

## **An international study of the gendered nature of academic work: Some cross-cultural explorations**

MILLICENT POOLE<sup>1</sup>, LAUREL BORNHOLT<sup>2</sup> & FIONA SUMMERS<sup>2</sup>

<sup>1</sup>*Edith Cowan University, Pearson St., Churchlands, Western Australia 6018;* <sup>2</sup>*The University of Sydney, New South Wales 2006, Australia*

**Abstract.** This study explores the gendered nature of academic work based on the Carnegie Foundation's International Survey of the Academic Profession. Characterisation of related yet discrete aspects of academic work describes commonalities between men and women, and in particular, highlights the aspects that discriminate between them. Responses by men and women from Australia, Germany, Hong Kong, Israel, Mexico, Sweden, UK and USA were analysed within following themes: working conditions; professional activities of teaching, research, and service; issues of governance and management, and the international dimensions of academic work.

### **Introduction**

This paper examines gender commonalities and differences in the academic profession across eight countries which participated in the International Survey of the Academic Profession (Altbach, 1996). The professional socialisation literature points to strong acculturation processes for both men and women entering a particular profession (e.g., Anderson, 1972), suggesting a commonality in practices, ethos and discourse. However, the literature on sex role socialisation suggests that gender is a powerful factor not only in terms of pathways to particular professions (e.g., forestry, mining, nursing, teaching) but also in relation to processes operating within workplace practices: barriers, constraints (Poole & Langan-Fox, 1996); political allocation processes (O'Donnell, 1984); and discrimination screening, opportunities for promotion (Berg, 1972).

Academia in particular has been perceived as traditionally elitist, male and patriarchal in its workplace culture, structure and values (Caplan, 1994; Sutherland, 1994). Women academics have been found 'to be less well integrated into their academic departments and disciplines than men' because they lack mentors and networks, which assist their professional integration and productivity, for example, 'information exchange, collaboration, career planning and strategising, professional support/encouragement and access to visibility and upward mobility' (O'Leary & Mitchell, 1990, p. 58). As more

women enter the Academy, there has been a growing interest in examining whether the structural arrangements of academic institutions and their culture accommodate or constrain women's career pathways and permit women to participate across the range of activities associated with the academic profession. Clark and Corcoran (1986) for example, in their work on the professional socialisation of women faculty, describe the structural impediments to success in terms of fewer opportunities for the best positions and lack of full participation in the collegial culture and networks. O'Leary and Mitchell (1990, p. 48) show how men, in contrast to women, are inducted into their professional world under the tutelage of male models and mentors: 'At best, women must rely on the process of acculturation . . . as they don't have access to women models and mentors in the academic world; a world for which their socialisation does not prepare them.' Likewise, Hawkins and Sebultz (1990, p. 54), in regard to women in West Germany and the Netherlands, reported men as being encouraged by their professors, despite the fact that 'academic men and women did not differ in the extent to which they valued the independence from authority, community prestige and salary commensurate with their academic positions.'

There are, however, core teaching and research activities specific to the academic profession into which both men and women are socialised and in which they participate (e.g., lecturing, tutoring, undertaking fieldwork, assessing and examining student work). The expectation is that academics will undertake research, and contribute to the administration of their department, and engage in service and outreach. Yet in the literature on the profession there are postulated and demonstrated patterns of difference associated with gender. Astin and Davis (1990), for example, reported that women spent a greater amount of time on teaching and fulfilling administrative demands than did men, and also spent more time on family matters. Baldwin (1985) provided evidence that women are often shut out of the networks which seem to be the main vehicle for induction into the professional academic life. Davis and Astin (1990, p. 89) state 'What is probably most striking about the growing body of research on gender stratification in academia is that it has produced inconclusive results.' Indeed, each facet of academia for men and women has been associated with both commonality and difference in terms of core functions. These will be outlined in relation to the themes originally identified by the Carnegie Foundation for the Advancement of Teaching, *viz* working conditions, teaching, service, research, internationalisation, and governance and management. These are the aspects of professional academic life examined in the International Survey of the Academic Profession in 1993, which is the basis of this article.

*Working conditions*

At one level, the working conditions of men and women within the academic profession are similar, although as Poole, Nielsen and Skoien (1993) have shown in Australia, there are more constraints encountered by female academic and general staff. Toren (1990, p. 75) argues that academia has a fundamentally egalitarian and collegial ethos, yet acknowledges that, despite this 'ideological and formal equality, the academic labour market is segregated and sex-typed . . . Furthermore, it is documented by research in various countries that gender-linked differences exist in the distribution of rewards in academia. Women receive on average fewer rewards than comparable men – they hold lower ranks, are paid lower salaries, are promoted at a slower pace, fewer of them have tenure and more of them are in non-tenure track positions. Even when women are matched with men on the major determinant of performance in academia—the rate of publication – they still receive less reward and move up the academic ladder at a lower pace.' There is some evidence of differential working conditions depending on scientific and scholarly disciplines: 'Research findings show that women fare better in terms of promotion opportunities, rank, salary and tenure in the natural sciences than in the social sciences and humanities' (Toren, 1990, p. 75).

There are, of course, also differences in working conditions between men and women depending on the country in which they work. Toren (1990, p. 77), for example, reported on differences which characterise the American academic profession but which were not evident in Israel, where the faculty are more homogeneous in qualifications and where salaries are equal for the same rank with only slight differences according to number of children and seniority and teaching loads are the same for all faculty members, varying slightly by rank (but not gender). Furthermore, there are no differences in working conditions, salaries and academic ranks among universities. All universities in Israel place a strong emphasis on research. Olsen, Maple and Stage (1995) have demonstrated differences such as lower research productivity, heavier teaching and institutional service commitment by women compared with their male counterparts. Furthermore, in terms of 'objective' and 'subjective' job satisfaction, as Poole and Langan-Fox (1994) found, women perceive their working conditions more positively in terms of 'intrinsic-subjective' satisfaction compared with male assessment based more on the 'extrinsic-objective' of status, salary and conditions.

That women are under-represented in academia has an impact on their working conditions. Hawkins and Schultz (1990), for example, in discussing the working conditions of women in West Germany and the Netherlands, use the term 'proletariat', seeing universities as essentially 'homosocial' and excluding the participation of women and their integration into the formal

and informal structures of the academy in achieving 'reputational status.' Academic men are more likely to be in secure tenured positions whereas a higher proportion of women are on contract, short-term or part-time placement (Poole, 1996). This difference in working conditions can be hypothesised to impact differentially on men and women in relation to teaching, research and administration. Menges and Exun (1983), for example, cited research showing that women spend more time on 'pattern- maintenance' chores and Bagihold (1993), on pastoral care and teaching, than do their male colleagues. In the countries surveyed in the present study, the question of perceived commonality or differences in working conditions was explored with a view to contributing to debates examining the gendered nature of academic working conditions.

