has been on a much larger scale (Boatswain *et al.*, 2001). Thus, although men are continuing to enter the discipline, women are attracted to the field in disproportionately larger numbers.

Ehrenreich (1989, as cited in Philipson, 1993, p.56) has described a flight of men away from certain disciplines and professions as the ‘new mood’, suggesting that the financial rewards of career options appear to override other concerns. This mentality has been described as one of the main reasons for the decline in male interest in psychology at university and profession level internationally (Radford & Holdstock, 1995). This decline in interest also appears to parallel trends that are occurring in professional psychology - the global movement of the discipline from a scientific ‘hard’ base to an applied ‘soft’ base - the movement towards a more ‘helping’ profession (Frosh, 1992).

Ussher & Nicolson (1992) question whether psychology is being 'reduced' to a 'helping' profession because of the increased number of women entering it, or because of other forces external to the profession (Ussher & Nicolson, 1992, p.26). Richter and Griesel (1999) maintain that it is the result of the emergence of social-service-orientated economies. Gurevich (2001) suggests that the status of psychology has not diminished as a result of women's increased participation – instead multiple shifts in the marketplace, public perception, educational and societal trends, and policy making have brought about these changes. A contrasting view by Rosenzweig (1994) is that the feminisation of psychology is a consequence rather than a cause of the devaluation of psychology. That is, as various factors make careers in psychology less attractive and viable, some men leave the field and other men decline to enter it, thus creating opportunities for the increased participation by women. These two factors are then combined in a cycle, with "devaluation of the field and feminisation each stimulating each other" (Rosenzweig, 1994, p. 751). Further answers to this question are multiple and often rely on the thorny issues of 'comparable worth' (Steinberg, 1990), occupational sex-segregation (Philipson, 1993), and the entrenched cultural symbolism of jobs (Kessler-Harris, 1990).

Despite the usual trend for the prestige of a profession to decline as men become less likely to enter the field, the status of psychology in America so far has not been compromised with the increase in women's participation. As Carol Travis (1996, as cited in Denmark, 1998, p. 467) notes, that the feminisation of psychology has actually brought about some positive changes to the profession of psychology: White men are no longer regarded as universally representative participants; female researchers have opened new considerations for gender, ethnicity, cultural background, class, age and sexual orientation; research methods have been examined and restructured to include the context of historical factors such as status, gender, race and class; and new approaches to therapy have placed the therapist and client at more equal standing. Nicolson and Ussher (1992) suggest that the best advantage of this movement will be that it will create a more diversified discipline, resulting in research being conducted on issues that were previously ignored, such as women's issues. Furthermore, Jacklin (1987) notes that women have already shown that they are making a difference by changing the focus of questions raised in research, and by demonstrating a somewhat different 'threshold-of-convincibility' for many research issues.

Regardless of the reasons or the potential positive or negative effects that the process may have on the profession, psychology has become and will continue to be a feminised profession within South Africa. The visibility and status of women in professional and academic psychology in South Africa are clearly increasing, although publication output still lags behind the numerical increase in other

areas of psychology. There have been some increases in the percentage of female authors over the last two decades however this does not yet reflect the dramatic increase of women entrants into the profession or the good representation of women in academia. It is likely that, in the foreseeable future, the ratio of women to men will continue to increase, resulting in a numeric dominance of women in all areas of psychology, and a reversal of past times when the field was completely dominated by men. Women are now becoming the practitioners, academics and scholars in all spheres of psychology – this revolution has already transformed the profession and will continue to influence its future.

### **5.1 Limitations of this study**

A limitation to this study is that the HPCSA relies on self-defined population group information, and this information is only available for 2932 of the 5619 psychologists currently registered with the HPCSA (2004, as cited in Duncan, Van Niekerk & Townsend, 2004, p. 572). Many psychologists may have decided as a matter of principle against providing information perceived as perpetuating ongoing racial distinctions within the profession. Thus, it was difficult in this study to accurately identify racial trends in professional psychology.

