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**RESEARCH IN A MARKET DRIVEN ENVIRONMENT:
IMPLICATIONS FOR ACCESS AND GENDER EQUITY IN UNIVERSITIES**

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ABSTRACT

In the recent discussion paper on Higher Education Research and Research Training “New Knowledge, New Opportunities”, it is strongly argued that research – as a key source of knowledge and new ideas – is an essential requirement for a nation’s long term growth and competitiveness, and that success of such effort relies on many factors, including the institutional environment in which researchers operate. According to this premise, the work of educators, if grounded on a sound research base, does reflect the reality of “a competitive customer-driven environment”. What are the implications of this focus for access and equity? It is argued by Park (1996) and Sinclair (1998) that the dominant cultural values in higher education institutions are male, including research which Park implicitly deems to be “men’s work”. This paper explores these apparent inconsistencies for access and equity in higher education in a culture which is increasingly becoming market driven.

RESEARCH IN A MARKET DRIVEN ENVIRONMENT: IMPLICATIONS FOR ACCESS AND GENDER EQUITY IN UNIVERSITIES

INTRODUCTION

Research is recognised nationally and internationally as a key source of knowledge and new ideas and is an essential requirement for a nation's long term growth, competitiveness and social wellbeing. Universities are significant contributors to the research efforts and in Australia this is particularly so, with the sector accounting for 27 per cent of the national expenditure on R&D and 78 per cent of all national expenditure on basic research (Green Paper, DETYA 1999). The success of such effort relies on many factors including the institutional environment in which researchers operate. The higher education environment is presently undergoing significant change in that there are now even more expectations from Governments and others that universities will be a key to economic growth through contribution to the knowledge and innovation process. The recent discussion paper on research and research training *New Knowledge, New Opportunities* (Green Paper) was intended to provide a new policy framework for the future of Australian research in higher education. This framework stresses the importance of commercialisation of research outcomes.

The conduct of research is therefore of major strategic importance to planners and managers in universities who are required to ensure an appropriate working environment and to maximise the potential of all staff. This includes females who constitute over a third of the national higher education workforce. It is argued by Park (1996) and Sinclair (1998) that the dominant cultural values in higher education institutions are male - including research, which Park deems to be 'men's work'. This paper looks at some of these arguments in an attempt to explore implications for women in research. These issues may be of particular relevance to planners in a university culture which espouses gender equity principles and, at the same time, operates in an increasingly market-driven environment.

THE IMPORTANCE OF RESEARCH IN THE CURRENT POLITICAL CONTEXT

For a long time now, highly competitive national funding rounds and distribution by Government of significant block funds to universities on the basis of research performance indicators have heightened the visibility of research. Institutions use these rankings as important yardsticks to demonstrate their national and international reputations, to attract high quality staff and students, and to attract additional funding from industry. Research, therefore, is recognised as essential in helping to "answer important questions and to solve important problems" (Aitken, 1988), but it is also seen by institutions as a means of broadening their funding base.

This is not only true in Australia, but also in the UK, where Government 'tuition' fees per student do not vary between institutions but where each university can attract additional funding according to the quality of their research as measured by the Research Assessment Exercise (RAE). As a consequence, the biggest and most prestigious universities go to great lengths to ensure high RAE ratings, "knowing that a good result not only brings in money directly, but makes it easier to lure more cash from industry, charities and other funders" (Ince, 1998).

It is not surprising, therefore, that performance in research forms an integral part of the criteria for selection, tenure and promotion for all academic staff, particularly at a research-intensive university.

To date, much of the research effort undertaken at universities lies in the area of basic and strategic/basic research, which is often high risk and of a long term nature. There is a widely held view that "the Government has an important role to play (in support of this effort) because individual companies can never capture all of the benefits of research" (Podesta, 1999). In OECD terms, the overall gross domestic expenditure on R&D by Australian Government is not high. However, "Australia differs from other nations in that it has a relatively high level of R&D expenditure in government research organisations and universities and a comparatively low level of business expenditure on R&D" (Green Paper, 1999).

The recently released Green Paper is an attempt to reverse the low business expenditure on R&D and focus attention on increased industry funding and promotion of a more entrepreneurial culture in universities. The Green Paper is based on the premise that "Australia's capacity to generate new knowledge is fundamental to the strength and health of our society". The Green Paper goes on to suggest that:

Institutions need to create a more entrepreneurial culture within their own domain: they need to recognise the importance of commercialisation to our national economic and social interest; to value effective linkages with the business sector; and to recognise that knowledge and utility should be complementary rather than competing objectives. *The other, related challenge is to put in place the structures and internal management arrangements which can effect to a set of cultural objectives along these lines* (our emphasis)(p.6).