### *Teaching*

It has been argued that women are more oriented towards teaching and derive more satisfaction from their teaching roles than do their male counterparts. This orientation is said to relate more to the stereotypic attributions made to women generally, *viz* that they are more person-oriented and that they value social, communication and interaction patterns associated with teaching. Olsen, Maple and Stage (1995), for example, found that women displayed a greater orientation to the intellectual and social development of students than did their male counterparts. This can impact on workloads, especially in time spent interacting with students and providing counselling and feedback. Indeed, Olsen, Maple and Stage (1995) suggest that the gender differences are not so much merely a matter of personal preference and orientation but are equally a product of institutional requests or demands. Baldwin (1983) claimed that women were in the more junior teaching ranks and that they had to undertake more than their fair share of large undergraduate courses with demanding assessment and pastoral care roles. Hornig (1980) reported heavier teaching loads for female compared with male academics while Davis and Astin (1985) found that women on the whole spend more time preparing for teaching.

Women are also less likely to be represented in various curriculum areas. In Israel, for example, women's representation in the sciences is disproportionately low compared to the humanities and social sciences (Toren, 1990). This finding has been replicated in Australia (Poole & Langan-Fox, 1996), in the UK (Aziz, 1990) and the USA and several other countries. (See Stiver Lie & O'Leary, 1990 – *In the Same Boat? Academic Women Around the World*). Contextual factors such as market conditions, employer attitudes, sex stereotypes, state support systems for families and organisational opportunity structures have been shown to be important determinants of women's location in academia (e.g., Hartman, 1987; Bielby & Bielby, 1988; Nti Asare, 1995) and

to impact differentially. However, these gender specific trait and orientation explanations need to be examined across cultures. In addition, organisational work patterns which may locate women at the lower-end teaching structures within the profession need also to be examined.

### *Service*

Service has usually been conceptualised in terms of contributions within the institution (e.g., to administrative or student services, to decision-making processes, committees and working parties) or to external aspects of outreach such as membership of professional associations, state and national committees, consulting and university-industry linkages. The little research that has been done in this area suggests that women are more likely to undertake service within the organisation especially in relation to students and coordination roles, while men are more likely to engage in income generating consultancies and to obtain positions on national bodies.

Olsen, Maple and Stage (1995) report that women faculty display a substantial commitment to institutional service, while Hornig (1980) provided evidence to show that women devote more time than their male counterparts to the academic community. Bagihole (1993) reported UK based research which indicated that women were more likely to be 'good campus citizens' compared with their male counterparts. Farley (1990) distinguished a 'service ladder' from a 'teaching' and a 'research' ladder, where women spend the majority of their time developing, coordinating and administering extension programs. The present study therefore sought to explore further whether across several countries there were commonalties or differences in relation to service in the academic profession.

### *Research*

Findings on the influence of gender on research productivity have produced inconclusive results, according to Davis and Astin (1990), with some studies reporting women to be less productive, others showing little or no variance, depending on field. Collie (1979) identified gender as important for status and prestige and found that 'women had lower levels of reputational standing, which he attributed to lower levels of research performance, measured in terms of quantity and quality of work' (cited in Davis and Astin 1990, p. 9). This work was controversial and, according to Davis and Astin (1990, p. 91) raised 'questions about the subtle biases and contextual factors that affect the scholarly enterprise for men and women, precisely because his book ignored many of the personal and organisational factors that impose heavy burdens

on women and that mediate the relationships between gender, productivity and status attainment.'

Traditionally it has been argued that women, because of their family responsibilities and family-work conflict, have 'less time, energy, and commitment to invest in their professional careers and are therefore less productive scientifically than men' (Toren, 1993, p. 439). The taken for granted inference has been that women are less oriented to research and that since research productivity is the key element in career pathways in the profession, their access to promotion and positions of management and governance is curtailed. There has also been a perception that women are less concerned with, or under utilise, institutional resources which may be a factor in their lower research productivity and visibility (Davis & Astin, 1990). Indeed, Stiver Lie (1990) argues that economic resources and availability of research assistants might explain productivity differences between men and women.

Likewise, working conditions associated with research are often assumed to be incompatible with the dual role responsibilities of women: 'the job model and career structure (e.g., long hours for research which is regarded as more prestigious than teaching ...) have traditionally assumed support ... in the domestic sphere' (Collins, 1992, p. 79). Yet a number of studies on women in the academic profession found that married women with or without children publish as much or slightly more than single or childfree faculty women (Fox & Faver, 1985; Zuckerman & Cole, 1987; Toren, 1991). Earlier studies in America had shown that women publish on the average less than comparable men (Cole & Zuckerman, 1984). However, even if women's research performance is comparable it can still be evaluated as less worthy or valued in the academic workplace (Cole, 1979). Toren (1993), and Billard (1993) reported that women college and faculty members publish much less than their male counterparts, and that their scholarly work is generally regarded as being of a lower quality, and that they are rarely cited as having made scholarly contributions. As a consequence, Billard (1993) argues women faculty continue to suffer significant disadvantages throughout their academic careers.

Although teaching and research have been viewed in this study separately, many would argue that the two roles are mutually enriching, and that the academic profession is characterised by the teaching-research nexus (e.g., Neumann, 1992). Even so, the notions of trade-off and interconnectedness are not well understood, although some studies have examined the links between research productivity (publication counts) and teaching effectiveness (student ratings). (e.g., Feldman, 1987; Friedruch & Michalah, 1983; Jensen, 1988). In the US, Davis and Astin (1990, p. 95) report studies which show that 'as a whole, women spend less time on research and scholarly writing than men and women faculty in general spend less than half the time male faculty do on these

activities. Significantly, time spent on teaching preparation, which usually brings little kudos for professors and often impedes productivity, shows the opposite pattern: women as a whole spend more time preparing for teaching. Even if their productivity is sustained at a comparable level, however, it is demonstrated that ‘since gender is a status characteristic and being female is the lower state of this characteristic, women’s performance (e.g., publications) is evaluated as less worthy and they are given few resources and opportunities to influence others and prove their competence (e.g., research grants, graduate students, and appointment to decision-making committees)’ (Toren, 1993, p. 442).