A limitation in the information gathered on academic staff in psychology departments, is that it was only collected for one respective year, therefore, no trends could be analysed. Furthermore, due to time constraints, only sex demographic information was collected and the racial composition of psychology academic staff still remains unknown.

In this study, female publication output was measured through a simple count of the number of psychology articles published in accredited journals listed in the SAKnowledgebase. Although this is a widely accepted indicator of publication output and is commonly used because of its simplicity, it has two limitations. Firstly, article counts are crude measures of publication output, as it does not distinguish between significant and insignificant publications. It can only be considered as an indicator of the quantity of published articles and, ideally, needs to be supplemented by a measure of the quality of research using peer review ratings (CREST, 2004a). Secondly, research output can take on many forms such as monographs, chapters in edited books, conference or workshop proceedings, commissioned research or technical reports, papers presented at conferences, published reviews of books and textbooks, which have not been included in the SAKnowledgebase (CREST, 2004a). Another limitation was the fact that 24% of publication output between 1990 and 2003, was not sex-

specific. Thus, it was difficult to accurately analyse women's overall contribution to psychology publication output over this period.

## **5.2 The strengths of this study**

The greatest strength of this paper is the quality of the data – no one has ever managed to combine such reliable and valid data sets to address this issue. In addition, no study has done such a comprehensive investigation into the trends of those in the field of psychology (students, academics and professionals) at the various levels of psychology (enrolments, graduations, registrations, publication output, and academic staff representation). The strengths of the present study are therefore the comprehensiveness, reliability and validity of the data.

## References

- Ahmed, R. & Pillay, A.L. (2004). Reviewing clinical psychology training in the post-apartheid period: have we made any progress? *South African Journal of Psychology*, 34(4), 630-656.
- Aldaba-Lim, E. (1992). Philippines. In V.S. Sexton & J.D. Hogan (Eds.), *International psychology: views from around the world* (pp. 331-338). Lincoln: University of Nebraska Press.
- Allen, I. (1988). *Doctors and their careers*. London: Policy Studies Institute.
- American Psychological Association Task Force of Women in Academe (APA Task Force) (2000) *Women in academe: Two steps forward, one step back*. Retrieved September 5, 2005, from <http://www.apa.org/pi/wpo/academe.pdf>
- Bawa, A. & Mouton, J. (2002). Research. In N. Cloete, R. Fehnel, P. Maassen, T. Moja, H. Perold & T. Gibbon (Eds.), *Transformation in higher education: global presses and local realities in South Africa* (pp. 296-334). Lansdowne: Juta and Company.
- Bickel, J. (2000). Women in academic medicine. *Journal Am Med Women's Assoc*, 55(1), 10-2.
- Boatswain, S., Brown, N., Fiksenbaum, L., Goldstein, L., Greenglass, E., Nadler, E. & Pyke, S.W. (2001). Canadian feminist psychology: where are we now? *Canadian Psychology*, 42(4), 276- 285.
- Brackman, H., Erie, S.P. & Rein, M. (1988). Wedded to the welfare state: women against Reaganite retrenchment. In J. Jenson, E. Hagen and C. Reddy (Eds.), *Feminization of the labour force: paradoxes and promises* (pp. 214-230). Cambridge: Polity Press.
- Brooks, F. (1998). Women in general practice: responding to the sexual division of labour? *Social Science and Medicine* 47(2), 181-193.
- Bunting, I. (2002). Students. In N. Cloete, R. Fehnel, P. Maassen, T. Moja, H. Perold & T. Gibbon (Eds.), *Transformation in higher education: global presses and local realities in South Africa* (pp. 147-185). Lansdowne: Juta and Company.