There is no suggestion, however, that this new policy framework will be accompanied by additional Government funds. Thus, the burden of many of the expected "reforms", including that of raising extra resources from industry, appear to be the responsibility of universities. This is "an unlikely proposition" according to the President of the Federation of Australian Scientific and Technological Societies, Professor Peter Cullen, who says that even if universities did succeed in raising more funds from industry in the face of "a collapse in Business Expenditure on R&D", it would most likely be at the expense of the national basic research effort (SciTech, 1999, p.3). We would contend that pressurising universities to redress the imbalance is not an incentive for industry to invest but that what is needed is a whole of Government approach to R&D and innovation which integrates taxation policy, incentive schemes to encourage business investment in R&D, and an increase in funding to the research sector.

It is highly likely that the advent of a more entrepreneurial culture in universities and an emphasis on the commercialisation of research will pose problems for institutional research managers and planners. This is particularly so for universities that have a broad spread of academic disciplines to support and where research is an important criteria for *all* staff. For example, are there tensions between the proposed new policy frameworks and existing gender equity policies within institutions? The next section explores some current issues relating to the role of women and research in universities.

WOMEN AND RESEARCH

For some time the issue of an appropriate gender balance in universities has been of concern and many have adopted strategies to address this problem. One emphasis of such strategies, in research-intensive institutions at least, has been to recognise and reward research performance and create an environment more conducive to increased participation in the research agenda for both men and women. The expectation, therefore, is that research is and should be an essential part of the academic role. This is certainly true at the University of Queensland where according to one senior female academic "women who don't do well in research will always be at the bottom end of the ladder" (Gallois, Pers. Com., 1998). The dominance of this view is demonstrated in the strategies that have been developed by senior research strategists and the Office of Gender Equity and are intended to assist female staff, in particular, to enhance their research performance and reputation.

For example, in the revised promotion process, there is an opportunity for staff to nominate weights which reflect their different strengths in teaching, research and management/service, with a minimum commitment to teaching and research of 30% each, and a minimum to management/service of 20%. For appointment or promotion above senior lecturer, a higher percentage of *demonstrated* research excellence is generally expected. This emphasis was made clear in discussions with a number of senior academic staff involved in the promotion and selection processes.

That research should have such prominence is seen by some as being inconsistent with women's values and work practices, and hence an impediment to their success in higher education. These counter views have carried substantial weight in sections of the community where teaching and service are seen as the main purposes of tertiary education. One argument in support of this view is that research itself is "men's work" and explicitly valued while teaching and service are "women's work" and explicitly devalued, research being "the decisive factor in tenure and promotion (and salary) decisions. From this it is argued that "the relative importance of each of these endeavours reflect and perpetuate masculine values and practices, thus preventing the professional advancement of female faculty both individually and collectively" and that "the more closely a teaching activity is related to research the more highly it will be valued" (Park, 1996, p.49).

The notion of a "masculine" culture in universities is taken up by Clare Burton (1997) who discusses the traditional academic ethos in the context of "corporate citizenship" and women's and men's orientation to research and scholarship. According to Burton:

Women have lower research productivity, a heavy teaching orientation, and substantial commitment to institutional service. There is also evidence which suggests that not only do women display a greater orientation than do men to the intellectual and social development of students, but that participation in all these activities may be as much a product of the institutional requests as of personal preferences (p.22).

Burton (1997) further argues that women are more likely to be found at the "softer" end of most disciplines and will be treated as "outsiders" in the science and technology areas. We would add that with reduced Government funding and the push towards entrepreneurialism in higher education, the so called "harder" disciplines in science and technology are more likely to attract external funding from industry. A recent report lends support for this with 90 per cent of industry funded R&D in universities being awarded to the natural sciences, technology and engineering, with only 10 per cent to social sciences and humanities (Illing, 1999).

This scenario does not add weight to the suggestion that research is "men's work" *per se* but that it does constitute a very real threat to women's ability to participate in research across the whole institution because of the potential lack of funding to support their particular disciplines. A greater concentration and selectivity in funding will be a big problem for institutions who promote research as being important for all academics and across all disciplinary boundaries and who also promote equity policies in an attempt to redress gender imbalances.

The notion of a dominant male culture in universities raises some further issues in the context of leadership. Sinclair (1998) argues that organisations expect their leaders to be "a tough, heterosexual male" with organisational values reinforced by corporate rituals and practices, which include working long hours, rarely taking time off, sacrificing personal/family time, and extensive travelling at short notice. According to the Deputy Vice-Chancellor (Research) at the University of Queensland, these practices are not dissimilar to ones expected of a successful researcher. Organisational values cannot be dismissed in terms of what is considered acceptable behaviour but one also has to take into account the individual's motivations.

SURVEY OF STAFF ATTITUDES TO RESEARCH

In an endeavour to explore some of the above issues from individual staff member's perspectives, we conducted a survey of two Faculties at the University of Queensland.