This question of academic productivity is important since it has been shown to impact on rank, salary and reputation (Davis & Astin, 1990). In West Germany and the Netherlands, Hawkins and Schultz (1990) reported for academic work and for career strategies that in terms of external funding for research: ‘Women were less likely than men to apply for, and be granted, research funding’ (p. 55). Likewise, O’Leary and Mitchell (1990, p. 59) reported that men, more than women have access to networks of colleagues who ‘provide information on grants and research funds as well as contacts leading to research resources; up-to-date professional knowledge and access to the ‘invisible college.’ Indeed, in the sciences, research productivity appears to be highly dependent on networks, mentors and collaboration and male access is reported to be greater (O’Leary & Mitchell, 1990).

### *Internationalisation*

This aspect of academic professional life includes internationalisation of the curriculum, foreign qualifications, staff and student exchanges and study abroad programs, and research collaborations which involve use of infrastructure and travel, together with Visiting Fellowships and the like. There has been little written on gender differences in this area, but, given greater access by men to resources for research and travel, this, together with greater seniority of men would lead to the speculation that more men than women engage in research related internationalisation (Sheehan & Welch, 1996; Welch, in this Issue). One important element is international networks, including collaboration, access to preprint mailing lists, as well as information exchange at conferences and scientific meetings. O’Leary and Mitchell (1990, p. 60) reported that ‘even those women who did attend meetings reported fewer productive conversations leading to collaboration compared to men.’ They also reported that the ‘invisible college’ was an old-boy network whose members ‘functioned as gatekeepers, controlling finances, reputations, and the fate of new scientific ideas’ (p. 59).

While women have networks, according to O'Leary and Mitchell (1990) these do not benefit them professionally. They report research which showed that women were, however, not always at a disadvantage as an examination of authorships and co-authorship on published papers failed to find evidence of sex differences (Zuckerman & Cole, 1975). Field of specialisation is important for integration into scientific networks nationally and internationally: 'women who reported low connectedness with the old boy network saw themselves as operating on the periphery of their disciplines which resulted in difficulty in obtaining resources for their work, getting published, and earning recognition. In contrast, the highly connected women used their mainstream specialities to develop reputations for expertise ... (and as) a springboard to establish visibility and contacts' (p. 61). International reputations are also established by 'attending conferences, publishing, giving presentations and organising and participating in symposia' (O'Leary & Mitchell, 1990, p. 62). There is evidence to suggest that men do more of this and are better at it than women. Likewise, it could be hypothesised that women, given their greater orientation to teaching, would be more involved with internationalisation of the curriculum. There could also be postulated differences in the use of networks with male academics targeting more strategic international collaborations for research partnerships. Work by Burke and Butler (1995) undertaken on international research collaborations in Australia did not examine gender differences but reported field of study differences with more scientists having international research linkages.

### *Governance and management*

Given the patterns associated with teaching and research in relation to men and women, and the organisational structures and culture, it is perhaps not surprising that the presence and participation of women in university management and governance has been a major differentiating component of academic life related to gender. Farley (1990) argues that 'American academic women do so much of the work on campus and have so little voice in policy' (p. 205) and that they should have a voice in resource allocation and course content. Collins (1992), in an analysis of the discourse of traditional universities, sees the existing committee structures as filtering out the input of lower status staff, notably women. Butler and Schultz (1995), along with many others (e.g., Sagaria 1988) discuss the notion of the 'chilly climate,' viz that the organisational culture of universities is not 'women friendly', especially at the top. Blum (1991) reported that female professors, staff and administrators in academe face a hostile work environment, and have done so for over twenty years, although some improvements have been made. Johnstone (1991) and Sagaria (1988) described a phenomenon of administrative self-selection



where promotion is often based on trust and similarly to self (male gender reproduction), a type of 'comfort' zone, rather than on skills, abilities, or performance. In their edited volume on gender and changing educational management, Limerick and Lingard (1995), some of the arguments they include are women avoiding administrative roles because these positions are more managerial than educational and do not involve professional leadership. It has been argued that the 'athletic' or 'rugby league model' of administration and management is unattractive to women, that is, the 'take-charge' as distinct from collaboration and team work. Eisenstein (1993) has argued that women are uncomfortable with the goal-directed, single-minded, self-centered approach which says 'do as little administration as you can, do the teaching but don't put too much time into it and get your research done' (Castleman, Allen Bastalich & While, 1995, p. 93). Hawkins and Schultz (1990) provide evidence that women in West Germany and the Netherlands are less likely than men to be appointed to powerful committees at their universities.

### **Method of analysis**

This study has evolved from the Carnegie Foundation's International Survey of the Academic Profession (Altbach, 1996). The survey focused on the type and nature of academic work, and collected a wealth of information about the attitudes of academics on a variety of themes. The present study examined responses from Australia, Germany, Hong Kong, Israel, Mexico, Sweden, UK and USA. Here, the attitudes expressed by academics from each country were examined on the basis of gender as the discriminating factor. The method of analysis first clustered questionnaire items into the following themes: working conditions; professional activities of teaching, research, and service; issues of governance and management, and the international dimensions of academic work. Discriminant Function Analysis (using SPSS) was conducted within each country, and for each theme in turn. The aim was to characterise related yet discrete aspects of academic work as commonalities between men and women, and in particular, to highlight the ideas that discriminate between them.

Several points need to be made about the analysis that may aid interpretation of the findings. In such a survey across diverse settings, the meaningfulness or cohesion among questionnaire items into these derived themes may be of interest. It is therefore not surprising that there were variations in the extent to which themes were internally consistent. Perhaps the most important note about this analysis is that the study dealt with women's and men's attitudes towards work. It is therefore about gendered perceptions of academic

*Table 1.* Proportions of women and men, their years in higher education and the number of institutions