- Bunting, I. (2002). Students. In N. Cloete, R. Fehnel, P. Maassen, T. Moja, H. Perold & T. Gibbon (Eds.), *Transformation in higher education: global presses and local realities in South Africa* (pp. 147-185). Lansdowne: Juta and Company.
- Casale, D (2004). *What has the feminisation of the labour market 'bought' women in South Africa? Trends in labour force participation, employment and earnings, 1995-2001*. Development Policy Research Unit Working Paper, No. 04/84, University of KwaZulu-Natal, Durban.
- Centre for Research and Science Technology (CREST). (2004a). *Women in science, engineering and technology in South Africa: final report to the Department of Science and Technology* (Volume one, Main report). Stellenbosch: University of Stellenbosch.
- Centre for Research and Science Technology (CREST). (2004b). *Women in science, engineering and technology in South Africa: final report to the Department of Science and Technology* (Volume two, Appendices). Stellenbosch: University of Stellenbosch.
- Centre for Research and Science Technology (CREST). (2004c). *Women in science, engineering and technology in South Africa: synthesis report to the Department of Science and Technology*. Stellenbosch: University of Stellenbosch.
- Chamberlin, J. (2003, September). Study offers clues on why women choose medicine over engineering. *Monitor on Psychology*, 34(8), p.13.
- Chevalier, A. (2004, April). *Motivation, expectation and the gender pay gap for UK graduates*. Discussion Paper No. 1101. IZA: Germany. Retrieved August 30, 2005, from <http://repec.iza.org/RePEc/Discussionpaper/dp1101.pdf>
- Chlewinski, Z. (1992). Poland. In V.S. Sexton & J.D. Hogan (Eds.), *International psychology: views from around the world* (pp. 339-346). Lincoln: University of Nebraska Press.
- Cooper, D. & Subotzky, G. (2001). *The skewed revolution: trends in South African higher education: 1988-1998*. Cape Town: University of Western Cape Education Policy Unit.

- De Kohan, N.C. (1992). Argentina. In V.S. Sexton & J.D. Hogan (Eds.), *International psychology: views from around the world* (pp. 8-12). Lincoln: University of Nebraska Press.
- De la Rey, C. (1998, October). *A review of the experiences of women in higher education in South Africa*. Pretoria: Forum for African Women Educationalists South Africa (FEWESA) Research Report. (available from www. <http://www.fawe.org>)
- De la Rey, C. & Ipser, J. (2004). The call for relevance: South African psychology ten years into democracy. *South African Journal of Psychology*, 34(4), 544-552.
- De la Rey, C. & Quinlan, O. (1997, June). *Report on gender and higher education in South Africa*. For the Gender Equity Task Team, Department of Education. Pretoria: South Africa.
- Denmark, F. (1998). Women and psychology: an international perspective. *American Psychologist*, 53(4), 465-473.
- Department of Education (DoE). (1986). Staff 3.5. Retrieved August, 20, 2005, from the Department of Education's website:  
<http://education.pwv.gov.za/mainDocument.asp?src=dvie&xsrc=477>
- Department of Education (DoE). (1990). Staff 3.5. Retrieved August, 20, 2005, from the Department of Education's website:  
<http://education.pwv.gov.za/mainDocument.asp?src=dvie&xsrc=481>
- Department of Education (DoE). (1995). Staff 3.5. Retrieved August, 20, 2005, from the Department of Education's website:  
<http://education.pwv.gov.za/mainDocument.asp?src=dvie&xsrc=465>
- Department of Education (DoE). (2000). Staff 3.5. Retrieved August, 20, 2005, from the Department of Education's website:  
<http://education.pwv.gov.za/mainDocument.asp?src=dvie&xsrc=470>