We felt it was important to learn what academic staff themselves regarded as motivators or demotivators to their research efforts and to examine what was considered by them as appropriate and effective behaviour. We surveyed the Faculties of ARTS and Biological and Chemical Sciences [BACS] at the University of Queensland. The questionnaire (refer Appendix A) was distributed to all academic staff across the two Faculties (Teaching and Research [T&R] and Research-Only [RO])

from Level A to Level E). The Faculties were selected on the basis that both had reasonable female representation and that the areas were likely to be affected differently under the new Green Paper policy regime which would involve universities having to create a more entrepreneurial culture within their own domain.

A total of 520 questionnaires were distributed; 150 to ARTS and 370 to BACS. Of these, 175 (33.7%) were female; 63 (42%) in Arts and 112 (30.2%) in BACS. The overall response rate was 34.4 per cent (36.9% F); 38 per cent (51% F) for Arts and 32.4 per cent (30.8% F) for BACS. In order to comply with ethics requirements respondents remained anonymous.

The survey consisted of several sections, each of which considered research motivation:

- Part A focused on personal motivators;
- Part B focused on the research environment, external and internal to the University;
- Part C focused on career factors; and
- Part D provided respondents the opportunity to make any other relevant comments.

In Parts A and B, respondents were expected to indicate a score against motivating or demotivating factors according to the Likert Scale 1 (strong demotivator) –5 (strong motivator). Part C required a Yes/No response. Part D provided opportunities for open-ended responses.

The response rate was reasonably high and generally representative of the sample population in terms of distribution of responses between Faculties, genders and classification levels.

The major findings of the survey were:

Motivators:

- Overall, women were as motivated to do research as their male colleagues in both Faculties;
- Advancement of knowledge was *the* major motivator for both genders in both Faculties (with 97% scoring 4-5);
- Peer recognition and personal professional development were strong motivators for both genders in both Faculties;
- Personal success in grant rounds and acknowledgement of research performance were strong motivators for both genders and both Faculties;
- Teamwork as a motivator was considered more important in BACS than in ARTS.

Demotivators:

- Teaching load and other academic responsibilities were strong demotivators for both genders in both Faculties;
- The lack of appropriate resources generally was a demotivator for both genders in both Faculties;
- The challenge of finding industry or other research partners was a demotivator for women in both Faculties.

Other major findings included:

- Females reported a greater degree of social isolation in their departments/centres;
- Males regarded the work environment, including participation in decision-making processes, as gender neutral whereas females clearly did not;
- Males and females in both Faculties reported that they considered mentoring important to improve research performance but only a small minority reported having a mentor or mentoring another researcher.

INTERPRETATION OF RESULTS

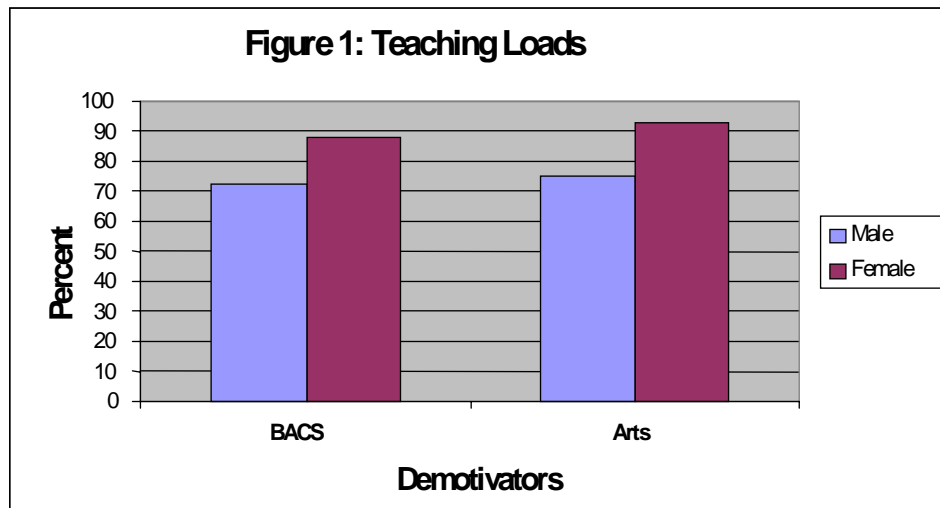
Clearly, the survey indicates that both men and women from both Faculties are highly motivated to do research for the sake of advancing knowledge. Peer recognition and personal professional development are also clearly important. These results appear to challenge Park's concept that research is "the abstract, theoretical labor of men" (Park, p.61). Park's assertion that "only exceptional women" are invited to join the ranks of researchers is also disputed by the responses from active female researchers at all levels and across both Faculties. Park questions why research is so highly valued and suggests that it is because "institutional legitimacy is obtained predominantly through research achievements" (p.70). We would agree with the latter statement, at least in terms of a research-intensive institution, but our findings indicate that research is also highly valued by individual researchers themselves, lending further credence to Ely's (cited in Sinclair, 1998) suggestion that what is judged as appropriate and effective behaviour by women is constructed within each workplace setting and constantly being negotiated. Most women surveyed are proactive in their research endeavours and are not just the "passive invitees" of the males. This also brings into question what Park might mean by "exceptional women" not to mention her view that research is "the abstract, theoretical labour of men".

