

**Making a Difference:
Flinders University
Mentoring Scheme
for Early Career
Women Researchers**

Pilot Program Report, July 1999

Maria Gardiner

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**Initiated by:
Affirmative Action in Research Committee**

**Sponsored by:
Strategic Research Advisory Committee**

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Researchers
Pilot Program Report, July 1999

1. Mentoring
2. Women in academia
3. Research

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Foreword

This report on the pilot Flinders University Mentoring Scheme for Early Career Women Researchers provides an encouraging analysis of this innovative and important program. The Scheme was set up to provide academic women staff at early stages of their careers with access to expertise, experience and advice from a more senior colleague with whom they had been carefully matched, with a primary focus on research. Given the crucial importance of research both for individual academics' careers and for the University, and the University's Affirmative Action commitment, the Scheme received our strong support. The Scheme has now been in operation for over a year, and this report provides evidence of significant benefits already flowing from the Scheme for the individuals and for the University.

It is encouraging to note that all academics who were approached to act as mentors embraced the scheme enthusiastically, and that their mentees reported greater than expected guidance and support in all areas of academic life.

Results of this evaluation indicate that the scheme has been very successful to date. Mentees, supported by their mentors, are establishing and building their careers through grant funding and publications. This in turn should not only enhance their promotion prospects, but also increase the research profile of the University. Mentors are also benefiting from the scheme through closer connections with other academics and by having the opportunity to think about their own careers.

This report highlights the benefits of the pilot mentoring scheme for mentors, mentees and for Flinders University. Maria Gardiner is to be congratulated for her energy, ability to work sensitively with participants, coordination of the program, and for producing such a comprehensive and useful report. The program participants are also to be congratulated for embracing the program wholeheartedly.

The report shows that the scheme has already made a valuable contribution to Flinders University. We will now be exploring ways in which the program of mentoring can be maintained, as well as extended to other groups.

Anne R. Edwards
Deputy Vice-Chancellor

Chris Marlin
Pro-Vice-Chancellor (Research)

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The Staff Development and Training Unit at Flinders University provided practical and efficient support. Mr Hugh Kearns and Dr Janice Orrell also provided much beneficial advice.

This report was prepared with proficient assistance from Ms Susan Arthure, Ms Margaret Bowden, Ms Rebecca Jones and Ms Natalie Skinner.

Many thanks to the mentees for their involvement in the evaluation process and their enthusiasm for the scheme. And finally, recognition is owed to the generosity of the mentors who have given freely of their expertise and of themselves.

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Adelaide, South Australia
July 1999

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1. Executive Summary

- In April 1998 the Affirmative Action in Research Committee initiated a mentoring scheme for early career women researchers at Flinders University through a proposal to the University Research Committee (now the Strategic Research Advisory Committee).
- Mentoring for early career women researchers was introduced to increase women's access to research knowledge and informal power structures – particularly those that consist of senior, successful researchers. The ultimate aim of the scheme was to expand women's successful research activities and increase the number of women in middle and senior academic positions at Flinders University.
- Participants in the scheme consist of 22 women mentees (mostly Level B) and 24 women and men mentors (mostly Levels D and E). A combination of dyadic and group mentoring was trialed.
- While acknowledging that the scheme is a pilot program, a multifaceted quantitative and qualitative evaluation strategy was used to evaluate the benefits of mentoring for early career women researchers in relation to career and research attitudes, promotion and research outcomes, and perceptions about mentoring.
- Measures of career and research attitudes showed that mentees clearly benefited from mentoring. Most noticeably the mentees showed a decrease in worries or concerns about research, an increase in judgements of their capacity as academics, and an increase in job satisfaction.
- Mentees performed very well in relation to promotion, grant applications and success in securing grant funding. This trend was not evident in relation to commencing work on publications. However, it seems likely that this will improve as confidence continues to increase and funded grants produce publications.
- Mentees viewed mentoring as an extremely positive and beneficial process, with general guidance and specific research/career-related support being highly

valued. Mentors concurred with this view and also saw some benefits for themselves in the form of closer connections to other academics and an opportunity to think about their own careers. Mentees saw the main limitation as a lack of time to fully participate in, and make use of, their mentoring partnerships. However, overall, both mentees and mentors had a very positive perception of mentoring and of each other.

- These findings, taken as a whole, support the efficacy of the mentoring process in breaking down the barriers to informal power networks and research knowledge. This pilot program for early career women researchers appears to have met and exceeded its aims, a finding which warrants the program being extended to all early career women researchers, if not all women in the University.

2. Introduction and Background to the Scheme

In April 1998 the Flinders University of South Australia instituted a mentoring program to help improve the career prospects of early career women researchers. The scheme was initiated through a proposal of the Affirmative Action in Research Committee (AARC) to the then University Research Committee (now the Strategic Research Advisory Committee – SRAC). The AARC advises the Pro-Vice Chancellor (Research) on matters relating to affirmative action in research. The AARC put forward mentoring as a strategy to support the objectives of the University's Affirmative Action Report to 'work to achieve a senior staff profile which more closely reflects the composition of the University Community...'.

Furthermore, following a survey into women's participation in research, the committee noted that women are at a disadvantage in relation to research performance and promotion compared with their male colleagues. Because research performance is a key component considered in the promotion process, women's poorer performance in this area was seen as one possible reason for the lack of women in more senior positions. While women's research performance can be explained by many factors, such as their life experiences and patterns of work, the committee identified other key reasons. These include the lack of access to networks, absence of informal training and women's more limited exposure to the process of modelling their career on a successful and more experienced peer.

The AARC decided that a mentoring scheme would provide the best training, support and development opportunities for women, and would provide a model of the kind of support which is already, less formally, part of academic life for many successful researchers. A coordinator was employed to ensure adequate support for the establishment of the mentoring scheme.

3. Rationale for the Scheme

At Flinders University women account for over 50% of junior-level academic staff involved in both teaching and research. In contrast, at middle and senior levels (Level C and above), women make up only 15% of academics. These figures reflect the unequal distribution of women across academic levels in Australia (43% at Level B and 14.4% above Level C; DETYA Selected Higher Education Staff Statistics, 1998) and indeed most other Western countries (see Wilson, 1997). Statistics also indicate that women progress through those academic levels more slowly than men (Probert, Ewer & Whiting, 1998). The Flinders University Mentoring Scheme for early career women researchers was initiated as one measure to help redress the imbalance between women's and men's academic careers.

Reasons for the under-representation of women in senior positions

Many reasons have been put forward as to why women are so under-represented at senior levels (e.g. see Gardiner & Tiggemann, 1999; Bellamy & Ramsay, 1994; Kanter, 1977). However, two arguments seem particularly relevant to women in academia. Firstly, it has been argued that women lack access to informal networks that hold much of the information relevant to career advancement; and secondly, that women academics lag behind men in their research careers, with research performance being one of the key criteria for promotion. Each of these arguments will be briefly canvassed.

A number of researchers have argued that women's lack of access to informal networks and sources of information has negative implications for their careers (see Bellamy & Ramsay, 1994). While women's lack of access to networks and increased isolation may be due to structural and/or historical factors, it may also be that women simply have fewer opportunities to interact with colleagues. There is evidence that women spend fewer years working full time in higher education, probably due to family responsibilities. It has also been reported that women are more restricted in the number of hours they spend on campus (Probert et al., 1998). The combination of historical barriers to women participating in informal networks, as well as the restricted time available to women, means that they may be at a disadvantage when it comes to accessing the crucial support and knowledge that informal networks provide.

Another reason proposed for women's poorer career progress relative to men relates to poorer research performance. Research, while only one of the aspects on which academic performance is evaluated, is widely thought of as the cornerstone for promotion. Statistics compiled by Flinders University on the number of female grant applicants compared to the number of male applicants show that proportionately fewer women apply for research grants compared with the men. Although there is considerable variability between the disciplines (c.f. Probert et al., 1998), the net result at Flinders is that proportionately more men than women apply for, and hold, research grants. This means that ultimately men achieve better track records, both in grant funding and resultant publications. There is also evidence that women have fewer publications overall than men, leading to what Soliman (Soliman & Soliman, 1997) describes as the 'research productivity cycle', where women can't get grants because they don't have enough publications, but can't publish because they don't have grant money to carry out research. Given the significance of research in promotion, this difference between men and women academics may be part of the reason for the under-representation of women at more senior levels.

Mentoring as a strategy to redress women's career imbalance

In an attempt to redress women's possible lack of exposure to informal power structures and to increase their access to research knowledge, the University instituted a mentoring scheme for early career women researchers. The coordinator spent considerable time reviewing the research literature and other institutions' programs to determine the most appropriate scheme. Mentoring was chosen because the research literature and program evaluations supported the relationship between mentoring and career advancement. Mentoring was also thought to provide a model that is already less formally a part of academic life for many successful researchers. It was expected that mentoring would improve women's success in research and ultimately increase the number of women at middle and senior levels within the University.

Although 'mentoring' has been shown to be an effective staff development strategy, the term itself can encompass many types of arrangements. Mentoring can be formal or informal; one-to-one (dyadic) or in a group; between senior and junior staff or between peers; voluntary or compulsory; highly coordinated or driven by participants. The training offered to participants is another dimension on which mentoring schemes differ. Some offer training only to mentees, others to both mentees and mentors. The type of training also differs. Some training programs are

skills-based whereas others are information-based, outcomes-based or based on discussion. All of these issues were considered relevant when designing the Flinders University scheme.

Traditionally, mentoring has been an informal, voluntary pairing of a more senior experienced person in an organisation with a junior staff member. In recent years there has been a move towards so-called 'formal' or 'assigned mentoring', where the organisation manages or assists with the formation of mentoring pairs. In particular, there has been a trend towards formal mentoring programs for groups who may not naturally fall into a mentoring partnership with members of the organisation's dominant or powerful group (Burke & McKeen, 1997). For this reason formal mentoring schemes are often considered when there is a lack of senior women in an organisation. Based on the notion that it may be difficult for women to access informal mentoring, the Flinders University scheme adopted a formal mentoring model that matched women with a senior academic who had agreed to act as a mentor.