Country	Sample	% women % men	Years in higher education				No. of institutions		
			(1–4)	(5–9)	(10–19)	(20+)	(1 only)	(2 to 4)	(5+)
Australia	1403	34.4	50.5	43.5	34.2	15.6	43.6	29.5	22.0
		65.6	49.4	56.5	65.8	84.4	56.4	70.5	78.0
Hong Kong	447	24.6	26.7	33.0	19.2	16.9	27.4	22.9	7.5
		75.4	73.3	67.0	80.8	83.1	72.6	77.1	95.5
Israel	497	27.3	47.1	36.2	28.0	21.9	32.7	24.6	–
		72.7	52.9	63.8	72.0	78.1	67.3	75.4	100.0
Germany	2749	16.4	24.0	20.3	14.4	6.1	20.2	11.9	9.9
		83.6	76.0	79.7	85.6	93.9	79.8	88.1	90.1
Sweden	1122	25.8	31.3	26.7	27.9	20.4	28.5	21.9	26.2
		74.2	68.7	73.3	72.1	79.6	71.5	78.1	73.9
Mexico	2523	26.7	46.3	33.1	35.2	24.0	38.4	29.4	–
		73.3	53.7	66.9	64.8	76.0	61.6	70.6	100.0
UK	1886	21.1	17.0	25.6	32.8	29.3	23.9	21.1	–
		77.9	83.0	74.4	67.2	70.7	76.1	78.9	100.0
USA	3523	26.7	42.9	39.6	36.1	19.9	31.1	29.8	20.9
		73.3	57.1	60.4	63.9	83.1	68.9	70.2	79.1

work, and not just a summary of what academic work is for these men and women. In order to represent these attitudes, responses to items were re-coded using a common continuum (note that where data were missing, a conservative estimate used the most frequently occurring value). In this way the present study was designed to explore directions of differences between men and women, across themes and between countries. For each theme, the questionnaire items that characterise the theme and items that discriminated most between women and men are described (that is, items with relatively high correlations with the discriminant function). This method provides a picture of the overall nature of academic work. The type of differences, their extent and direction are characterised for each theme in terms of commonalties and the gendered nature of academic work. But before these themes are characterised for each country, a brief summary describes profiles of academic women and men.

### **Profiles of academic work for men and women**

The gendered context of academic work is described as a profile for each country, together with a summary of the important trends. Table 1 shows the proportions of academic women and men, how long they have been employed

in higher education, and the number of institutions at which they have worked. In general, there were more men in the samples across the eight countries. The highest proportion of women respondents was 34.4% in Australia. In all other countries, the proportions of women ranged between 20 to 30%, other than Germany where only 16.4% of respondents were women.

An overall analysis of the number of institutions worked at by academics shows that the majority of respondents across eight countries had only worked at one institution. The bulk of the academics had worked at between 1 and 4 institutions. So, mobility was not a feature. It appears that appointment at an academic institution is likely to be, for most, their only professional appointment. This has implications for the establishment of networks and the structure of power relationships within the institution. New people bring new thoughts, ideas and ways of doing things, and patterns of interactions to any group. Changes are often initiated by the more mobile. However, if the structures within the institutions are not challenged by changes in staff, then changes to operations and administration and the conduct of academic work may be minimal. Change 'must come from within the universities' (Aziz 1990, p. 43) but is hard to achieve with stable and firmly formed networks and structures which hold the majority of upper hierarchical positions and a large number of staff who having worked only at one institution have no comparative models and may be suspicious of them introducing ideas from elsewhere.

Further analyses of other features of the academic context indicated that in terms of employment, in all the countries (except Germany) the percentage of women employed full-time was always less than the percentage of men employed full-time. But the proportion of women employed full-time appeared to be quite high, which may of course reflect some selectivity in the sampling. This comment excludes Mexico (where 54.1% of women and 66.4% of men were full time). The country with the most similar proportion of women and men employed full-time and the highest level of full-time employment was Hong Kong (97.3% of men and 99.2% of women were full-time). This suggests that the survey in the majority of countries may have been distributed mostly to full-time academic staff and excluded a large population of part-time staff. (The response rates and sampling frames warrant further investigation. In Australia, for example, part-time academics were sampled in proportion to full-time equivalent staff). This is an important factor to be recognised because the survey analysis only represents a part of the overall picture of the academic profession, that is, mainly those in full-time employment. Indeed, the literature details how women are increasingly filling short-term and part-time academic positions which have no provisions for

maternity leave and limit promotional opportunities (Stiver-Lie & O'Leary, 1990; Stiver-Lie et al., 1994).

The presence or absence of women in power in certain fields can impact on various aspects of academic work. There were large numbers of subject areas surveyed that did not have women respondents. Typically, these subject areas have some commonalities: the subjects with no women, across countries, included engineering and science subjects. It was unsurprising that nursing was one subject area where women significantly outnumbered men. Yet within some fields in which men outnumber women there were anomalies (e.g., it appears that in the area of natural sciences women are often promoted to higher positions). According to the literature this can be attributed not to their age and/or seniority, but is related to their 'minority size and the nature of the scientific field in which they are engaged' (Toren 1990, pp. 80–81). From this somewhat brief picture of the context of academic work we can see that there were major differentiating trends in terms of gender participation. We now turn our attention to the issue of gendered perceptions across the countries surveyed.

### **Attitudes to academic work: trends and themes**

There is clearly a trend emerging from the respondents in these eight countries on several of the themes. What is of most interest is that there are many similarities between men's and women's attitudes in all the themes. But the recurrence across countries of ideas within themes, and patterns of responses by men and women, give an indication of how men and women appear to perceive their work differently. That is to say, there are clearly both commonalities and a distinct gendered nature evident in academic work, summarized in Table 2.

#### *Working conditions*

Working conditions were more similar than different for men and women across all countries. That is, typical working conditions included allocation of time for teaching, research, service and administrative work. In return, salaries were comparable by level as were perceptions of opportunity for career prospects together with benefits for retirement, outside or special studies programs, and other benefits. Other perceptions shared by all members of the profession related to particular aspects of working conditions relating to intellectual atmosphere, academic staff morale, aspects of institutional mission, sense of community, and the relationship between academic staff and the administration. Academics in all countries acknowledged certain changes

Table 2. Significant influences of gender on aspects of academic work, across countries

	Australia	Germany	HK	Israel	Mexico	Sweden	UK	USA
<i>Working conditions</i>								
Income	-0.25	-0.10	-0.15		-0.18	-0.19	-0.18	-0.26
Hours teaching			0.17	0.14			0.12	0.07
Hours research	-0.08		-0.16	-0.19		-0.11	-0.12	-0.14
<i>Conditions</i>								
<i>Academic Life</i>								
Support & facilities		-0.10				-0.09	-0.08	-0.08
Job satisfaction	0.11	0.07						0.10
My area and career OK								
Why stay in academia								0.06
<i>Teaching activity</i>								
<i>Under graduate teaching</i>								
Post graduate teaching				-0.10				-0.11
Circumstances influence				0.13			0.07	
Teaching focus	0.11		0.17					0.07
Students prepared								
Prefer teaching	0.12	0.08	0.25	0.30		0.08	0.13	0.11
<i>Research activity</i>								
Productive	-0.16	-0.08		-0.25		-0.16	-0.16	-0.15
Actively involved	-0.13	-0.08	-0.12	-0.18		-0.09		-0.13
Value research				-0.30		-0.13		-0.08
Circumstances influence		-0.07						-0.06
<i>Community service</i>								
Types of service	-0.13			-0.12				
Paid %time	-0.10							-0.11
Circumstances influence								
Service valued	-0.11							
<i>Governance</i>								
Level of decision making	-0.08		-0.12			-0.09		
Own policy input	-0.08	-0.09			-0.10			
Sound management		-0.06		-0.14			-0.08	
Academic freedom				-0.20	-0.12	-0.12		-0.10
Appraised regularly								
Appraisal levels								
<i>Internationalisation</i>								
International Activity	-0.18	-0.09	-0.12	-0.27		-0.19	-0.09	-0.11
Attitudes on Int'lisation								
Government priority	-0.11		-0.17					-0.08
<i>Higher ed &amp; society</i>								
Future priority	0.11		0.19				0.10	0.08
Students capable								
Free access to University					-0.09			
Status in decline	0.09							