If it is the case that the majority of staff have imbibed the goals of the institution by taking the research endeavour seriously, one might also expect them to be more likely to report being motivated to undertake research to raise the institution's prestige or funding base, particularly women who Park argues are "better corporate citizens" than men (p.21). Our results dispute this in that both institutional prestige and funding base as motivators/demotivators for research were clearly ranked "neutral" by all respondents with over 60 per cent against prestige and over 70 per cent against institutional income as motivators. What was regarded as more important was enhancing the group's or department's prestige with these factors reported as major motivators in the conduct of research (over 65 per cent for department prestige and over 70 per cent for research group prestige).

These responses highlight the tensions between central research planners and the academic community, particularly in terms of attempting to motivate researchers using enhanced institutional profile as a driver. One respondent added: "grant writing workshops should focus more on successful grants and the research that follows on from that in a range of disciplines than listing grant income of UQ versus other universities". The individual and group factors are obviously highly important and may be overlooked by research planners who are inclined to be more focused on the University's performance and overall outcomes. For universities with strong faculty identification, there is even more likelihood of greater tensions between central planners' initiatives and academic staff.

As indicated earlier, the strongest motivator for both men and women to conduct research is advancement of knowledge. It is not a matter of needing to encourage staff to undertake research but rather a matter of providing the right opportunities and environment for them in which to operate. In Part D where respondents were asked to indicate key factors they felt were important to be able to conduct research, the responses by both males and females overwhelmingly included adequate infrastructure support, time and the need for personal networks.

In terms of adequate time to do research, the responses challenge another assertion of Park's, that is, that women display more *inclination* than men to devote time to students. Responses to the survey indicate that both men and women across both Faculties regard teaching as a demotivator in relation to research activity, as shown in Figure 1 below.



A number of respondents, particularly females, said that relief from teaching and marking loads was vital to allow them to conduct research. The following quotes from Level C and Level B female staff members are good examples of such pressure and paraphrase many of the comments made in Part D of the survey:

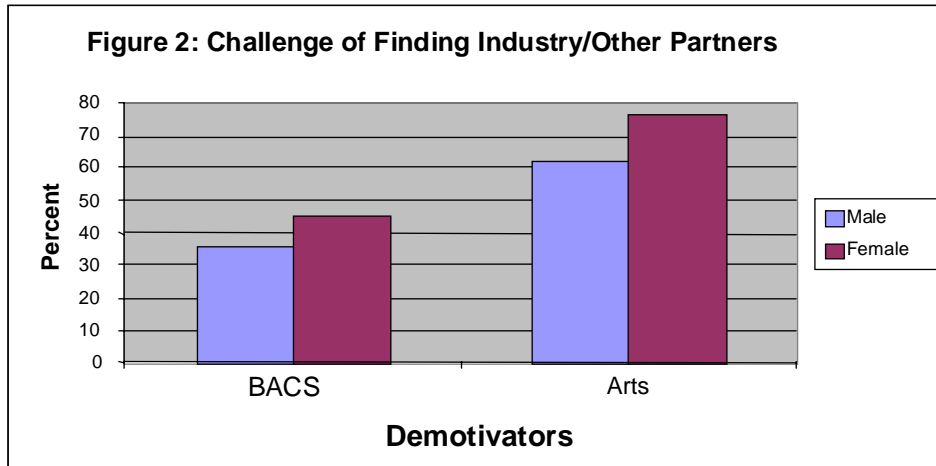
The crucial factor for me is time. My teaching load at the moment is hideous. I have received several grants and have a generally high profile research achievement but feel that I could do two to three times more research if the teaching load was reasonable. All the money in the world doesn't help if no time is made available.

In my department and faculty, the loud, selfish, arrogant bullies are the ones who are given opportunities and other members of staff end up carrying extra loads to support their activities. Other staff (including me) end up doing most of the non-research service duties, as well as academic advising and excess teaching.

These findings and quotes do not support the notion that women are more *inclined* to do teaching than men. Our survey also did not indicate that women were undertaking heavier teaching loads generally, although more responded that teaching was a demotivator for research across all levels. We believe choice is the issue here. It is not as Park (1996) would suggest only a choice between teaching or research but rather a matter of women being more strategic in their approach to career development, knowing their environment and making decisions about time based on personal preferences. It would appear that these preferences favour research activity.