Anecdotal reports indicate that many organisations set up a 'mentoring scheme' consisting of a register of mentees and mentors. Potential participants are free to choose someone appearing on the register. Such schemes generally operate without a dedicated coordinator, although they may have an administrator. Few, if any, reports of such schemes appear in the literature. Again anecdotal evidence suggests that such schemes 'peter out' without a coordinator to properly match participants and to keep the momentum going. The Australian Technology Network (ATN) Executive Development for Women Program (1998, p.11) concluded that 'a good mentoring program requires effort to get it off the ground, to ensure participants are well matched, that they know what their role is and that they are properly supported through the program. It is all too easy for the initial effort of establishing a program to be lost if the mentoring relationships lose momentum. At all three Universities, the presence of coordinators who have been consistently involved, has been most important'. This conclusion was based on a review of mentoring programs within ATN universities. Therefore, it was considered essential to employ a coordinator whose time was dedicated specifically to establishing and maintaining the mentoring partnerships.

The majority of empirical research literature has focussed on the process and benefits of mentoring in a dyad (one mentee and one mentor). Recently, however, there has been a move towards using groups and peers to provide mentoring, and

there is some evidence to suggest that both types of mentoring may be particularly good at providing psychosocial support to participants (e.g. Dansky, 1996). However, as the majority of schemes utilise dyadic mentoring relationships, it is difficult to be certain of the benefits of group and peer mentoring for career advancement. Both empirical and evaluation reports of dyadic-type mentoring schemes support benefits such as career advancement (*Creating Opportunities: An Evaluation of the Leadership Development for Women Program*, 1998; Chao, 1997; Orpen, 1995; Scandura, 1992), higher pay (Chao, Walz & Gardner, 1992; Dreher & Ash, 1990), increased career satisfaction (Burke & McKeen, 1997), and positive perceptions of self and mentoring (Rowland & Butorac, 1996; Milligan & Genoni, 1993). Given the lack of evidence either way for group/peer mentoring, and the fairly consistent evidence for the benefits of dyadic mentoring, Flinders University adopted mentoring based on dyadic pairs. However, group mentoring was used as an adjunct strategy in specific areas such as writing grant applications.

Although many academics have some experience of informal mentoring, very few have participated in a formal program that assigns mentee and mentor. As a result, training for mentees and mentors was considered essential. Having reviewed other mentoring schemes' training programs, it was concluded that a workshop should include both information and skills relevant to mentoring. In addition, the workshop was designed to provide mentees and mentors with an opportunity to clarify their expectations of mentoring, as well as their role in the mentoring partnership. Again, based on experiences in other schemes, mentees and mentors were offered separate workshops to enable a frank and open discussion of issues specific to their roles. For example, it is not uncommon for academics to react with surprise at being asked to become mentors, or to doubt the value of what they have to offer the mentee. Such issues are better dealt with in separate workshops where they are more likely to be discussed openly.

Finally, although the available evidence suggests many positive outcomes can be achieved through mentoring, it is important to note that the benefits of mentoring take time, with relationships theorised to move through four phases: initiation, cultivation, separation and redefinition (Kram, 1985). Empirical data support this proposed trajectory (Chao, 1997). The initiation phase is thought to last for about six months, with the cultivation phase lasting from two to five years. Most career and personal benefits are thought to come from the cultivation phase. Mentees and mentors in the Flinders University scheme have been meeting for nine months. While some tangible benefits are likely to have occurred, it is expected that

benefits will be more evident after two years. As such, the scheme has been resourced initially for a period of 18 months. This is in contrast to many schemes that often only have sufficient resources to operate for one year.

4. Outline of the Scheme

4.1 Participants

Participants in the scheme consist of 22 women mentees. Originally (before 1998-9 promotions) there were 2 Level As, 19 Level Bs and 1 Level C. All mentees undertake teaching and research. The women are drawn approximately equally from the four faculties (Science and Engineering; Health Sciences; Education, Humanities, Law and Theology ; and Social Sciences). There are 24 mentors (13 women and 11 men), originally consisting of 7 Level Es, 15 Level Ds and 2 Level Cs. Two of the mentees each had two mentors, as with both mentees it was difficult to find a single mentor who understood their research area and the context in which they worked.

The mentoring scheme was aimed mostly at women employed at Level B. Women were eligible to participate in the scheme as mentees if they had completed or almost completed their higher degree studies, or were not undertaking higher degrees. This was to avoid any possible difficulties or confusion from having both a higher degree supervisor and a mentor. However, a small number of women who had almost completed their PhDs and whose supervisor was based interstate, were also included.

Mentees and mentors were recruited through personal approaches made by the coordinator of the mentoring scheme. Potential mentees and mentors were approached after consultation with Heads of Faculty, Heads of Departments and other senior staff in the University. Five women declined to participate in the scheme as mentees, citing a lack of time as the reason for this decision. All staff approached to act as mentors agreed to participate. In order to determine the appropriate match between mentee and mentor, mentees were interviewed and asked about their particular needs and circumstances. The mentor that was thought to best suit the mentee's needs was then approached.

4.2 Methodology

The scheme was managed by a coordinator in accordance with the time schedule outlined in Table 1 (see p.11). The preliminary steps in establishing the scheme involved the coordinator reviewing the research literature, reviewing other schemes and devising an evaluation strategy. Mentees and mentors were then recruited and invited to attend a workshop on mentoring. The baseline evaluation for mentees

was conducted at the workshop for those who attended, and by post for those who joined the scheme later or were unable to attend.

The coordinator provided ongoing support to both mentees and mentors while they established their mentoring partnerships. This was usually in the form of verbal conversations with individuals. As the partnerships developed, there were fewer requests for support. The coordinator emailed mentees regularly to determine that meetings were taking place and to check on any problems. Seven months into the scheme the coordinator conducted semi-structured interviews with all mentees to determine what outcomes had taken place. Nine months into the scheme, follow-up workshops were held where mentees reviewed their mentoring partnerships as well as completed a second questionnaire. Mentors also attended follow-up workshops during which they completed a questionnaire evaluating the scheme.

In addition to the dyadic mentoring partnerships, group mentoring for writing a research grant application was offered to all mentees. This group consisted of six mentees and two senior successful grant recipients who acted as mentors. The workshops took place over a six-week period and consisted of three sessions held two weeks apart. At the initial session, mentees outlined their research proposals and received feedback and information from the mentors, the Research Grants Officer and each other. Mentees forwarded a draft of their proposal to the mentors before the second session. At the second session the proposals and feedback were discussed and mentees read each other's proposals. Following the session, a revised draft was submitted to mentors and further feedback was given. This was discussed at the final group session. Mentees were then left to complete and submit the final draft of their research grant proposals. Six applications were submitted and three were successful.

4.3 Mentoring workshops

As part of their involvement in the mentoring scheme, mentees and mentors were invited to attend a workshop at the beginning of the scheme and then again nine months later. These workshops were specifically designed to meet the needs of participants. The first workshop was designed to provide skills and information relevant to mentoring. The second workshop was designed as a review and feedback session.

Table 1: Sequence of events in the establishment of the mentoring scheme

April – May 1998	Review literature and other mentoring schemes Identify and review evaluation strategies Identify and consult stakeholders Formulate recommendations
□ June – July 1998 □	Identify mentees and mentors Design first stage/baseline evaluation Design workshops Provide support for beginning partnerships Conduct Small ARC* grant writing workshops (*Australian Research Council Grants Scheme)
□ August 1998 □	Conduct workshops for mentees and mentors Conduct baseline evaluations for mentees and for control group (Level B women not in the scheme): <ul style="list-style-type: none"> • capacity as an academic • concerns about research • career planning • job satisfaction • career satisfaction • work-related distress/morale
□ September 1998 – March 1999 □	Ongoing recruitment of mentees/mentors Monitor mentor/mentee meetings Follow-up mentors/mentees as required Provide ongoing support Conduct grant writing workshops Conduct individual interviews with mentees Review progress of mentoring partnerships Design review and feedback workshops Design second stage evaluation
□ March – April 1999 □	Conduct review and feedback workshops Conduct second stage evaluations for mentees and for the control group: <ul style="list-style-type: none"> • capacity as an academic • concerns about research • career planning • job satisfaction • career satisfaction • work-related distress/morale • promotion • research activities (grants, publications, conferences) • evaluate mentees' and mentors' perceptions of the mentoring scheme (including coordination)
□ May – June 1999 □	□ Prepare report □ Begin new intake of mentees and mentors □

Initial workshop: skills for mentoring

At the time the initial workshops were held, 20 mentees had been contacted and of these 19 attended the workshop. For mentors, 19 had been contacted and 16

attended the workshop. The initial workshop had two aims: firstly to explore and ultimately shape expectations of mentoring; and secondly to provide skills that were likely to maximise the success of the mentoring partnerships. Although workshops were held separately for mentees and mentors, they consisted of essentially the same materials and process, with appropriate minor modifications.

For the first half of the workshop, participants went through exercises that provided them with the opportunity to think about the role of the mentor and the process of mentoring. In particular, the 'action planning in mentoring model' was presented. This showed how the mentor could play an integral role in the mentee's research career development while the mentee maintained autonomy and control. To enable some practice with the action planning in mentoring model and also to allow discussion of the practical issues involved in mentoring, the second part of the workshop consisted of a case study and small group discussion.

Mentees and mentors were asked about their thoughts with respect to using a formal mentoring agreement (see Appendix A.) Responses were mixed but most participants supported the notion of having a formally recorded agreement. In keeping with the ethos of the scheme, i.e. one which was driven by the participants rather than the institution, mentees and mentors were left to decide between themselves whether or not they wanted a formal agreement. If agreement could not be reached, the coordinator was available to negotiate between the parties. Nobody contacted the coordinator for this kind of assistance.