- Department of Education (DoE). (2003). Staff 3.5. Retrieved August, 20, 2005, from the Department of Education's website:  
<http://education.pwv.gov.za/mainDocument.asp?src=dvie&xsrc=592>
- Department of Education (DoE). (1998) *Student Statistics Manual: SAPSE-005(95/10)*. 2<sup>nd</sup> edition August, 20, 2005, from the Department of Education's website:  
<http://education.pwv.gov.za/mainDocument.asp?src=docu&xsrc=repo>
- Department of Education (DoE). (2003). *Education Statistics in South Africa at a glance in 2001*. Retrieved August 20, 2005, from the Department of Education's website:  
<http://education.pwv.gov.za/mainDocument.asp?src=docu&xsrc=publ>
- Department of Labour. (2003). *Labour Market Review September 2003*. Retrieved August 30, 2005, from  
[http://www.labour.gov.za/programmes/programme\\_display.jsp?programme\\_id=9578](http://www.labour.gov.za/programmes/programme_display.jsp?programme_id=9578).
- Derese, A., Kerremans, I. & Deveugele, M. (2002). Feminisation, the medical profession and its education. *Acta Clinica Belgica*, 57(1), 3-4.
- Duncan, N., Stevens, G. & Bowman, B. (2004). South African psychology and racism: historical determinants and future prospects. In D. Hook (Ed.), *Critical Psychology* (pp.360-388). Lansdowne: UCT Press.
- Duncan, N., Van Niekerk, A. & Townsend, L. (2004). Following apartheid: Authorship trends in the South African Journal of Psychology after 1994. *South African Journal of Psychology*, 34(4), 553-575.
- European Trade Union Committee for Education (ETUCE) Working Group (n.d.), *Internal report on feminization in the teaching profession*. Retrieved September 17, 2004, from  
<http://www.ilo.org/public/english/dialogue/sector/papers/feminize/wp-151.htm>
- Evetts, J. (1994). *Women and career themes and issues in advanced industrial societies*. London: Longman Group.
- Frosh, S. (1992). Masculine ideology and psychological therapy. In M. Ussher & P. Nicolson (Eds.), *Gender issues in clinical psychology* (pp.153-170). London: Routledge.

- Galpin, V. (1992, April). *Gender and computer science education: technical report*. Retrieved August 20, 2005, from the Department of Computer Science at the University of Witwatersrand: <http://www.cs.wits.ac.za/~vashti>
- Galpin, V. & Sanders, I. (1993). Gender balances in computer science at the University of Witwatersrand. *ACM SIGCSE Bulletin*, 25(4), 2-4. Retrieved September, 10, 2005, from <http://delivery.acm.org/10.1145/170000/164208/p2-galpin.pdf>
- Gibbon, T. & Kabaki, J. (2002). Staff. In N. Cloete, R. Fehnel, P. Maassen, T. Moja, H. Perold & T. Gibbon (Eds.), *Transformation in higher education: global presses and local realities in South Africa* (pp. 186- 229). Lansdowne: Juta and Company.
- Gilbert, L.A. & Rossman, K.M. (1992). Gender and the mentoring process for women: implications for professional development. *Professional Psychology: Research and Practice*, 23(3), 233-238.
- Gurevich, M. (2001). W(h)ither psychology of women? Current trends and future directions for the section on women and psychology. *Canadian Psychology*, 42(4), 301-312.
- Hagen, E. & Jenson, J. (1988). Paradoxes and Promises: work and politics in the post-war years. In J. Jenson, E. Hagen and C. Reddy (Eds.), *Feminization of the Labour Force: paradoxes and promises* (pp. 3-16). Cambridge: Polity Press.
- Hakim, C. (1996). *Key issues in women's work: female heterogeneity and the polarization of women's employment*. London: Athlone.
- Hansen, K.V. & Philipson, I.J. (Eds.) (1990). *Women, class, and the feminist imagination: a socialist-feminist reader*. Philadelphia: Temple University Press.
- Hinde, A. (1991). Secondary Analysis. In G. Allen and C. Skinner (Eds.), *Handbook for research students in the social sciences* (pp. 248-257). London: Falmer Press.
- Hochschild, A.R. (1983). *The managed heart: commercialization of human feeling*. Berkeley: University of California Press.