Notes. Table shows statistically significant ( $p < .001$ ) standardised regression co-efficients. Co-efficients indicate aspects that favour men (-) and aspects that favour women (+).

in working conditions relating to use of technology for teaching, receiving assistance with the development of teaching skills, and the need to develop various types of infrastructure to support academic work. Academics were asked to rate the quality of students currently enrolled in their department and to compare this with quality of students enrolled five years ago. There were no major discrepancies perceived between men and women. Academics, given their time over again, did not indicate that they would not become an academic and did not indicate that their current job was a source of considerable personal strain.

Some aspects of academic working conditions stand out as discriminating between women and men. Generally, across all countries, women had a more positive attitude to their working conditions than did men. However, men in all countries evidenced a higher rate of satisfaction concerning job security than did women (Toren, 1990; Poole & Langan-Fox, 1994). Men were more satisfied in being able to pursue their own ideas, in considering their overall job security and job situation, and in general satisfaction with security (Hawkins & Schultz, 1990). Women expressed more positive attitudes towards the physical infrastructure such as laboratories, classrooms, research equipment and instruments, computer facilities and secretarial support. Other aspects of working conditions are worth noting in particular countries. Men in Israel were more satisfied with their prospects for promotion than were women. In Germany, men more than women, judged that they were experiencing a particularly creative and productive time in their field of study. Women in Sweden rated the infrastructure at their institutions more highly than did their male counterparts. In Mexico, women indicated that they were less likely than men to leave their particular institution within the next five years and, in Israel and Australia, women considered income was an important reason for staying or not leaving an institution.

### *Teaching*

Teaching is the core of academic professional life and respondents in all countries were asked to indicate the time they spent on teaching, the number of courses and the subjects taught most recently, and the number of students with whom they had contact. Academics across all countries had exposure to undergraduate and graduate and postgraduate students and engaged in a variety of large group and small group instruction supplemented by individualised instruction.

Typical academic methods for instruction involved combinations of class discussion and laboratory work, with students in most departments in all countries being asked to attend classes regularly, to prepare short papers and assignments, to make formal oral presentations, to participate actively

in class discussion, to undertake examinations and other assessments. There were no notable gender differences in participation in these typical patterns of activities associated with the academic profession.

Staff in all countries believed that the content of their teaching should be influenced by their research and indicated that basically it was. This points to the interesting teaching research nexus which is reputed to be a core academic value (see Gottlieb & Keith, in this Issue). There was some commonality about various statements concerning teaching conditions at institutions in various countries and the differences are highlighted below. Academics were asked to comment on their opinions about the ability and performance of undergraduate students and men and women were more similar than dissimilar in the views they held about undergraduate students, believing them to be adequately prepared in written and oral communication, in mathematics and quantitative reasoning skills, in their studiousness, just doing enough to get by academically, and to agreeing that the change from a more elite to a more mass education system has been accompanied by a significant erosion of standards in their institutions. Academics across all countries believed that expansion in the higher education system had led to gains in equity of access for various disadvantaged groups.

There were, however, major gender differences associated with various teaching circumstances. There were major differences between men and women in terms of the relative importance placed on teaching effectiveness as a primary criterion for promotion. Women in all countries rated this as a more important aspect of professional work than did their male counterparts (Olsen, Maple & Stage, 1995; Baldwin, 1983; Hornig, 1980). In Germany, Israel and Sweden, more women academics believed that student opinions should be used to evaluate teaching effectiveness. Women, more than men, saw the 'trade-offs' involved in teaching in relation to administrative work loads, research commitments, and other non-academic professional activities. There was evidence in all countries of a more positive orientation by women towards teaching as part of professional life than was the case with men. In Australia, men, more than women, saw the link between post-graduate teaching and research productivity.

### *Research*

Research productivity emerged as a striking commonality within the nature of academic work. Academics in all six countries, both men and women, did not differ in their perceptions of contributing to scholarly activity over the past three years, namely in terms of producing scholarly books, academic articles, research reports or monographs, presenting papers at scholarly conferences, writing special articles for newspapers or magazines or as appropriate pursu-

ing patents, computer programs, artistic work and video. Indeed, both men and women accepted the activities as benchmarks for building a scholarly research reputation. Men and women in both countries agreed that it was important to engage in research projects and to work independently on projects or in collaboration.

Women more than men, however, did indicate that there were certain trade offs in terms of their capacity to engage in a range of academic research related activities depending on the availability of resources (facilities, resources, time, other obligations) (Toren, 1993; Davis & Astin, 1990). Both men and women agreed that it was difficult for a person to achieve tenure if he or she did not publish, and they seem to believe that research funding was easier to get now than it has been five years ago. There were, however, some major gender differences related to research.

In terms of attitudes to research, it seems that men more than women, in all countries, had a more positive orientation towards research, recognising that a strong record of successful research was important in Faculty evaluation (Collie, 1979; Davis & Astin, 1990; Toren, 1993). Women in Germany, USA and Hong Kong felt under more pressure to do research than they would actually want to. Again there was a perception of a trade off factor in relation to research compared with other elements of the profession such as administrative work load and other non-academic professional activities. Men more than women saw the importance of resources in relation to research productivity (e.g. the availability of research funding, and access to quality student research assistance). In Germany and the United Kingdom the facilities and resources provided for research were more important to men. In Australia, men perceived post-graduate students as important influences on their research. Men, more than women, saw the significance of scholarly international connections in relation to Faculty evaluation. In all countries, men, more than women, referred to the fact that there were no political/idealistic restrictions on what they could publish, suggesting a perception in their professional life of academic independence and autonomy. In all countries men seemed to have a better appreciation of the importance of research to the career track in terms of achieving tenure, obtaining a favourable faculty evaluation, and attracting students and resources (Davis & Astin, 1990; Toren, 1993; Schultz, 1990; O'Leary & Mitchell, 1990).