Follow-up workshop: review and feedback

The follow-up workshop had two aims: firstly, to provide each mentee and mentor with an opportunity to discuss and review their mentoring partnership; and secondly, to discuss any issues that needed to be dealt with. Again, separate workshops were held for mentees and mentors.

During discussions it emerged that all participants were very satisfied with their mentoring partnerships. However, a few issues were raised. It was pointed out that while mentoring provided much useful advice about strategies and support in achieving goals, it did not provide mentees with more time. Some mentees therefore felt uncomfortable when they set goals for themselves with the help of their mentor, but were unable to achieve them because of lack of time. For some this led to feeling uncomfortable at the next meeting with their mentor, or occasionally avoiding meetings. Following discussion and feedback from the

group, participants seemed less concerned. In addition, information relating to how mentees may feel when they don't meet their goals was passed on to the mentors. Mentors resolved to be careful in future to reassure their mentees and also to share their own experiences of not meeting goals.

At the end of the session, both mentees and mentors were asked for feedback on what could be done differently with the new group of mentees who would be starting in four weeks. Most were very happy with how the scheme had run to date, although there were two requests for more written information to be supplied.

5. The Evaluation Strategy

A multifaceted approach to the design of the evaluation strategy was adopted. Firstly, based on a review of the quantitative research literature on mentoring, the evaluation process attempted to determine the effect of mentoring on career attitudes. Secondly, in an attempt to measure the tangible outcomes that the University might hope to achieve from mentoring, the relationship between mentoring and promotion/output was evaluated. Finally, based on reports from other schemes that mentees and mentors see mentoring as valuable and enjoyable, their perceptions of mentoring were also evaluated.

Review of the research literature: measuring career attitudes

Over the last 20 years the literature relating to mentoring has grown at an extraordinary rate, with a corresponding large increase in the number of empirical studies attempting to determine the tangible benefits of mentoring. Despite some limitations in these studies (e.g. lack of longitudinal designs, use of self-report data leading to variability in how mentoring is defined), they generally indicate that mentoring leads to a variety of positive outcomes.

Most frequently studied, and most reliably found, is the positive relationship between mentoring and promotion (Chao, 1997; Aryee, Wyatt & Stone, 1996; Orpen, 1995; Scandura, 1992; Whitely, Dougherty & Dreher, 1991; Dreher & Ash, 1990). Having a mentor has also been linked to increased career satisfaction (Burke & McKeen, 1997; Chao, 1997; Aryee et al., 1996; Dansky, 1996), and less consistently to increased job satisfaction (Chao, 1997; Chao et al., 1992; contra see Burke & McKeen, 1997) and improved career planning (Chao, 1997). Finally, although the research literature on the role of mentoring in reducing job strain (stress) is scarce, it has been argued that mentoring should help to reduce the amount of stress experienced at work (McManus & Russell, 1997; Allen, McManus, Russell & Reiniger, 1995; Wilson & Elman, 1990).

Given this available research evidence, measures of promotion, career satisfaction, job satisfaction, career planning and work-related morale and distress were used to help evaluate the effectiveness of mentoring. To combat the limitations contained in many of the previous studies, the present scheme adopted a longitudinal design with measures taken before mentoring began and then again nine months after the mentoring partnerships were formed. Also, given that the current scheme involves

formal or assigned mentoring partnerships, we can be more certain that there is a fair degree of similarity between people in their understanding of what constitutes mentoring. These design strengths should help to clarify some of the inconsistencies in the current literature.

Outcomes desired by the University: promotion and research output

It is obviously desirable for the individual women in the scheme to become more satisfied with their jobs and less stressed and there is little doubt that such gains for the individual eventually lead to gains for the organisation. However, in the current political-economic climate in which universities operate, it is also important to show that investment in career development strategies delivers a more direct return. Thus, a clear aim of the mentoring scheme was to improve research performance for junior academic women and to increase the number of women in middle and senior positions. In line with these goals, women in the scheme were compared with other Level B women in the areas of promotion, grant applications, publications and conference attendance. Although it was not expected that the scheme would have had a significant effect on promotion in the short time it has been in operation, promotion as an outcome was included because it was considered that mentees might feel more encouraged and more confident about applying for promotion than non-mentees.

Review of other schemes: perceptions and feelings about mentoring

Over the past six years many Australian universities have implemented schemes for women aimed at increasing their career development opportunities and ultimately their success in the university system. A key initiative in most schemes is mentoring. Evaluations of these schemes usually consist of measuring the women's perceptions of the mentoring relationship and sometimes reporting their perceptions of tangible outcomes that may have occurred. One notable exception is the University of Western Australia Leadership Development for Women Program (Creating Opportunities: *An Evaluation of the Leadership Development for Women Program*, 1998). Through an analysis of statistics from the human resource system, it was concluded that women in the scheme were much more likely to be promoted and to stay at the institution, compared with women not in the scheme. In terms of perceptions of mentoring, the women consistently reported that the scheme led to increased participation in university networks, better quality applications for promotion, becoming a mentor, participating in special projects and becoming more visible within the university.

The evaluation of other schemes has focussed mainly on perceptions and feelings of mentees about mentoring. For example, the Mentoring Junior Academic Women Project, a joint initiative of Murdoch University and Curtin University of Technology (Rowland & Butorac, 1996), showed that mentees believed that mentoring had increased their knowledge of the University and their professional confidence. The Women in Leadership Program instituted at Edith Cowan University (Milligan & Genoni, 1993) showed that participants perceived that they had improved leadership skills, confidence, motivation and access to networks as a result of the program. The University of Tasmania implemented a Mentoring to Enhance Research and Scholarly Capabilities of Academic Staff Program (Mihkelson, 1997). Evaluations showed that women reported themselves to be more productive, more enthusiastic, more collegial and more likely to engage in self-review. Finally, the Australian Technology Network Executive Development for Women Program reviewed mentoring in three member universities and concluded that provided there is a dedicated coordinator, good matching between mentees and mentors, appropriate training and time commitment by mentees and mentors, then mentoring is a positive and successful experience for women (Mentoring, 1998).

In the Flinders scheme, mentees' perceptions and feelings were ascertained to assess their perceptions of the mentoring experience. This was considered important, along with whether or not career and research attitudes changed or tangible outcomes occurred. In keeping with other schemes, mentees were asked whether mentoring had helped in relation to things like setting goals, becoming more strategic, increasing confidence, providing information and understanding university politics. They were also asked to rate their feelings about mentoring, for example how satisfied, positive and enthusiastic they felt. However, unlike other schemes, the Flinders scheme also gave the mentors a say. Since mentors comprised one half of the mentoring partnership, it was felt that their perceptions and feelings should be taken into account when evaluating the scheme.

Methods employed

Quantitative methods usually involve some kind of survey or questionnaire that yields figures such as means or percentages. An alternative method of evaluation is the qualitative method, which asks the women directly about their mentoring experience then analyses their responses for themes and ideas. The advantage of using qualitative data is that the participants are able to speak in their own words and do not have the evaluator's agenda forced upon them. To enable the women in

this scheme to give their own perspective, quantitative data are complemented by qualitative data in the form of semi-structured interviews and written comments. Quantitative data were collected on career and research attitudes, while both quantitative and qualitative data were collected on promotion and research outcomes, and perceptions about mentoring.

In order to be able to more confidently attribute any changes over time to the mentoring scheme rather than external factors such as the political-economic climate or changes in Flinders University procedures and practices, Level B women not participating in the scheme were included as a control group. The 19 Level B mentees comprised 21% of the total pool of women employed at Level B by Flinders University in 1998, while the 40 women in the control group comprised 44% of the total. A slightly greater proportion of mentees appear to be employed full time (84% of mentees vs 73% of controls) rather than part time. There was no real difference between the two groups in the number of years they had been employed at Level B at Flinders University (on average approximately five years).

In June/July 1998 a questionnaire measuring career and research attitudes was given to mentees who attended mentoring workshops and was posted to women in the control group. The questionnaire response rate for the mentees was 100% and for the control group 74% (i.e. 74% of the questionnaires sent out to women in the control group were returned).

In May 1999 the questionnaire measuring career and research attitudes was administered a second time to mentees during follow-up workshops, and to the control group through the postal system. At the same time, a second questionnaire that measured promotion and research outcomes was given to both groups. The response rate for the second administration of both questionnaires was 82% for the mentees and 68% for the control group. A third questionnaire, given to both mentees and mentors at the follow-up workshops in May 1999, was designed to measure perceptions and feelings about mentoring. The response rate was 82% for mentees and 84% for mentors.

Two sources of qualitative data were used in the evaluation of the mentoring scheme. Firstly, semi-structured interviews (response rate of 86%) were conducted in January/February 1999 to determine the tangible outcomes (promotion and research output) that mentees believed had occurred as a result of mentoring.

Secondly, written feedback relating to mentees' perceptions of mentoring was asked for during the initial workshop in August 1998 and then again in May 1999 during the follow-up workshop. Mentors were also asked for their perceptions of mentoring at the follow-up workshop.

Summary of the evaluation strategy

To evaluate the success of the scheme a multi-faceted evaluation strategy was implemented. This measured the mentees' career attitudes, promotion and research performance, and perceptions and feelings about mentoring. Quantitative data were complemented by qualitative data in the form of the mentees' own reports of the mentoring experience. As recognition of the importance of the mentor's role in the partnership, the mentors' perceptions were also evaluated. While it is recognised that this is a pilot mentoring scheme, a thorough and rigorous evaluation strategy has been implemented to ensure an accurate assessment of the benefits of mentoring to mentees, mentors and the University.