The recognition that heavy teaching and marking loads may be an impediment to research and promotion opportunities is borne out by a UK study which indicated a strong correlation between research performance and rank but a negative correlation between time spent on teaching and rank (Wolff, 1993). A more recent study in Australia goes further to suggest that "a 10 per cent rise in teaching hours cuts research output by 20 per cent. Against this, a 10 per cent rise in research grants can lift output (publications in international refereed journals) by up to 15 per cent" (Fox and Milbourne, 1999).

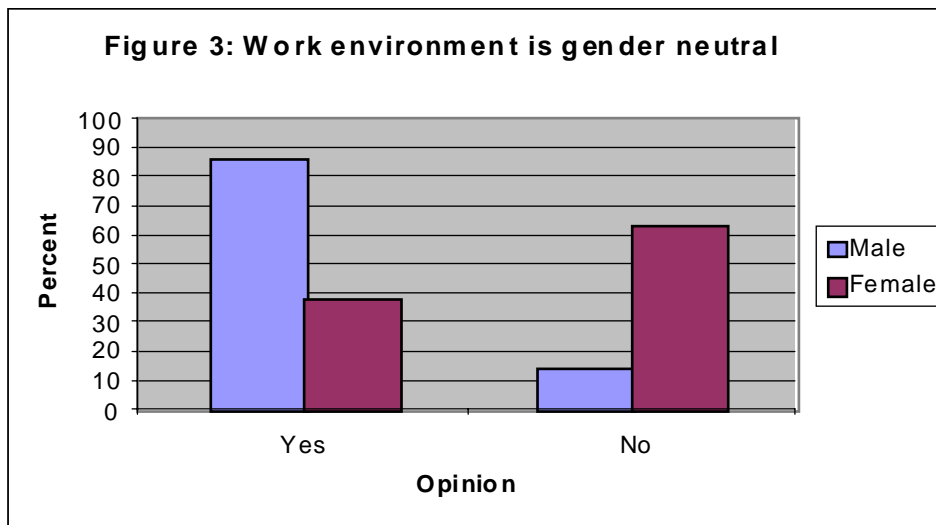
Again, this reinforces our argument that research itself is not "men's work". However, there are gender issues to be considered when the research environment is taken into account. For example, focus on the need to obtain funding from non-government sources could cause problems for some staff in arts and social sciences. The survey results show (Figure 2 below) that overall females are more demotivated than males by the challenge of finding industry/other partners, but that in Arts both males and females are affected.



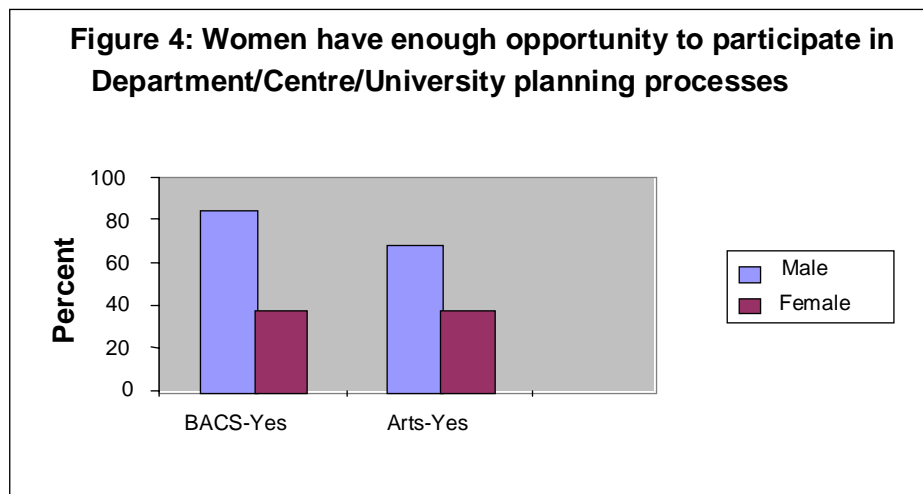
There is no doubt the responses reflect the industry funding biases previously discussed, and that such emphases are very likely to be exacerbated in the context of the Green Paper policy environment, which will be a real issue for university planners and research managers. However, the nature of the discipline is not the only issue here. Females may not have appropriate contacts generally. Networking is clearly important in the process of developing and maintaining a strong research track record, and in establishing contacts with potential funding bodies, including industry. Studies have found women to be disadvantaged because they lack the right ‘political connections’ despite their scientific excellence (Wolff, 1993). Davidson and Cooper (1992) go further to suggest that “women find it difficult to break into the male dominated ‘old boy networks’ and therefore are denied contacts, opportunities and policy information.

Staff responses to the question of whether women have enough opportunity to participate in their department’s planning processes showed a clear dichotomy between males and females. Over 60 per cent of females in both faculties said no, while over 60 per cent of males in both faculties indicated they thought women had enough opportunity.