### *Service*

Other professional work or service that men and women do extends beyond the traditional assignment of teaching and research. Service includes such activities as paid or unpaid consulting work with clients or patients, and public or voluntary service. Both women and men indicated their participation



in service of some sort, whether it related to business, industry, educational institutions (local, national or state) government bodies, private social services bodies, international bodies or other international associations. There was a degree of commonality between men and women in terms of academics believing that they had a professional obligation to apply their knowledge to problems in society. However, there were major gender differences in terms of a number of the service items. In this aspect of academic work, women more than men saw service as a trade off against other activities such as administrative work load, number of courses assigned to teach, the amount of student advising undertaken, and participation in non-academic professional activities, as well as the availability of research funding and commitment to research within the academic professional life pattern (Olsen, Maple & Stage, 1995; Hornig, 1980; Bagihole, 1993). In Germany, Israel, Mexico and Sweden, women saw service activity beyond the institution as more of a distraction than did men. In Israel, men, more than women, felt that it was economically necessary to engage in paid consulting work. In Australia, men perceived paid consultancies as necessary for departmental and for personal reasons. An inference might be that women construct their service role more internally within the organisation whereas male orientation is more towards the external community and the world of consultancy and income augmentation. In Germany, Hong Kong and Sweden, the service to which women contributed was influenced by the courses they were assigned to teach. In the USA, women faculty believed service was important to faculty evaluations.

### *International dimensions of academic life*

Internationalisation was explored in terms of international academic activities relating to publishing books and articles, being on editorial boards or reviewing articles for foreign journals, or examining PhD theses or dissertations. No marked gender differences were reported. Nor were there reported gender differences in terms of an involvement in a range of professional activities in the past three or ten years; activities such as working collaboratively with academics from another country, travelling abroad to study or do research, serving as a faculty member at an institution in another country or spending an outside or special study leave abroad. These activities which are essential to the general pattern of academic work seem to operate similarly for men and women across the range of the countries involved in this particular survey. Likewise men and women for the past three years saw their faculty being frequently involved in inviting foreign academics to teach subjects or units, to attend international conferences and seminars, to enrol foreign students or to send their own students to participate in study abroad programs. A core

value for both men and women academics was to form connections with scholars in other countries since this was important to the professional work, to keep up with developments of their discipline through reading scholarly books and journals published abroad and to basically promote student and staff mobility in countries and to internationalise the curriculum. There were, however, some subtle gender differences in these areas.

Although not all countries included a section on Internationalisation in their questionnaire, there were few strong or consistent trends among the rest. In Israel men more than women believe that universities should do more to promote international student and Faculty mobility whereas in Hong Kong the trend was reversed. In Mexico, more women than men considered it important for a scholar to read international books and journals to keep up in their field, whereas in Sweden the trend was the opposite with more men than women agreeing that this was an important aspect of professional life. In Hong Kong and Sweden men more than women believed that international scholars were important for their professional work whereas in Mexico more women than men held this belief. In Australia, men more than women perceived that international co-operation was important to their work. The question with the least difference between men and women was that curriculum should have a more international focus.

### *Governance and management*

There was considerable commonality in all countries in the perceptions of men and women relating to the decision making processes that they saw operating for choosing senior academics, promotions, tenure decisions, budget priorities (as determined at the institutional level and then at the faculty or school level), and how overall teaching levels of academic staff were decided. There was also commonality in perceptions of how institutions go about setting admission standards for undergraduate students, how new academic programs are approved and how student tuition fees are set. Processes related to institutional teaching, planning, and the control of intellectual property were areas of commonality with no gender differences perceived. There was not general overall agreement, however, in terms of perceptions of personal influence in relation to shaping academic policies or in perception of how key management and decision making processes occurred. There was general agreement, however, that perception of freedom to determine the content of courses, subjects or units taught and to pursue a research interest of special interest. There were no gender differences in terms of perception of whether academic freedom was strongly protected or not in the six countries. There was also commonality in the perception that academics in institutions regularly had their work appraised or evaluated either annually or biennially.

The major groups undertaking this were peers internal to the department, heads of departments, members of other departments or external reviewers, or professional teaching or development units which had a particular responsibility for assisting staff development. In all countries, evaluation of staff was linked to professional development, continuation of employment or judgements regarding incremental salary progression promotion or alleged non-performance.

Academics were asked to comment on whether the government should have responsibility to define the overall purposes and policies of higher education and there were no gender differences evident for this item, nor did men and women differ in terms of their perceptions of too much government interference in important academic policies or their perception of the government control over their academic work being greater now than it had been five years ago.

In most countries, men more than women saw themselves as influencing policy at the school or departmental level indicating a perception of women as being less influential in contributing to this important aspect of academic governance (Farley, 1990; Collins, 1992; Hawkins & Schultz, 1990). Interestingly, it was women academics in all countries who differed from their male counterparts in believing that students should have a stronger voice (greater participation) in determining policy that affects them. More men than women saw top level administrators as providing competent leadership and as supporting academic freedom. Women in Israel and Hong Kong saw administration as being autocratic significantly more than did their male counterparts. Men in the United Kingdom, Australia, Hong Kong and Mexico believed that they could focus their research on any topic of interest to them and felt that they were free to determine the content of the courses they taught. Men in Australia felt more involved in all levels of policy than did their female counterparts.

## **Conclusions**

The cross-cultural comparisons among the eight countries in the present study demonstrated a considerable commonality between men and women in the nature of the professional academic work activities undertaken, *viz* their working conditions, teaching, research, service, international focus and governance and management. Commonality was associated with a whole range of academic activities and work patterns. Neither the men nor the women in the countries studied were highly mobile; most remained at the same academic institution for most of their life, that is, the norm was to have one professional appointment at one academic institution. This is an important finding in terms of its implications for organisational change and

renewal. Stability of firmly formed networks and structures served to impede change rather than progress it.

Turning to country specific gender patterns of professional work, in Israel the major differences were that men, more than women, in terms of working conditions held more positive perceptions. Yet, paradoxically, it was women in Israel who felt that they were more likely to stay in the same institution and to have reduced mobility or a lower tendency to leave because of income related factors. In Israel, women more than men argued the importance of student opinions in evaluating teaching effectiveness. Women in Israel saw service as more of a distraction from the main core of teaching and research, while men in Israel felt that it was an economic necessity to do paid consultancy work. Men more than women felt it was important to promote international students and faculty mobility as part of international outreach. Women in Israel more than men saw academic administration as being autocratic.