- Jacklin, C.N. (1987). Feminist research and psychology. In C. Farnham (Ed.), *The impact of feminist research in the academy* (pp.95-107). Bloomington: Indiana University Press.
- Jordan, J.V., Kaplan, A.G., Baker Miller, J., Stiver, I.P. & Surrey, J.L. (1991). *Women's growth in connection: Writings from the stone center*. New York: The Guilford Press.
- Keeton, C. (2004, February 1). Universities reject top matrices: straight A's turned down in favour of weaker pupils with 'life skills'. *Sunday Times*. Retrieved September 16, 2004, from [www.sundaytimes.co.za](http://www.sundaytimes.co.za)
- Kessler-Harris, A. (1990). The just price, the free market, and the value of women. In K.V. Hansen & I.J. Philipson (Eds.), *Women, class, and the feminist imagination: a socialist-feminist reader* (pp. 476-490). Philadelphia: Temple University Press.
- King, M. (1994). Women's careers in academic science: achievement and recognition. In J. Evetts (Ed.), *Women and Career: Themes and issues in advanced industrial societies* (pp. 119-131). London: Longman.
- Kite, M.E., Russo, N.F., Brehm, S.S., Fouad, N.A., Iijima Hall, C.C., Hyde, J.S. & Keita, G.P. (2001). Women psychologists in academe: mixed progress, unwarranted complacency. *American Psychologist*, 56(12), 1080-1098.
- Koen, C. (2003). Academics. In Human Science Research Council, *Human Resources Development Review 2003: education, employment and skills in South Africa* (pp. 500-521). Cape Town: HSRC Press and East Lansing: Michigan State University Press.
- Kraak, A. (2003). HRD and 'joined-up' policy. In Human Science Research Council, *Human Resources Development Review 2003: education, employment and skills in South Africa* (pp. 2-31). Cape Town: HSRC Press and East Lansing: Michigan State University Press.
- Leo-Rhynie, E. (1999). *Gender mainstreaming in education: a reference manual for governments and other stakeholders*. Institute of Development and Labour Law at the University of Cape Town. Cape Town: Commonwealth Secretariat.

- Louw, J. (1990). *Professionalizing psychology*. Pretoria: Human Sciences Research Council.
- Louw, J. (1992). South Africa. In V.S. Sexton & J.D. Hogan (Eds.), *International psychology: views from around the world* (pp. 353-363). Lincoln: University of Nebraska Press.
- Louw, J. & Foster, D. (1991). Historical perspective: psychology and group relations in South Africa. In D. Foster and J. Louw-Potgieter (Eds.), *Social Psychology in South Africa* (pp. 57-92). Johannesburg: Lexicon.
- Mayekiso, T., Strydom, F., Jithoo, V. & Katz, L-A. (2004). Creating new capacity through postgraduate selection. *South African Journal of Psychology*, 34(4), 657-671.
- Neuman, L.W. (2000). *Social research methods: qualitative and quantitative approaches (4<sup>th</sup> Ed)*. Boston: Allyn and Bacon.
- Nicolson, P. (1992). Gender issues in the organisation of clinical psychology. In J.M. Ussher and P. Nicolson (Eds.), *Gender issues in clinical psychology* (pp. 1-38). London: Routledge.
- Nicolson, P. (1996). *Gender, power and organisation*. London: Routledge.
- Nicolson, P. (2000). Gender, power and the health care professions. In L. Sherr & J.S. St Lawrence (Eds.), *Women, health and the mind* (pp. 33-45). Chichester: John Wiley & Sons Ltd.
- Nicolson, P. & Ussher, J. (Eds.) (1992). *The psychology of women's health and health care*. London: Macmillan Press Ltd.
- Pacheco, A.E. (1992). Dominican Republic. In V.S. Sexton & J.D. Hogan (Eds.), *International psychology: views from around the world* (pp. 106-110). Lincoln: University of Nebraska Press.
- Painter, D. & Terre Blanch, M. (2004). Critical psychology in South Africa: looking back and looking ahead. *South African Journal of Psychology*, 34(4), 520-543.
- Pillay, A.L. & Kramers, A.L. (2003). South African clinical psychology, employment, (in)equity and the "brain drain". *South African Journal of Psychology*, 33(1), 52-60.