Furthermore, a question regarding whether staff viewed the work environment as “gender neutral” revealed discrepancies between male and female responses, with well over 80 per cent of males in BACS and 70 per cent in Arts but only 40 per cent of females in BACS and 30 per cent in Arts responding in the affirmative (see Figure 3 below).



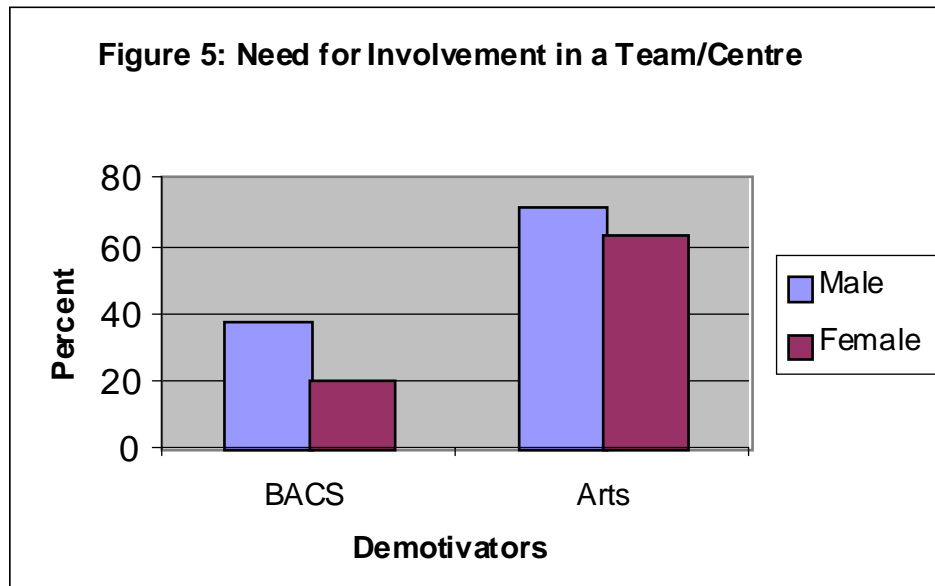
This needs further investigation. It could be that males are simply unaware of what women might regard as a male dominant culture. Regardless of the cause, the response indicates that women wished to be more involved as indicated in Figure 4.



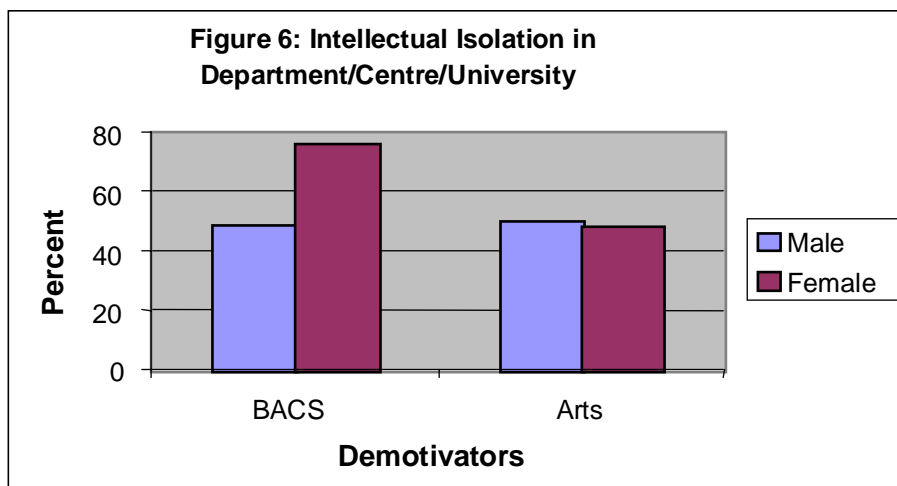
One way of improving participation levels for women in the decision-making processes is through mentoring which is also an important mechanism to assist in the raising of profiles and in accessing appropriate information networks. A US study found that mentoring was considered important by over 90% of faculty, particularly during early career stages, and that relationships with several individuals were necessary (Perna, Lerner and Yura, 1995). Findings from our survey were consistent with this: over 80 per cent of respondents indicated that they believed mentoring to be important in terms of research. Interestingly, only 30% reported that they had mentors, while only 40% reported that they were mentoring someone else.

The lesson for planners is that in research where the contribution and support of peers are necessary, the mentoring process is considered to be mutually beneficial by both males and females with raising visibility as one of the main objectives. Raised visibility will actually assist a staff member to be considered for involvement in not only research but also in levels of participation generally. Planners may be able to assist by providing appropriate incentive schemes and reward structures for those individuals who have achieved success in their research endeavours to ensure that recognition is given. Such a move would be well received by all staff who indicated that acknowledgement of research performance is a strong motivator.