6. Evaluation of the Scheme

6.1 Career and research attitudes

Career and research attitudes were assessed using six different scales that yielded seven different measures. The research literature indicates that certain changes in career attitudes are amenable to positive influence through mentoring. To assess these changes, before and after measures were taken for both the mentees and the control group for concerns or worries about research, sense of one's capacity or capability as an academic, career satisfaction, job satisfaction, degree of career planning and work-related distress and morale.

When comparing two groups (e.g. mentees and controls) it is desirable to apply a test of statistical significance to the differences to determine the statistical likelihood that those differences are not the result of chance variations. However, because one of the groups (namely the mentees) has a very small number of participants which provides low statistical power, statistical testing was not considered appropriate. For the interested reader, tests of statistical significance carried out on the data for career and research attitudes (repeated measures t-tests) are reported in Appendix B.

Concerns about research

To measure women's concerns relating to research, an 11-item scale was developed specifically for the mentoring scheme (see Appendix C). The aim of the scale was to assess women's attitudes and judgements about research – for example how important they believed research to be, how good they felt about their track record in research and how confident they felt about applying for a research grant. Respondents rated their attitudes on a 7 point scale ranging from 1 'strongly disagree' to 7 'strongly agree', with a maximum score of 77. Higher scores indicated a greater level of concern or uncertainty about research. Internal reliability was high (Cronbach's alpha = .81).

Figure 1 shows that from Time 1 (before the mentoring scheme began) to Time 2 (nine months into the scheme) the mentees' concerns about research decreased. It can also be seen that the mentees began with more concerns about research than the women in the control group. However, nine months into the mentoring scheme (Time 2) the mentees' concerns about research were at a similar level to the women in the control group.

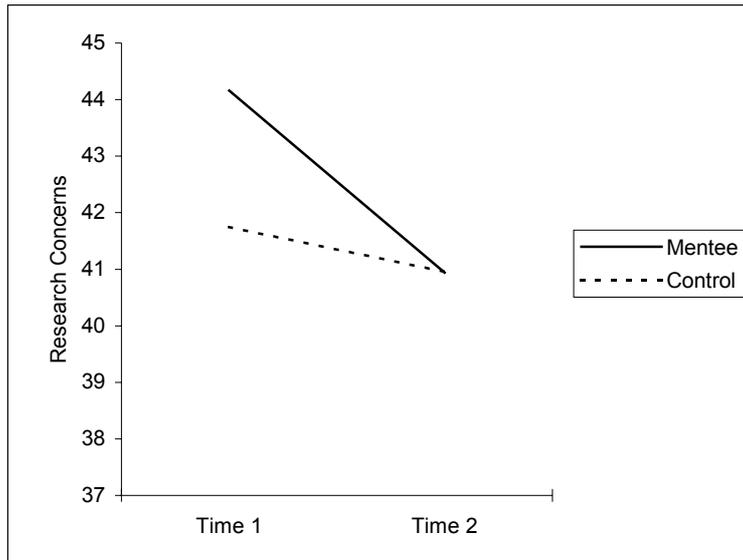


Figure 1: Concerns about research before mentoring (Time 1) and during mentoring (Time 2) for mentees (n=18*) and controls (n=40)

*Due to leave/absences only 18 of the 22 mentees completed the second stage evaluation

These results support the efficacy of the mentoring partnerships in improving the mentees' perceptions of their ability to carry out research and in increasing positive attitudes towards research.

Capacity as an academic

To measure perceptions of academic capability an 11-item scale was developed (see Appendix C). The aim of the scale was to assess women's perceptions of their capacity to carry out various aspects of their job as an academic, e.g. to set work-related goals, write for publication and approach colleagues for assistance. Respondents rated their capacity on a 5 point scale ranging from 1 'very poor' to 5 'very good', with a maximum score of 55. Higher scores indicated more positive perceptions about one's capacity as an academic. Internal reliability was moderately high (Cronbach's alpha = .79).

Figure 2 shows that from Time 1 (before mentoring began) to Time 2 (nine months into the mentoring scheme) the mentee's judgements of their capacity as an academic improved. Again, it can be seen that the mentees began with a lower perception of their capacity as an academic than the control group.

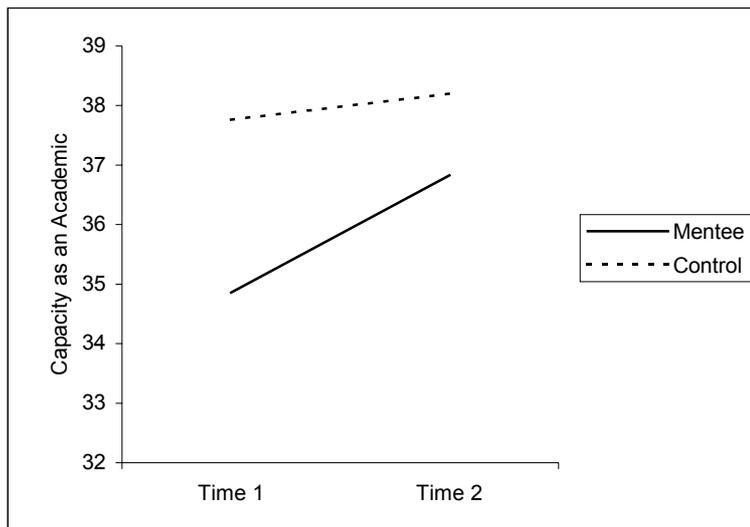


Figure 2: Judgements of capacity as an academic before mentoring (Time 1) and during mentoring (Time 2) for mentees and controls

Nine months into the scheme (Time 2) there was a slight increase in the control group's judgements, with a somewhat greater increase for the mentees. This change over time is consistent with the mentoring partnerships contributing to an improvement in the mentees' perceptions of their ability to function and contribute as academics.

Career satisfaction

Women's sense of satisfaction with their career was measured using a scale developed by Greenhaus, Parasuraman & Wormley (1990). The scale consisted of 5 items and asked participants to respond to statements such as 'I am satisfied with the progress I have made toward meeting my overall career goals' using a scale ranging from 1 'strongly disagree' to 7 'strongly agree'. The maximum score was 35, with higher scores indicating higher levels of career satisfaction. Internal reliability was high (Cronbach's alpha = .86). The mentees showed a very slight increase in career satisfaction from Time 1 to Time 2, as did the control group. The women in the control group also showed higher levels of career satisfaction to begin with, a difference that was maintained at Time 2. This would seem to indicate that the mentoring partnerships had little effect on the mentees' overall satisfaction with their careers.

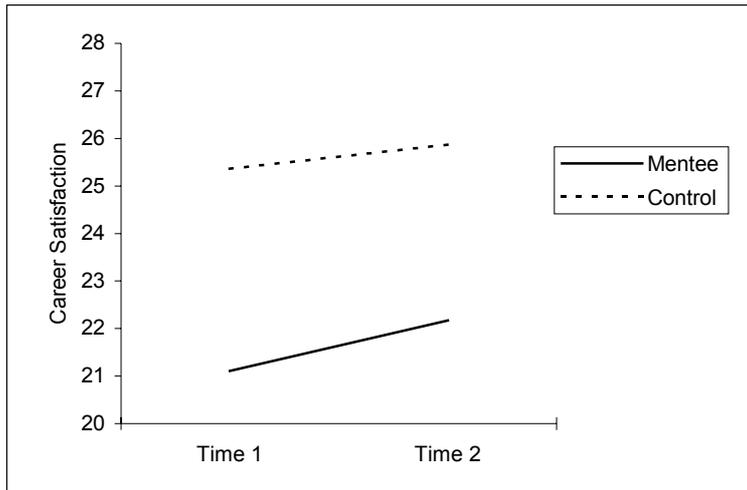


Figure 3: Career satisfaction before mentoring (Time 1) and during mentoring (Time 2) for mentees and controls

Job satisfaction

Women's sense of satisfaction with their job was measured using 3 items from the General Job Satisfaction Scale (Hackman & Oldham, 1975). Participants responded to statements such as 'I am generally satisfied with the kind of work I do in this job' on a scale ranging from 1 'strongly disagree' to 7 'strongly agree'. The 3 items yield a maximum score of 21, with higher scores indicating higher levels of job satisfaction. Internal reliability was moderately high (Cronbach's alpha = .77).

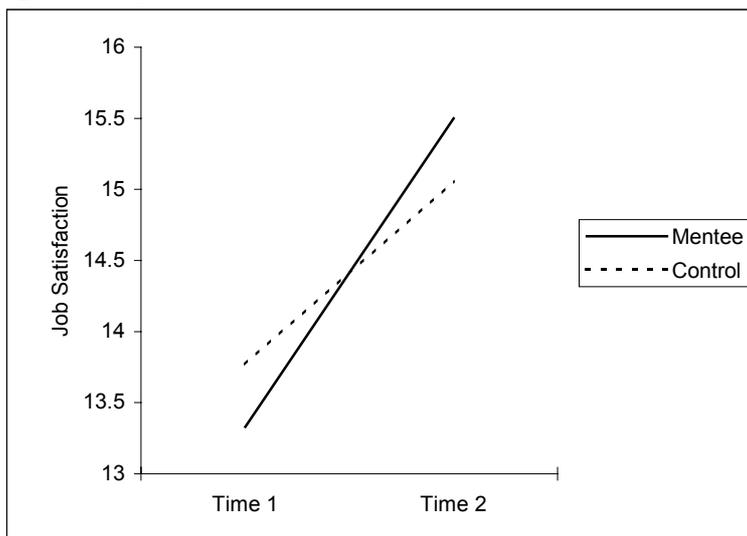


Figure 4: Job satisfaction before mentoring (Time 1) and during mentoring (Time 2) for mentees and controls

Figure 4 shows that the mentees' job satisfaction increased substantially from Time 1 to Time 2. There was also an increase in job satisfaction for women in the control group, although the change was not quite as great as for the mentees. It would appear from these results that the mentoring partnerships had a small effect on the mentees' satisfaction with their jobs over and above the increase in satisfaction experienced by the control group.