- Philipson, I.J. (1993). *On the shoulders of women: the feminisation of psychotherapy*. New York: Guilford Press.
- Pocock, J. (2004). Tracking transformation through student records – getting to know the learners. *For Engineering Educators*, 8(1), 8-12.
- Radford, J. & Holdstock, L. (1995). Does psychology need more boy appeal? *The Psychologist*, 8, 21-24.
- Rees, T. (1992). *Women and the labour market*. London: Routledge.
- Rice, C.E. (1997). The Scientist-practitioner split and the future of psychology. *American Psychologist*, 52(11), 1173-1181.
- Richter, L.M. & Griesel, R.D. (1999). Women psychologists in South Africa. *Feminism & Psychology*, 9(2), 134-141.
- Richter, L.M., Griesel, R.D., Durrheim, K., Wilson, M., Surendorff, N. & Asafo-Agyei, L. (1998). Employment opportunities for psychology graduates in South Africa: a contemporary analysis. *South African Journal of Psychology*, 28(1), 1-7.
- Riska, E. & Wegar, K. (Eds.) (1993). *Gender, work and medicine: Women and the medical division of labour*. London: SAGE Publications Ltd.
- Rosser, S.V. (Ed.) (1988). *Feminism within the science and health care professions: Overcoming resistance*. Oxford: Pergamon Press.
- Rosenzweig, M.R. (1994). The diverse origins and the development of psychology in the USA. *International Journal of Psychology*, 29(6), 739-756.
- Russo, N.F. & Denmark, F.L. (1987). Contributions of women to psychology. *Annual Review Psychology*, 38, 279-298.

- Salazar, J.M. (1992). Venezuela. In V.S. Sexton & J.D. Hogan (Eds.), *International psychology: views from around the world* (pp. 446-452). Lincoln: University of Nebraska Press.
- Seedat, M. (1998). A characterization of South African psychology (1948-1988): the impact of exclusionary ideology. *South African Journal of Psychology*, 28(2), 74-84.
- Sentell, T., Pingitore, D., Scheffler, R., Schwalm, D. & Haley, M. (2001). Gender differences in practice patterns and income among psychologists in professional practice. *Professional Psychology: Research and Practice*, 6, 607-617.
- Sexton, V.S. & Hogan, J.D. (Eds.) (1992). *International psychology: views from around the world*. Lincoln: University of Nebraska Press.
- Shefer, T. (2004). Psychology and the regulation of gender. In D. Hook (Ed.), *Critical psychology*. (pp.187-208). Lansdowne: UCT Press.
- Shefer, T., Shabalala, N. & Townsend, L. (2004). Women and authorship in post-apartheid psychology. *South African Journal of Psychology*, 34(4), 576-594.
- Steinberg, R.J. (1990). Radical challenges in a liberal world: the mixed success of comparable worth. In K.V. Hansen & I.J. Philipson (Eds.), *Women, class, and the feminist imagination: a socialist-feminist reader* (pp. 508-516). Philadelphia: Temple University Press.
- Study South Africa (StudySA) (2004). Positive Change: changing profiles. Retrieved August 26, 2005, from [www.studysa.co.za](http://www.studysa.co.za)
- Subotzky, G. (2003). Public higher education. In Human Science Research Council, *Human Resources Development Review 2003: education, employment and skills in South Africa* (pp. 352-379). Cape Town: HSRC Press and East Lansing: Michigan State University Press.
- Surrey, J.L. (1991). The relational self in women: clinical implications. In J.V. Jordan, A.G. Kaplan, J. Baker Miller, I.P. Stiver, & J.L. Surrey (Eds.), *Women's growth in connection: Writings from the stone center* (pp. 35-43). New York: The Guilford Press.