A team approach to research provides a “natural” mentoring environment, and it is especially important that women, wherever possible, participate in teams and actively seek mentors of both sexes. The latter is especially important given the male dominated power structure. Our findings relating to this issue revealed discipline-related differences (see Figure 5 below). This may have significant implications for all staff in Arts under the new policy directions espoused in the Green Paper which emphasise interdisciplinary teamwork and “critical mass”.



As discussed earlier, it is not an issue of only exceptional women being invited to join the ranks of researchers. It is a matter of all women being proactive in making the right contacts with peers in order to advance their research. In exploring this issue, we found that women reported feeling a greater sense of intellectual isolation in their department and, surprisingly perhaps, more in BACS Faculty, where one might expect a greater degree of team cooperation and hence intellectual cohesion than in Arts where it is more common for researchers to work alone (see Figure 6 below). Different methodologies used in various disciplines may be a factor here. For example, it may be that the disciplines areas in Arts have a better established practice of critiquing and discussing each other's research than in the Biological Sciences. Another possible explanation is that commercialisation and confidentiality requirements limit BACS researchers in terms of sharing of knowledge. In any event, it is an issue which needs further investigation.



CONCLUSIONS

Government is placing a greater emphasis on the need for universities to be more entrepreneurial. Research is a necessary part of this process. It will be even more important, therefore, for institutions to maximise the potential of all staff to undertake research and in so doing to provide an appropriately supportive environment. Planners need to understand the complexity of the issues not only from an institutional perspective but also from that of the researchers themselves.

It is imperative that research is not seen as 'men's work'. Both males and females value research and want more time to pursue their interests. Central research managers and planners must understand that academics are motivated by personal and/or group prestige and not by institutional kudos. Appropriate support schemes, incentives, recognition and rewards are therefore needed. More importantly, the majority of researchers are driven by the desire to advance knowledge. This may have very significant ramifications given the trends in the current policy environment, which stress the need for increased industry funding without corresponding government funds to support fundamental, curiosity-driven research. We believe that these trends could lead to potential conflict within institutions and may actually demotivate researchers across all disciplines.

Planners and research managers will therefore need to be aware of these issues and adopt fresh approaches to maintain morale and prevent possible conflict. It is particularly important that researchers in the arts and social sciences are supported by internal policies, and that gender equity initiatives are not forgotten in the increased focus on commercialisation of research. It will be equally important for women researchers to be strategic, become more "visible" and, wherever possible, to participate in teams.

A research-intensive institution, such as the University of Queensland, is not well served if the nexus between teaching and research is broken. The prime responsibility for teaching should not fall to staff in particular disciplines or to women across disciplines. Diversity is what makes an institution great, and that diversity is to be found in research endeavours undertaken by all staff.

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APPENDIX A
RESEARCH SURVEY

The changes to the funding of research over the last 10 years have been significant. For some researchers the changes have been positive, for others negative – but almost all have been affected. This survey aims to explore factors that may motivate or constrain research activity particularly in light of the likely Green Paper policy initiatives.

1. PERSONAL DETAILS (Please indicate the appropriate response)

Faculty (please specify): _____

Gender: Male Female

Age Range: Under 30 30-40 41-50 51-60 61+

Appointment Level: Level A Level B Level C Level D Level E
 Fellow Senior Fellow Other (please specify): _____
 Research Postdoc

Position: Tenured Contract (*Contract duration* - < 1yr 1-3yrs 3+yrs)
 Full Time Part Time

Main Discipline Area: _____

2. FACTORS THAT MAY AFFECT RESEARCH PRODUCTIVITY

The following list cites key factors that may motivate you to conduct research and other factors that may encourage or constrain the process. Allocate a score against each factor as to its impact on your own motivation for undertaking research (1 = Demotivating; 5 = Motivating). If there are other factors that have had an impact on your own motivation please insert them as individual entries at the end of the list with their score.

PART A Personal Motivators Motivates	(Please circle the appropriate response)					
	n/a	Demotivates			Neutral	
Peer recognition	0	1	2	3	4	5
Enhanced promotion prospects	0	1	2	3	4	5
Personal professional development	0	1	2	3	4	5
Enhancement of personal income	0	1	2	3	4	5
Advancement of knowledge	0	1	2	3	4	5
Enhancement of University's prestige	0	1	2	3	4	5
Enhancement of University's income	0	1	2	3	4	5
Enhancement of Department's/Centre's prestige	0	1	2	3	4	5
Enhancement of Department's/Centre's income	0	1	2	3	4	5
Enhancement of Research Group's prestige	0	1	2	3	4	5
Enhancement of Research Group's income	0	1	2	3	4	5
Other – Please specify and score	0	1	2	3	4	5
	0	1	2	3	4	5