Career planning

The extent of career planning was measured using a scale developed by Gould (1979). Ranging from 1 'strongly disagree' to 7 'strongly agree', respondents provided their judgements on the extent to which their career plans existed, how clear the plans were and how frequently they changed. The 6 items yielded a maximum score of 42, with higher scores indicating more extensive career planning. Internal reliability was high (Cronbach's alpha = .89).

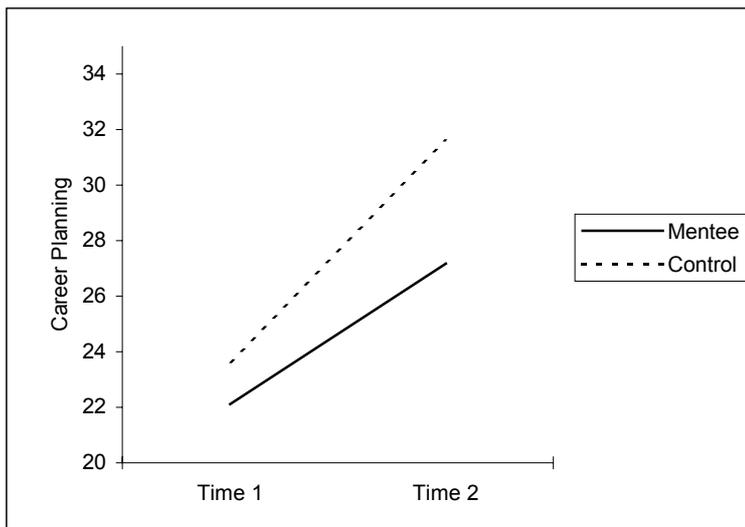


Figure 5: Career planning before mentoring (Time 1) and during mentoring (Time 2) for mentees and controls

Figure 5 shows that from Time 1 to Time 2 the mentees reported an increase in career planning. Again the control group showed slightly higher levels of career planning than the mentees to begin with, and in contrast to most of the other findings, showed a somewhat greater increase than the mentees at Time 2. Mentoring does not seem to have led to an increase in career planning for the mentees.

Work-related distress and morale

Work-related distress and morale was measured using the Psychological Outcomes Scale (Hart, Griffin, Wearing & Cooper, 1996). This scale consisted of 14 items and asked participants to rate from 1 ‘not at all’, to 7 ‘all the time’, how often they experienced certain negative and positive feelings at work. The two subscales – work-related distress and work-related morale – yielded scores with a maximum of 49 each. Higher scores indicated greater distress and higher levels of morale respectively. Internal reliability was high for both distress and morale (both Cronbach’s alpha = .85).

Figure 6 shows that there was only a very slight increase in work-related distress for the mentees from Time 1 to Time 2. This is in contrast to the women in the control group who showed a larger increase. The mentees began with higher work-related distress than the control group, but this difference was reduced by Time 2.

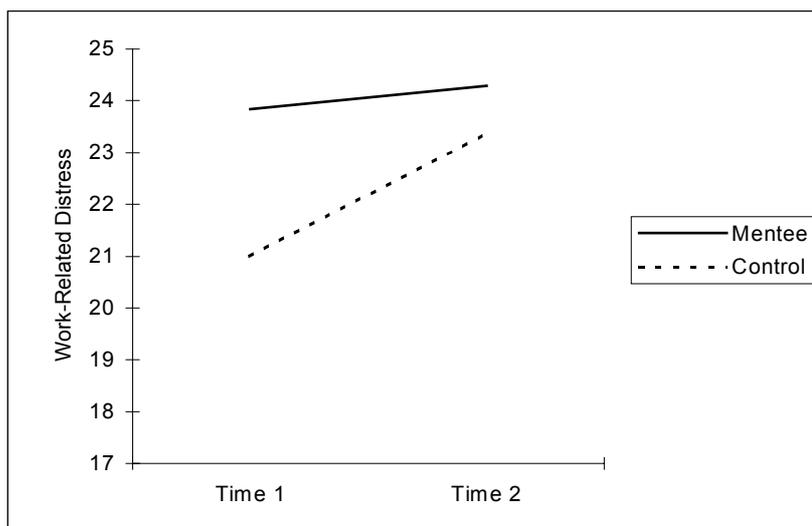


Figure 6: *Work-related distress before mentoring (Time 1) and during mentoring (Time 2) for mentees and controls*

Figure 7 shows that morale was essentially equivalent for the control group and the mentees at Time 1, with both groups showing a decrease at Time 2. However, the control group showed a greater decrease than the mentees. Taken together these results indicate that the mentoring partnerships may have served in some way to reduce the impact of forces leading to increases in distress and reductions in morale among Level B women in the University.

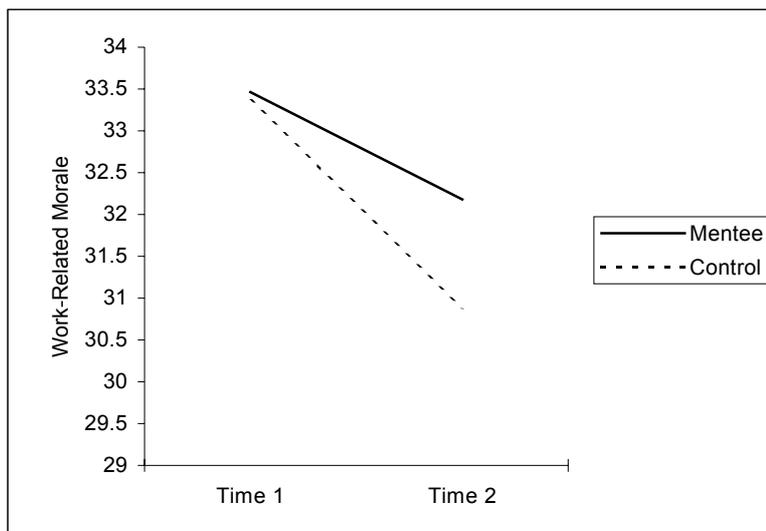


Figure 7: Work-related morale before mentoring (Time 1) and during mentoring (Time 2) for mentees and controls

Summary of findings for career and research attitudes

Over the nine months that the mentees have been in their mentoring partnerships they have improved, relative to the control group, on every measure except career satisfaction and career planning. Most noticeably the mentees showed, relative to the control group, a greater decrease in their concerns or worries about research, a greater increase in judgements of their capacity as an academic, a greater increase in job satisfaction and less of a decline in morale. Interestingly, the control group showed a greater increase in career planning than the mentees. It is possible that the mentees felt less certain about their career plans because, as a result of the mentoring process, they were engaged in reassessing their plans and motives, leading to less certainty in the short term. If this conjecture is correct, the mentees' level of career planning should catch-up to, or surpass that of the control group in the medium to long term.

The women chosen as mentees for this scheme do seem to be on average somewhat different to the Level B women who acted as the control group. In particular, before the mentoring scheme began the mentees reported more worries or concerns about research, felt their capacity as academics was lower, had lower career satisfaction, engaged in less career planning and had slightly higher work-related distress than the control group. These differences between the mentees and the controls are not too surprising given that the mentees were hand picked as women who were eager to pursue their research careers and willing to accept guidance and

support in the form of mentoring. Given this, it is likely that on average the mentees, compared with the women in the control group, were not quite as 'far along' in their research and/or academic careers.

In order to contextualise the gains made by the mentees, it is important to attempt to understand the changes that seem to have occurred for all Level B women. Intriguingly, it appears that while career planning and job satisfaction have increased over time, work-related morale has declined, and, to a lesser extent, work-related distress has increased. Although it is impossible to determine the reason for these changes from the current data, one possible explanation for the increase in career planning for all women may be the effect of the Performance Review system implemented at Flinders University in 1996. This system of Performance Review contains a career planning element which may be taking effect. Whatever the reason for the increase in career planning, it seems that at the same time job satisfaction has also increased. While it is not possible to claim that an increase in career planning causes an increase in job satisfaction, it makes sense that as people feel more certain and more goal-oriented in relation to their careers, they may also feel more satisfied in their jobs.

The positive changes in career planning and job satisfaction seem at odds with the decline in work-related morale and the small increase in work-related distress. It would seem that, independently of aspects of the job that relate to career planning and lead to increased satisfaction, negative forces are impacting on the women, although these forces are perhaps felt less by the mentees. The nature of these negative forces can only be guessed at, although it is widely felt the current political-economic climate in which university academics operate is not very cheery.

6.2 Promotion and research outcomes

Both the mentees and the control group were asked to report on a variety of research activities they had engaged in since the mentoring partnerships began in June 1998. Activities included applying for and succeeding in gaining promotion; applying for and succeeding in securing grant funding; commencing work on and submitting material for publication; succeeding in having material accepted for publication; and attending conferences. Mentees were also asked, via semi-structured interviews, about the tangible outcomes they felt had resulted from being in the mentoring scheme.

Promotion

The mentoring scheme began about the same time that the 1998 annual call for applications for promotion was made. Women who had been recruited into the mentoring scheme were encouraged to discuss applying for promotion with their mentor. Some women did not have a mentor before submitting their application for promotion and alternative suggestions were made for them (e.g. someone to read their application). As can be seen from Figure 8, 23% of mentees (5 women) applied for and were successful in gaining promotion, compared with 10% (8 women) of women in the control group. All women in the University who applied for promotion from Level B to Level C in 1998 were successful.