- Terman, L.M. & Miles, C.C. (1936). *Sex and personality: studies in masculinity and femininity*. New York: McGraw-Hill Book Company.
- Unwin, T. (1998). *Publish and/or perish? On writing, scholarship and survival for the modern academic*. Retrieved September, 24, 2005, from <http://www.arts.uwa.edu.au/MotsPluriels/MP598tu.html>
- Ussher, J.M. (1992). Science sexing psychology: positivistic science and gender bias in clinical psychology. In J.M. Ussher and P. Nicolson (Eds.), *Gender issues in clinical psychology* (pp. 39-67). London: Routledge.
- Ussher, J.M. & Nicolson, P. (Eds.) (1992). *Gender issues in clinical psychology*. London: Routledge.
- Wickwire, K.S. & Kruper, J.C. (1996). The glass ceiling effect: an approach to assessment. *Consulting Psychology Journal: Practice and Research*, 48(1), 32-39.
- Wylie, C. (2000, March). *Trends in the feminization of the teaching profession in OECD countries 1980-95*. Retrieved September 17, 2004, from <http://www.ilo.org/public/english/dialogue/sector/papers/feminize/wp-151.htm>
- Zuckerman, H. (1991). The careers of men and women scientists: a review of current research. In H. Zuckerman, J.R. Cole and J.T. Bruer (Eds.), *The outer circle: women in the scientific community* (pp. 27-56). New Haven: Yale University Press.

## Appendix A: Information on mergers and new university names<sup>54</sup>

As of January 2005, the South African public higher education system comprises of:

### Universities:

1. University of Limpopo (second set of mergers, January 2005) – the former Medical University of South Africa and the University of the North.
2. University of KwaZulu-Natal (first set of mergers, January 2004) – the former universities of Natal and Durban-Westville.
3. University of Zululand (no merger, name retained) – incorporating a campus of Vista.
4. University of Fort Hare (first set of incorporations) – incorporating the East London campus of Rhodes University.
5. University of Cape Town (no mergers, name retained).
6. University of Stellenbosch (no mergers, name retained) – its dental faculty has moved to the University of the Western Cape.
7. University of the Western Cape (first set of incorporations, name retained) – incorporating the dental faculty of the University of Stellenbosch.
8. Rhodes University (no merger, name retained) – its East London campus has been incorporated into Fort Hare University.
9. Nelson Mandela Metropolitan University (second set of mergers, January 2005) – the former University of Port Elizabeth and Port Elizabeth Technikon, and a campus of Vista.
10. University of the North-West (first set of mergers) – the former Universities of Potchefstroom and North-West, and a campus of Vista.
11. University of the Free State (first set of incorporations, name retained) – incorporating a campus of Vista and Qwaqwa (a former campus of the University of the North).
12. University of Johannesburg (second set of mergers, January 2005) – the former Rand Afrikaans University and Technikon Witwatersrand, and two campuses of Vista.
13. University of Pretoria (first set of incorporations, name retained) – incorporating a campus of Vista.
14. University of South Africa (first set of mergers) – the former University of South Africa, Technikon SA and a campus of Vista. Unisa's main campus is based in Pretoria but it is a distance learning university and has campuses countrywide.
15. University of Venda (no mergers, name retained).

---

<sup>54</sup> StudySA, 2004

### **Technikons (universities of technology):**

17. Eastern Cape University of Technology (second set of mergers, January 2005) – the former University of the Transkei and the Border and Eastern Cape technikons.
18. Durban Institute of Technology (DIT) (first institutional merger in South Africa, January 2002) – a merger between Technikon Natal and ML Sultan Technikon. Mangosuthu Technikon will be incorporated into the DIT.
19. Cape Peninsula University of Technology (second set of mergers January 2005) – the former Cape and Peninsula technikons.
20. Central University of Technology, Free State (first set of incorporations) – the former Technikon Free State, incorporating a campus of Vista.
21. Tshwane University of Technology (first set of mergers) – the former technikons Pretoria, Northern Gauteng and North-West.
22. Vaal University of Technology (changed in name only) – the former Vaal Triangle Technikon.