PART B

External Research Environment response)

(Please circle the appropriate

	n/a	Demotivates			Neutral	
Motivates						
Highly competitive grant rounds	0	1	2	3	4	5
Diversity of funding sources	0	1	2	3	4	5
Reduction in total funding available	0	1	2	3	4	5
Reduction in funding awarded to each project	0	1	2	3	4	5
Limited funds for young researchers	0	1	2	3	4	5
Shift to funding teams rather than individuals	0	1	2	3	4	5
Change in funding bodies' priority areas	0	1	2	3	4	5

External Research Environment (continued)

(Please circle the appropriate response)

	n/a	Demotivates			Neutral	
Motivates						
Level of information about sponsors' requirements	0	1	2	3	4	5
Growth in collaborative programmes	0	1	2	3	4	5
Challenge of finding industry/other partners	0	1	2	3	4	5
Restrictions by sponsor on publications	0	1	2	3	4	5
Sponsors' ownership of IP rights	0	1	2	3	4	5
More complex application procedures	0	1	2	3	4	5
Growth in international programmes	0	1	2	3	4	5
Use of peer review to select applications	0	1	2	3	4	5
Delay between application & award of grant	0	1	2	3	4	5
Variation in selection criteria between sponsor groups	0	1	2	3	4	5
More complex reporting criteria	0	1	2	3	4	5
Other – Please specify and score	0	1	2	3	4	5
	0	1	2	3	4	5

University Research Environment

(Please circle the appropriate response)

	n/a	Demotivates			Neutral	
Motivates						
Need for industrial relevance/participation	0	1	2	3	4	5
Need for involvement in a team/Centre	0	1	2	3	4	5
Project management responsibilities	0	1	2	3	4	5
Teaching loads	0	1	2	3	4	5
Other academic responsibilities	0	1	2	3	4	5
Attendance at training workshops	0	1	2	3	4	5
Attendance at grant writing workshops	0	1	2	3	4	5
Availability of mentors to assist with proposal writing	0	1	2	3	4	5
Funding levels for departmental infrastructure	0	1	2	3	4	5
Level of internal research funds	0	1	2	3	4	5
Other – Please specify and score	0	1	2	3	4	5
	0	1	2	3	4	5

Discipline Factors	(Please circle the appropriate response)					
	n/a	Demotivates			Neutral	
Motivates						
Availability of funds in my discipline	0	1	2	3	4	5
Incentives (eg priorities) for research in my discipline	0	1	2	3	4	5
Perceived value of research outcomes in my discipline	0	1	2	3	4	5
Perceived value of methodological approach	0	1	2	3	4	5
Perceived value of scholarship in my discipline	0	1	2	3	4	5
Other – Please specify and score	0	1	2	3	4	5

Personal Factors	(Please circle the appropriate response)					
	n/a	Demotivates			Neutral	
Motivates						
Personal success in grant rounds	0	1	2	3	4	5
Reduced access to funds	0	1	2	3	4	5
Increasing importance of track record	0	1	2	3	4	5
Ability to access to appropriate information	0	1	2	3	4	5
Opportunity for training/mentoring	0	1	2	3	4	5
Access to social and political networks (Unit/University)	0	1	2	3	4	5
Acknowledgement of research performance	0	1	2	3	4	5
Intellectual isolation in Department/Centre/University	0	1	2	3	4	5
Social isolation in Department/Centre/University	0	1	2	3	4	5
Other – Please specify and score	0	1	2	3	4	5

PART C

Career Factors	(Please circle the appropriate response)		
Do you consider postgraduate supervision important for long-term career?	YES	NO	N/A
Do you consider postgraduate supervision important in relation to publishing?	YES	NO	N/A
Do you supervise postgraduate students?	YES	NO	N/A
Do you think that women have enough opportunity to participate in Department/Centre/University planning processes?	YES	NO	N/A
Do you consider mentoring important for research career development?	YES	NO	N/A
Do you have a mentor?	YES	NO	N/A
Do you mentor another researcher?		YES	NO
		N/A	
Do you believe the traditional view of the relative status and importance of different discipline areas is reinforced through government research priorities and policies?	YES	NO	N/A
Do you think the prevailing values and priorities disadvantage your research?	YES	NO	N/A
Do you experience pressure to conform to the prevailing values and priorities?	YES	NO	N/A
Do you view your work environment as gender neutral?	YES	NO	N/A

PART D

Please briefly indicate key factors that you feel are important for a successful research career in your discipline area (e.g. access to library, laboratory space, mentor)

Any other comments

THANK YOU FOR YOUR TIME AND RESPONSE
IT WILL BE TREATED IN THE STRICTEST CONFIDENCE

**PLEASE RETURN TO
Nicky Milsom
Office of DVC (Research)**

BY

FRIDAY 8th OCTOBER 1999