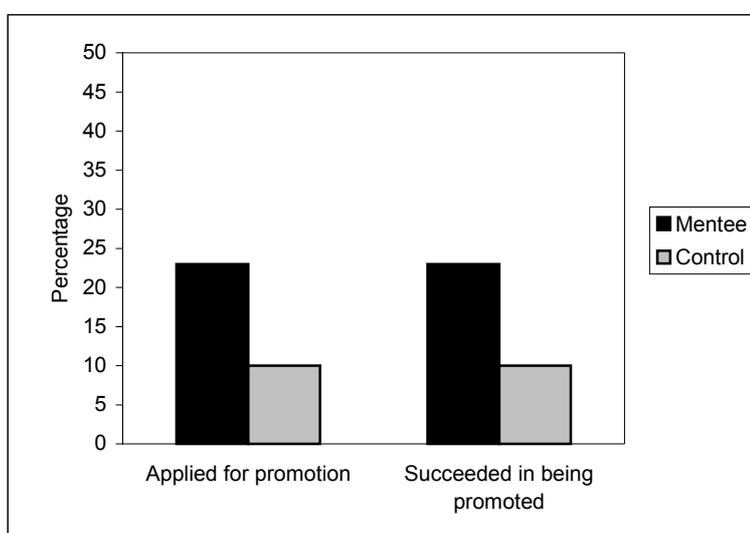


Figure 8: Percentage of mentees compared with controls who applied for and were successful in gaining promotion since June 1998

In semi-structured interviews, mentees were asked what they thought the ‘tangible’ outcomes had been for them as a result of being in the mentoring scheme. The comments made by the women that relate to promotion are presented below. The comments demonstrate that the mentees have benefited both in confidence to apply for, and access to advice on, promotion. Taken together with the statistics on promotion, the mentoring scheme seems to have impacted positively on the number of women applying for and succeeding in gaining promotion.

She was central to my decision to put in a promotion application. She also helped to bring my application up to scratch. She helped me to interpret the processes involved, meaning that if I was unsuccessful that did not mean that I was not good enough. As it turned out I was

successful. I thought I was years away from putting in an application, never mind being successful.

When I told my mentor that I wanted to apply for promotion, he said 'yes, do it, you should have a go'. And then after he had read my application he said I should definitely apply. So I did and I got it.

She is very generous with her time. Together we decided that my priority this year is to apply for promotion. She gave me a lot of advice on this. We have talked about publishing. This is where I am headed now that my PhD is finished. She is a great role model. She has a work plan that puts her writing commitments first.

They gave me insight into how the University works – little projects and schemes that I didn't know about. They said they would help me if I wanted to apply for a research grant. I was thinking of going for promotion and I asked them about this. They talked to me about the specific things I could do for my teaching and my research. Now I know what to aim for. They have opened my eyes to new things that I can achieve. There were so many things that I didn't know about, but I now do.

Grant applications

As can be seen in Figure 9, a higher percentage of mentees (56%) applied for grants than women in the control group (38%). This higher submission rate for mentees would seem to be due to the dual effects of the dyadic mentoring partnerships and the group mentoring process, as only a relatively small number of women took part in group mentoring. Mentees were also more likely to be successful in their grant applications (42% of those who applied) than women in the control group (20% of those who applied). The higher rate of success of the mentees is not completely explained by the higher number of applications, as 75% of the mentees' applications were successful compared with 55% of the control group members' applications.

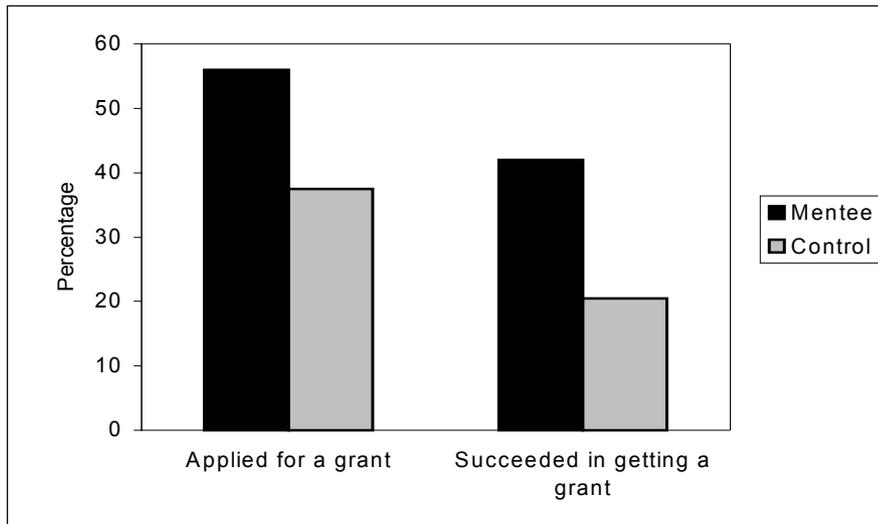


Figure 9: Percentage of mentees compared with controls who applied for and were successful in securing research grant funding since June 1998

Comments from the mentees that relate to the effect of mentoring specifically on grant writing and securing grant funding are presented below. These comments suggest that the higher success rate for mentees probably reflects the extra support and feedback that the mentees received, compared with the women in the control group.

I would never have thought of applying for a Small ARC if it had not been for the mentoring scheme. I had no idea I could do such a thing. Now I've got the grant. My mentor has been useful. I have come in from a non-academic background and he was able to help me get a perspective on academic stuff. He has also helped me to benchmark what is expected across the disciplines. I find it very useful being able to sound out an experienced researcher.

We have discussed grants and what to apply for and what not to apply for. He has been trying to think of other people I might be able to collaborate with, as my previous collaborator is retiring. He has asked me to be an internal examiner for one of his PhD students. That is very useful for the CV.

He reassured me that not getting grants was not about me, but was happening to everyone. We talked about non-traditional sources of funding.

We talked about the research grant and how to construct the program of research to fit into my work conditions. She explained to me how to spread my grant over two years to make it manageable.

I also participated in the Small ARC grant writing workshops and X read my application. It was successful.

Publications

In contrast to grant applications, fewer mentees (56%) commenced work on a publication (Figure 10) compared with women in the control group (88%). This resulted in fewer submissions for the mentees (36% vs 58% for the controls) and fewer acceptances (37% vs 56% for the controls). However, of those who had commenced work on a publication, mentees were equally likely to submit material for publication (64% vs 67% for the control group) and to be successful in having their material accepted for publication (67% vs 64% for the control group). It would appear that mentoring has not as yet had an impact on commencement of work for publication. This may not be entirely surprising, as a researcher must have material/data available to publish. The time required to design, conduct and analyse a research project is usually much greater than nine months.

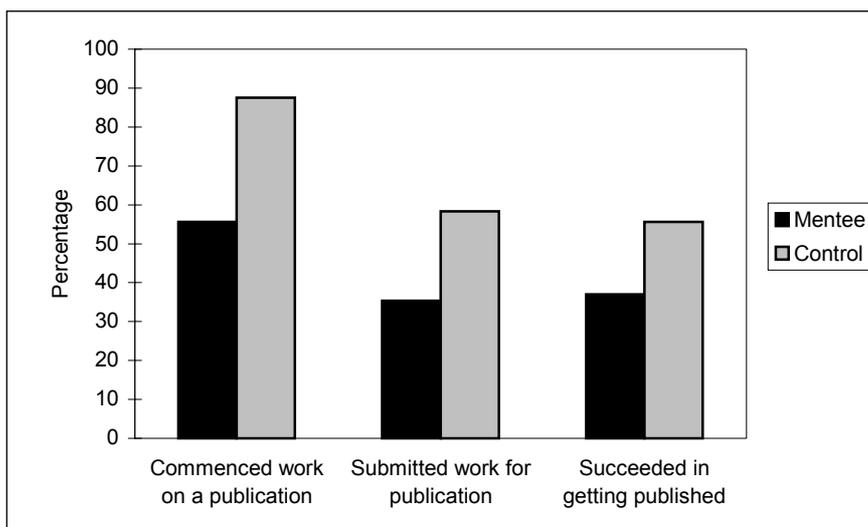


Figure 10: Percentage of mentees compared with controls who commenced work on or submitted work for publication, and succeeded in getting published since June 1998

The statistical findings for publications are supported by the mentees' comments. The women described a certain amount of uncertainty about the publishing process and reported having benefited from being able to discuss their situation with a senior, experienced researcher.

We were talking about furthering careers and she suggested a publication was the best way to go. She is the reason I am working on a book chapter at the moment. She said 'you have an offer of a book chapter, go with that'. The alternative was to write something from scratch and that would take me a lot longer. So now I have been to Melbourne and spoken with the co-authors. That has been very worthwhile. She [mentor] is influential in my decisions, but we don't meet often because of being on leave.

She gave me a lot of good ideas, particularly about how to prioritise things. I have tried to write proposals for Large ARC and this has not been successful. Instead she advised me to write a paper first, which I am doing. This is different to what others have advised. She took more time to listen to me in detail. Others said just go ahead and apply for grants. She has also suggested some things to try to help with my heavy teaching load.

She has passed on ideas about issues that I had not thought were publishable - issues arising from my own research work. She has generously given me copies of articles she has written on teaching innovation and organised a guest lectureship for me. We have also talked about promotion criteria. She asks a lot of questions and listens really well. She gives very practical advice and I always come away from our meetings feeling positive and stimulated by new ideas and approaches to teaching and research work.

Conference attendance

Mentees (72%) were as likely as women in the control group (69%) to have attended a conference since June 1998. The mentees did not make any spontaneous comments about the role of their mentors in deciding to attend conferences.