**Appendix B: The breakdown of the three broad fields of study into the 22 CESM categories<sup>54</sup>**

<b>Broad fields of study</b>	<b>SAPSE/HEMIS CESM categories</b>
Health Sciences	Health care & health sciences
Natural Sciences & Engineering	Agriculture & renewable resources Architecture & environmental design Computer science & data processing Engineering & engineering technology Life sciences & physical sciences Mathematical sciences Military sciences
Social Sciences & Humanities	Arts, visual & performing Business, commerce & management sciences Communication Education Home economics Industrial arts, trades & technology Language, linguistics & technology Law Libraries & museums Philosophy, religion & theology Physical education, health education & leisure Psychology Public administration & social services Social sciences & humanities

<sup>54</sup> CREST, 2004b

**Appendix C: The 'profile sheet' that was emailed to various psychology departments:**

<b>University name:</b>
<b>Year:</b>

<b>Psychology Academic Rank</b>	<b>Number <i>N</i></b>	
	<b>Female</b>	<b>Male</b>
Professor		
Associate Professor		
Senior Lecturer		
Lecturer		
Junior Lecturer		
Total		

Signed: \_\_\_\_\_

Position: \_\_\_\_\_

Date: \_\_\_\_\_

**Thank you very much you're your assistance. If there is a problem, please contact me on (021) 689 6374, or 082 3770732.**

**Please email to [SKNKER001@mail.uct.ac.za](mailto:SKNKER001@mail.uct.ac.za) or fax to (021) 650 4104.**

**Appendix D: The number of Honours and Master's degrees awarded in psychology by sex and race:**

**Table a:** The number of Honours degrees awarded in psychology by sex and race<sup>56</sup>

Honours	1990		1995		2002	
	N	%	N	%	N	%
<b>Female</b>						
African	37	5%	132	12%	194	16%
White	390	52%	529	48%	599	50%
Coloured	21	3%	41	4%	82	7%
Indian	35	5%	66	6%	82	7%
<b>total</b>	<b>483</b>	<b>64%</b>	<b>768</b>	<b>70%</b>	<b>957</b>	<b>81%</b>
<b>Male</b>						
African	29	4%	75	7%	80	7%
White	221	29%	224	20%	118	10%
Coloured	19	3%	22	2%	22	2%
Indian	2	0%	6	1%	11	1%
<b>total</b>	<b>271</b>	<b>36%</b>	<b>327</b>	<b>30%</b>	<b>231</b>	<b>19%</b>
<b>TOTAL</b>	<b>754</b>		<b>1095</b>		<b>1188</b>	

**Table b:** The number of Master's degrees awarded in psychology by sex and race<sup>57</sup>

Master's	1990		1995		2002	
	N	%	N	%	N	%
<b>Female</b>						
African	8	4%	17	6%	45	11%
White	110	53%	170	59%	227	54%
Coloured	3	1%	5	2%	23	5%
Indian	5	2%	7	2%	33	8%
<b>total</b>	<b>126</b>	<b>61%</b>	<b>199</b>	<b>69%</b>	<b>328</b>	<b>78%</b>
<b>Male</b>						
African	5	2%	8	3%	28	7%
White	70	34%	76	26%	57	13%
Coloured	3	1%	4	1%	8	2%
Indian	3	1%	3	1%	2	0%
<b>total</b>	<b>81</b>	<b>39%</b>	<b>91</b>	<b>31%</b>	<b>95</b>	<b>22%</b>
<b>TOTAL</b>	<b>207</b>		<b>290</b>		<b>423</b>	

<sup>56</sup> DoE 1990, 1995, 2002

<sup>57</sup> DoE 1990, 1995, 2002