In Germany men more than women perceived themselves as living in a particularly productive period in terms of their discipline and saw themselves as working in a creative climate. Women in Germany argued the importance of student opinions as part of the process of evaluating teaching effectiveness. Women in Germany saw themselves as being under more pressure to undertake research than they wished to. Men in Germany, more than women, perceived the significance of facilities and resources in terms of their research productivity. Women in Germany saw a contribution to service as a distraction from the core functions of teaching and research.

In Sweden, women more than men perceived the intellectual climate and ethos of their institutions more positively in terms of working conditions. Swedish female academics were also more inclined to value student opinions in evaluating teacher effectiveness than were their male colleagues. At the same time they saw service as a distraction from their core academic and professional responsibilities. Men in Sweden more than women tended to read international books and journals as part of their perception of what the role of an international academic entailed. Men saw this as more important and likewise saw that international scholars were important to their professional work.

In Mexico, women indicated that they were less likely to leave their current institution. That is, they saw themselves as having less mobility than their male counterparts. In Mexico female academics saw service as a distraction from their other core functions of teaching and research. Interestingly, it was women academics in Mexico who perceived the importance of reading international journals more than their male counterparts. Likewise women in Mexico saw the importance of international scholars to their professional work. Yet it was male scholars in Mexico who perceived greater autonomy

in terms of being able to focus their research on any topic and to be free or independent to determine the course content of their curriculum areas.

In Hong Kong, women more than men saw themselves as being under more pressure to do research than they wished. Women in Hong Kong more than men believed it was important to promote international students and faculty mobility, yet it was men who perceived the importance of international scholars in terms of contributing to their professional work. Women in Hong Kong more than men saw the administration in their universities as being autocratic. Their male colleagues perceived a greater independence in capacity to focus their research on any topic and to be free to determine course content in the areas in which they taught.

In the United Kingdom men more than women saw the importance of facilities and resources in terms of their research productivity. Likewise men in the UK, more than women saw the significance of international scholars in terms of their ability to contribute to their professional work. Men more than women in the UK perceived academic independence in terms of their freedom to select a research topic of their choice and to be free to determine the course content in the areas in which they taught.

In Australia, men more than women, were satisfied with job security. They also saw post-graduate teaching links as asserting their research productivity. Men, more than women, were involved in paid consultancies. Women saw themselves as under more unwanted pressure to undertake research. Men, more than women, perceived connections with scholars in other countries as important for internationalising their scholarship. Men in Australia felt more involved in policy. Women again argued for a greater voice for students in policy making.

In summary, there is strong evidence that, across the countries studied, there are distinctive patterns of gender related academic work. The pattern recurring in the literature that women appear to be more positively oriented towards teaching and men towards research was sustained. Likewise in terms of orientation to service within the organisation, women differed from men who exhibited a greater external orientation, related more to extrinsic factors such as consultancies. In terms of working conditions and life contexts, it was women who appeared to be more at risk and under more pressure (e.g., more in part-time employment and high consciousness of 'trade-off' of time for each activity against another). The academic profession was also gender segregated with women largely absent in many fields of science and engineering. In relation to reputation and status, men seemed more aware of the importance of resources and of the necessity to influence policy and governance. These findings highlight the need for a reconsideration of patterns of socialisation into the academic profession and the provision of necessarily targeted policies

and strategies to assist the career pathways of women, and an examination of resources, governance and management policies which perpetuate cultural reproduction rather than cultural transformation or equitable socialisation into the academy.

## Acknowledgments

Acknowledgments are due first and foremost to the researchers who contributed to the data collection for the International Survey, and to Anthony Welch for the opportunity to contribute to the project. Many thanks also to Fiona Lacey and to Elizabeth Ferrier for their assistance in the research.

## References

- Acker, S. (1992). 'New perspectives on an old problem: the position of women academics in British Higher Education', *Higher Education* 24, 57–75.
- Altbach, P.G. (1996). *The International Academic Profession*. Boston College Center for International Higher Education & The Carnegie Foundation for the Advancement of Teaching.
- Anderson, D.S. (1972). 'Professional socialisation', in Hunt, F.J. (ed.) *Socialisation in Australia*. Sydney: Angus and Robertson, pp. 288–305.
- Aziz, A. (1990). 'Women in UK universities: the road to casualization?', in Stiver Lie, S., and O'Leary, V.E. (eds.), *Storming the Tower Women in the Academic World*. London: Kogan Page; New York: Nichols/GP.
- Bagihole, B. (1993). 'Survivors in a male preserve: a study of British women academics' experiences and perceptions of discrimination in a UK university', *Higher Education* 26, 431–447.
- Baldwin, G. (1985). *Women at Monash University*. Monash, Australia: Monash University.
- Berg, I. (1972). *Education and Jobs: The Great Training Robbery*. New York: Praeger.
- Bielby, D.D. and Bielby, W.T. (1988). 'She works hard for the money: household responsibilities and the allocation of work effort', *American Journal of Sociology* 93, 1031–1059.
- Billard, L. (1993). 'A different path into print', *Academe* 79, 28–29.
- Blum, D.E. (1991). 'Environment still hostile to women in academe, new evidence indicates', *Chronicle of Higher Education* 38, p. A1.
- Bourke, P., and Butler, L. (1995). *International Links in Higher Education Research*. Commissioned Report No. 37 of the National Board of Employment, Education and Training, Australian Government Listing Service, 120 pp.
- Caplan, P.J. (1994). *Lifting a Ton of Feathers: A Women's Guide to Surviving in the Academic World*. Toronto: University of Toronto Press.
- Castleman, T., Allen, M., Bastalich, W., and White, P. (1995). *Limited Access: Women's Disadvantage in Higher Education Employment*. Melbourne: NTEU.
- Cole, J.R. (1979). *Fair Science: Women in the Scientific Community*. New York: Free Press.
- Cole, J.R. and Zuckerman, H. (1984). 'The productivity puzzle: persistence and change in patterns of publications of men and women scientists', in Maehr, P., and Steinkamp, M.W. (eds.), *Advances in Motivation and Achievement*. Connecticut: JAI Press, pp. 217–256.
- Collings, J. (1992). 'Disciplining academia: women academics and possibilities for change', in *Women, Communication and Power*, Women in leadership national conference papers, Edith Cowan University.