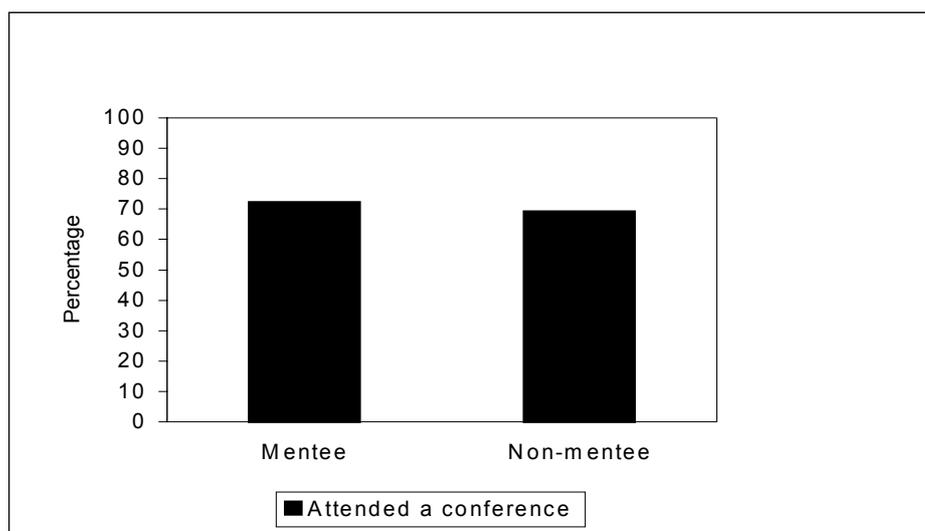


Figure 11: Percentage of mentees compared with controls who have attended a conference since June 1998

Higher degrees

Statistical data were not collected with respect to higher degrees, as the pilot program was not intended for women currently undertaking a higher degree. However, a small number of women were included who were nearing completion of their PhDs and whose supervisor was based interstate. From the comments of these women it seems that their mentor has played a vital role in furthering their PhDs. It would also seem that a few women used their mentor in the process of deciding to enrol in a PhD. As can be seen from the comments below, a number of women reported that their mentor had been of significant assistance in discussing, or deciding to begin, a higher degree.

I did a workload summary and took it to X. He helped me to rationalise my workload...It is now manageable, whereas before it wasn't. I was going to write a book chapter and he suggested that I just get on with my PhD. So that is what I have done. I am now gearing up to write consistently. He has been a great encouragement to me.

I gave my mentor an outline of my thesis to read. My supervisor is based interstate and has been away. My mentor was able to give me advice in some areas. I would like to explore the possibility of him becoming a co-supervisor. I am a member of a committee that will be

managing a large amount of money. I want to talk to my mentor about some aspects of this project.

Through talking to my mentor I have decided to enroll in a PhD. She has helped me to devise ways of getting more research done. I have let go of a lot of admin and have set goals for myself. I probably would not have thought of some of the things she has suggested by myself. She has read some of my work and we have considered doing some research together.

He has been an important catalyst for me. I talked to him about the possibility of doing a PhD in a different discipline from my Masters. He encouraged me and made useful suggestions about how I could proceed. He said he would be willing to read and comment on things like my PhD proposal or funding applications. He is a really good role model of an academic who is teaching and writing and doing research for the love of it.

Other outcomes

A small number of mentees had serious decisions to make about their careers and used their mentors in the decision making process. Another mentee, new to the University, found her mentor very helpful in trying to rationalise a heavy workload. Another woman simply felt better knowing that her mentor was there if she needed him. Comments from these women are presented below.

When I saw X I was not sure whether to stay on here at Flinders because my contract was about to run out. First I thought I would leave, but now I think I have decided to stay. She was very supportive of me, whatever decision I wanted to make. She gave me the courage to face a difficult decision.

She has helped me to think clearly about my direction. She helped me to decide whether I want to stay as a predominantly teaching/research person or whether I want to go more into administration. She gave me some practical steps to follow which helped me to decide that the reason I had gone into academia was to get away from the constraints of administration. This has been very helpful. We also talked about options for a higher degree.

I was being given work from many different sources and my Head of Department didn't realise. It was just getting too much. X helped me to sort through it and gave me some ideas on how to approach my Head. This was quite useful.

I had never met him before and now that I have, I know he is very approachable. Having met him and knowing he is there is great.

Summary of findings for promotion and research outcomes

The data suggest that the mentees are performing extremely well in relation to applying for promotion, submitting grant applications and securing grant funding. On the other hand, substantially more women in the control group had commenced work on a publication compared with the mentees, although the success rates of those who were active in this area were commensurate.

It is possible that the lower rate of commencement of publications among mentees is related to the higher rate of grant applications. That is, the mentees may be spending their 'research time' on writing grant applications rather than on writing for publication. It is also possible that the mentees are not quite as advanced as the women in the control group in their research careers and do not have material ready to publish. This view is consistent with the earlier findings which show that the mentees have more concerns about research and perceive themselves as having less capacity as an academic than the women in the control group, possibly reflecting less experience or knowledge. The mentees may be applying for grants first which will ultimately provide them with data for publication.

Comments from the mentees support the statistical data and show that the mentees perceive their mentors to have been of significant assistance in areas such as promotion, grant applications, publishing and higher degrees. The highly positive nature of these comments is testimony to both the efficacy of the mentoring process and the goodwill that exists between mentees and mentors.

6.3 Perceptions about mentoring

Both mentees and mentors were asked to indicate on a questionnaire whether or not they felt certain outcomes had occurred as a result of mentoring. Mentees were asked to indicate whether the mentoring scheme had helped certain outcomes to occur for themselves. Mentors were asked to indicate whether mentoring had helped certain outcomes to occur for their mentees. The resultant data were

complemented by written information from both mentees and mentors that examined expectations of the scheme and whether or not those expectations were met. Finally, both mentees and mentors rated their feelings about each other and about mentoring.

Perceptions about outcomes

Mentees

As can be seen from Figure 12, the two most commonly reported outcomes indicated by the mentees were ‘having their mentor confirm that they were on the right track’ and ‘having their mentor help them to think more clearly about their career direction’ (both 72%). The second most common outcomes indicated by the mentees were mentors ‘helping them to deal with University politics’ and ‘providing specific information that helped with their careers’ (both 61%). In descending order, the remaining outcomes were ‘help with becoming more strategic’ (56%); ‘gaining a better career perspective’ (56%); ‘increased confidence’ (44%); ‘increased work networks’ (44%); ‘goal setting’ (44%); ‘setting priorities’ (39%); ‘building supportive alliances’ (28%); and ‘increased ability to work to a plan’ (22%). Clearly the mentees were able to identify many positive outcomes that the mentoring scheme has helped them achieve.

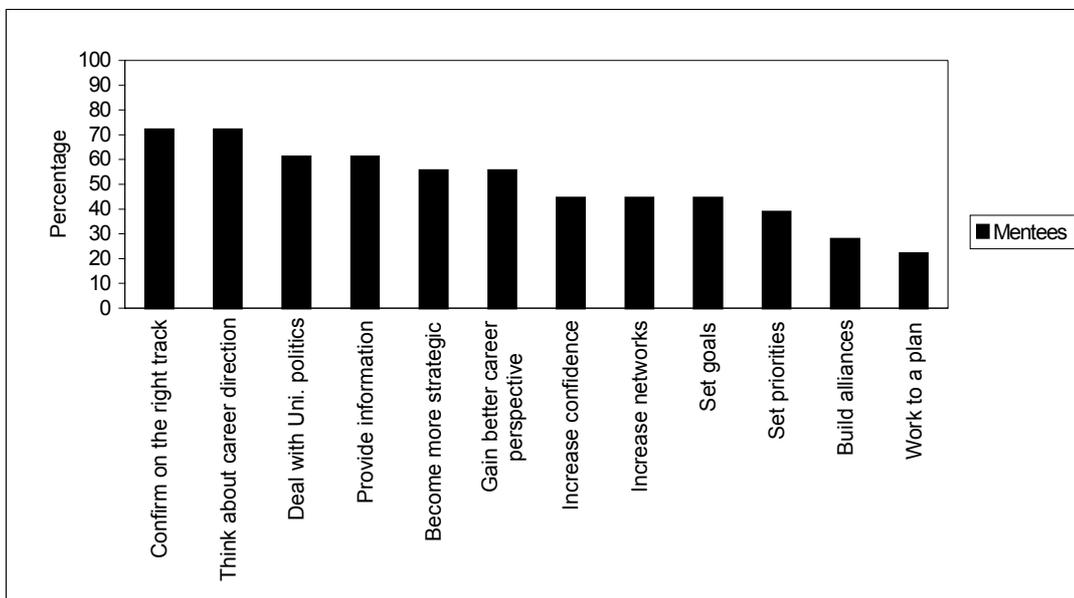


Figure 12: Percentage of mentees who indicated that the mentoring scheme had helped them to achieve a particular outcome

Mentors

Figure 13 shows that the mentors clearly felt that the most beneficial assistance they had provided was to help their mentee confirm that they were ‘on the right track’ (90%). The second most common outcomes were ‘helping mentees to become more strategic’, ‘helping mentees to gain a better perspective on their career’ and ‘helping to increase confidence’ (all 65%). In descending order, the remaining outcomes were ‘helping mentees to set priorities’ (60%); ‘helping mentees to think more clearly about the direction of their careers’ (55%); ‘helping mentees to deal better with the politics of the University’ (55%); ‘helping mentees to set goals’ (55%); ‘providing specific information that helped with the mentees’ careers’ (40%); ‘helping to increase the mentees’ work networks’ (40%); ‘providing assistance to mentees in building supportive alliances’ (35%); and ‘helping mentees increase their ability to work to a plan’ (25%).