- Davis, D.E., and Astin, H.S. (1990). 'Life cycle, career patterns and gender stratification in academe: breaking myths and exposing truths', in Stiver Lie, S., and O'Leary, V.E. (eds.), *Storming the Tower Women in the Academic World*. London: Kogan Page; New York: Nichols/GP.
- Eagly, A.H. (1995). 'The Science and Politics of Comparing Women and Men', *American Psychologist* 50, 145–158.
- Eisenstein, H. (1993). 'A telling tale from the field'. In Blackmore, J., and Kenway, J. (eds.) *Gender Matters in Educational Administration and Policy*. London: The Falmer Press, pp. 1–8.
- Farley, J. (1990). 'Women professors in the USA: where are they?', in Stiver Lie, S., and O'Leary, V.E. (eds.), *Storming the Tower Women in the Academic World*. London: Kogan Page; New York: Nichols/GP.
- Feldman, K.A. (1987). 'Research productivity and scholarly accomplishment of college teachers as related to their instructional effectiveness', *Research in Higher Education* 26, 227–298.
- Fox, M.R., and Faver, C.A. (1985). 'Men, women and publication productivity: patterns among social work academics', *Sociological Quarterly* 26, 267–280.
- Freidrich, R.J., and Michalak, S.J. (1983). 'Why doesn't research improve teaching?', *Higher Education* 54, 45–163.
- Gottlieb, E., and Keith, B., 'The academic research-teaching nexus in eight advanced industrialized countries', *Higher Education* (in this Issue).
- Hartman, H.H. (1987). 'Internal labour markets and gender: a case study of promotion', in Brown, C., and Pechman, J.A. (eds.), *Gender in the Workplace*. Washington, DC: Brookings Institute, pp. 59–105.
- Hartsock, N. (1983). *Money, Sex and Power, Toward a Feminist Historical Materialism*. New York: Longman.
- Hawkins, A.C., and Schultz, D. (1990). 'Women: the academic proletariat in West Germany and The Netherlands', in Stiver Lie, S., and O'Leary, V.E. (eds.), *Storming the Tower Women in the Academic World*. London: Kogan Page; New York: Nichols/GP.
- Hornig, L. (1980). 'Untensured and tenuous: the status of women faculty'. *Annals of the American Academy of Political and Social Science* 448 (March), 115–125.
- Jensen, J.J. (1988). 'Research and teaching in the universities of Denmark: does such an interplay really exist?', *Higher Education* 17, 17–26.
- Johnsrud, L. (1991). 'Administrative promotion: the power of gender', *Higher Education* 62, 119–149.
- Limerick, B., and Lingard, B. (eds.) (1995). 'Gender and changing educational management', *Second Yearbook of the Australian Council for Educational Management*. Rydalmere: Hodder Education.
- Luke, C., and Gore, J. (eds.) (1992). 'Women in the academy: strategy, struggle, survival', in *Feminisms and Critical Pedagogy*. New York: Routledge, pp. 192–220.
- Menges, R., and Exum, W. (1983). 'Barriers to the progress of women and minority faculty', *Higher Education* 54, 123–144.
- Neumann, R. (1992). 'Perceptions of the teaching-research nexus: a framework for analysis', *Higher Education* 23, 159–171.
- Nti Asare, N.S. (1995). 'The state as a support system: what should women in academe expect? A global perspective', *paper presented at International Conference on Women in Higher Education*. San Francisco.
- O'Donnell, C. (1984). 'The relationships between women's education and their allocation to the labour market', *Studies in Higher Education* 9, 59–72.
- O'Leary, V.E., and Mitchell, J.M. (1990). 'Women connecting with women: networks and mentors in the United States', in Stiver Lie, S., and O'Leary, V.E. (eds.), *Storming the Tower Women in the Academic World*. London: Kogan Page; New York: Nichols/GP.
- Olsen, D., Maple, S., and Stage, F. (1995). 'Women and minority faculty job satisfaction', *Higher Education* 66, 267–292.

- Poiner, G. (1991). 'Women and the academic procession. Questions of equality and opportunity'. *Working Papers in Women's Studies*. Women's Research Centre, University of Western Sydney, Nepean.
- Poole, M.E., Langan-Fox, J., and Omodei, M. (1993). 'Contrasting subjective and objective criteria as determinants of perceived career success: a longitudinal study', *Organisational Psychology* 66, 39–54.
- Poole, M.E., and Langan-Fox, J. (1996). *Australian Women and Careers; Psychological and Contextual Influences over the Life Course*. Cambridge University Press.
- Poole, M., Nielsen, S., and Skoien, P. (1995). 'Constraints and compromises on the career paths of senior level women in higher education', *Australian Journal of Career Development*. 33–37.
- Poole, M.E. (1996). 'Leaving the "sticky floor" and shattering the "glass ceiling"'. *Keynote Speech*. Women in Education Conference, Sydney IAR.
- Sargia, M.A. (1988). 'Administrative mobility and gender', *Higher Education* 59, 305–326.
- Sheehan, B., and Welch, A. (1996). *The Academic Profession in Australia*. DEET, Evaluations and innovations program. Canberra: Australian Government Publishing Service.
- Stiver Lie, S., and O'Leary, V.E. (1990). 'In the same boat? Academic women around the world', in Stiver Lie, S., and O'Leary, V.E. (eds.), *Storming the Tower Women in the Academic World*. London: Kogan Page; New York: Nichols/GP.
- Stiver Lie, S. (1990). 'The juggling act: work and family in Norway', In Stiver Lie, S., and O'Leary, V.E. (eds.), *Storming the Tower Women in the Academic World*. London: Kogan Page; New York: Nichols/GP.
- Sutherland, M.B. (1994). 'Two steps forward and one step back: women in higher education in the United Kingdom', in Stiver Lie, S., Malik, L., and Harris, D. (eds.), *The Gender Gap in Higher Education. World Yearbook of Education*. London: Kogan Page.
- Toren, N. (1990). 'Would more women make a difference?', in Stiver Lie, S., and O'Leary, V.E. (eds.), *Storming the Tower Women in the Academic World*. London: Kogan Page; New York: Nichols/GP.
- Toren, N. (1993). 'The temporal dimension of gender inequality in academia', *Higher Education* 25, 439–455.
- Toren, N. (1991). 'The nexus between family and work roles of women academics: reality and representation', *Sex Roles* 24, 651–667.
- Welch, A. (1997). 'The peripatetic professor: the Internationalisation of the academic profession', *Higher Education*, (in this Issue).
- Wunsch, M.A. (1993). 'Mentoring probationary women academics: a pilot programme for career development', *Studies in Higher Education* 18, 349–362.
- Zuckerman, H., and Cole, J. (1975). 'Women in American Science', *Minerva* 13, 82–102.