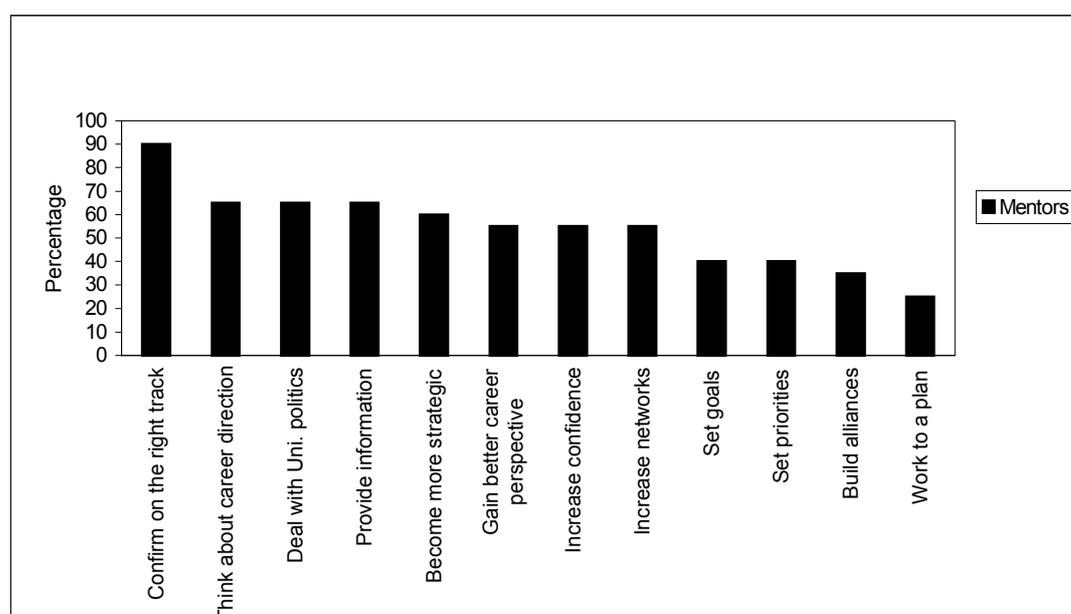


Figure 13: Percentage of mentors who indicated that the mentoring scheme had helped their mentee to achieve a particular outcome

Comparison of mentees and mentors

Both mentees and mentors indicated that the most common outcome from mentoring was for mentors to confirm that mentees were on the right track. Similarly, both mentees and mentors agreed that the least common outcome for mentees was increasing their ability to work to a plan. It is interesting to note the main differences between mentees’ and mentors’ perceptions. Relative to the mentors, mentees were more likely to indicate that mentoring helped them to think

more clearly about their career direction and provided them with specific information that helped with their career. Conversely, relative to the mentees, mentors were more likely to indicate that mentoring helped to increase their mentees' confidence and helped their mentees to set priorities. While these minor differences exist, essentially mentees and mentors agreed that mentoring led to many positive outcomes for the mentees.

Expectations about mentoring

Mentees

At the first workshop, before the mentoring partnerships had begun, mentees were asked to write down what they anticipated would be the three major benefits and the three major limitations of mentoring. Nine months later at the follow-up workshop they were asked to write down what they felt had been the top three benefits and limitations of the scheme. Both sets of written information were subsequently analysed and a comparison made to highlight whether the mentees' expectations were fulfilled and what they felt they had gained from the experience.

Guidance, advice and practical suggestions from mentors was seen overwhelmingly as the major benefits of the mentoring scheme for mentees, both prior to beginning and after their first nine months. For example, mentees commented that the major benefits of mentoring were being able to '...ask an experienced person for advice'; having 'someone give an informed opinion on my plans and proposals'; 'someone to talk to re professional life'; and 'feeling supported, having inside/outside backup' and 'knowing that someone else thought it worthwhile to invest time in discussing my career'.

Another area where mentees expected help was with specific career development strategies, particularly in relation to research. Nine months later, these anticipated benefits were recorded, in similar numbers as having occurred, suggesting that initial expectations were met by the mentoring scheme. Mentees commented that the opportunity to undertake 'objective discussion with no axe to grind, especially relative to career planning strategies' and to 'help re-order research/writing priorities', while 'having the chance to confirm the 'goodness' of your ideas about career goals and directions with someone who knows' were positive outcomes. Other benefits that the mentees anticipated and then received from the scheme included better time management, increased confidence, improved work satisfaction and motivation, feedback on work, and networking.

Nine months into the scheme the mentees reported two additional benefits. These included feeling less isolated in the workplace and being able to observe a strong and positive role model. For example, one mentee wrote that a real advantage was just ‘knowing that there is someone there for me’. Another wrote about her mentor as ‘someone to watch over you, you’re not alone in this big University’. A third woman saw her mentor as ‘a role model at a senior level to provide guidance and inspiration’.

Mentees were also asked to comment on what they perceived as the three most likely problems or limitations of mentoring. They were asked again nine months later what they felt the problems or limitations had actually been. Unlike the benefits of the scheme, there was a significant difference between perceived limitations and limitations actually experienced. For example, the mentor not understanding the mentee’s issues was seen as the second highest perceived limitation before the partnerships began, but it was not even mentioned as a problem in the re-evaluation nine months later.

Prior to beginning their mentoring partnerships, mentees listed concerns such as ‘the mentor won’t be able to understand the pressures that you are going through’ and ‘they may be too far from your own particular set of circumstances to give advice/assistance’. However, after participation in the scheme, mentees felt that the mentors had an excellent understanding of their problems and issues and it was listed as one of the top three benefits of mentoring. Positive comments included ‘getting tips and ideas that you had not thought of from your mentor’ and ‘being able to discuss problems/situations with someone not directly involved in my department but who understands’.

Trust was another issue mentioned as a possible problem prior to the commencement of the scheme. For example, mentees thought that there might be issues around trusting their mentor. However, these did not eventuate and it was not mentioned at the nine-month re-evaluation.

The most recorded limitation/problem with the scheme, both at the beginning and at the nine-month stage, was the lack of time for mentees to fully participate in and make use of the mentoring scheme. This remark far outnumbered all other problems with comments like ‘I could have benefited more if I had more time’ and ‘Only one problem – time to see my mentor. She has always been available when I needed her. I have no other problems with the process. It’s great’. In fact, almost

every questionnaire received both before and after the nine-month period recorded lack of time as one of the three most limiting factors.

Another problem mentioned in both sets of questionnaires by a few mentees was fear of how to approach the partnership. Several mentees commented on not knowing what to ask their mentor and being afraid of bothering him/her. Other limitations or problems mentioned both before the partnerships began and after the nine-month trial were only commented on by one or two participants. These included not knowing what they could give back to the mentor and not making best use of the mentor's skills.

Mentors

Mentors were also asked to comment on their perceptions of the scheme after the nine-month trial period. They were asked to comment on what they thought were the outcomes for mentees, what they saw as outcomes for themselves and whether any aspects of their experience disappointed them.

Interestingly the mentors believed that the biggest benefit for mentees was the opportunity for them to clarify specific career goals. However, this benefit was ranked by mentees below the opportunity to gain more general advice, guidance and practical suggestions on all aspects of the profession. One mentor wrote that 'she [mentee] has clarified her academic directions, worked out which paths she wishes to follow and sorted out some personal stuff'. Another wrote that they saw their role as easing the mentee's 'path so they don't have to go down as many cul de sacs as I did to achieve their personal goals'. A third mentor saw the most significant benefit 'as helping her [mentee] to clarify her work focus and thereby organise her time more effectively'.

With the second highest frequency, mentors believed that they offered support, the opportunity to discuss issues with colleagues and help to increase mentees' confidence within the University. This fits with the mentees' expectations and experience of the mentoring scheme as offering guidance and support. For example, one mentor wrote that an outcome for the mentee was 'the establishment of a relationship which is flexible and not tied to University hierarchy that enables a positive discussion of ideas, concerns and the prioritisation of research'. Another wrote 'by listening, help her to reach her own solutions to problems', while a third wrote 'I believe she has a little more confidence in herself within the organisation'.

Other outcomes for mentees that were mentioned by the mentors included added support for junior women academics, better understanding of University issues and the opportunity to gain other specific skills such as time management skills.

For themselves, mentors believed that the two most memorable outcomes were gaining insight into the pressures faced by new academics and learning about different areas within the University. This compares strikingly with the mentees' initial perception that mentors might lack an understanding of their issues. This concern did not eventuate as a problem, as mentors either did understand mentees' concerns or soon learned to. One mentor wrote, for example, 'I have learned about another discipline and area of scholarship'; another, 'I have a better understanding of the constraints for early career researchers'; and another, 'The establishment of a new relationship causes me to reflect on the tasks of managing research projects with many other demands. It is also nice to be appreciated in the University'.

Other positive outcomes mentioned several times by mentors included the opportunity to work closely with another academic and the personal satisfaction gained from helping someone else. Comments ranged from 'I have enjoyed working with another staff member' to 'there are the vicarious pleasures of assisting another individual reach their immediate goals', and 'satisfaction in helping develop good publications and conference presentations'.

Mentors also saw the mentoring scheme as providing them with a unique view of their own career and as a way of synthesising their own experiences and understanding. One mentor stated 'I became more aware of processes that had become second nature and also re-evaluated some of my own approaches to prioritisation and goal setting', while another wrote that mentoring has 'made me remember my own advice that I had forgotten and was not using despite best of intentions'.

Out of the 20 questionnaires returned by mentors only a few contained examples of disappointments. This emphasises the overall enjoyment mentors felt from participating in the scheme, with the only four limitations raised by mentors being lack of time, the mentee perceived as not keen to see the mentor, the mentee not using the mentor often enough, and the mentee seeming uncertain about the partnership.

Feelings about mentoring

On a questionnaire presented at the follow-up workshop, both mentees and mentors were asked to indicate how frequently they had experienced certain feelings about mentoring. Responses to the questions were made on a 4 point Likert scale ranging from 1 'not at all' through to 4 'very much'. The aim of this measure was to determine if both mentees and mentors regarded mentoring as a positive experience and if so, which aspects of mentoring they were most positive about.

Figures 14 and 15 show that both mentees and mentors view each other and mentoring very positively. There is a very close match between the mentees' and mentors' feelings about mentoring. The strongest feeling for both mentees and mentors was satisfaction with their respective mentor/mentee. Both mentees and mentors also felt very positive about their meetings, enjoyed being part of the mentoring scheme, felt encouraged by the mentoring scheme and felt enthusiastic after their meetings with each other. Relative to the mentees, mentors indicated that the mentoring scheme had been less useful to them. This is not surprising as the mentoring scheme was set up primarily to benefit the mentees. Perhaps it is of more interest to note that on average the mentors do see that the mentoring scheme has been of some use to them.

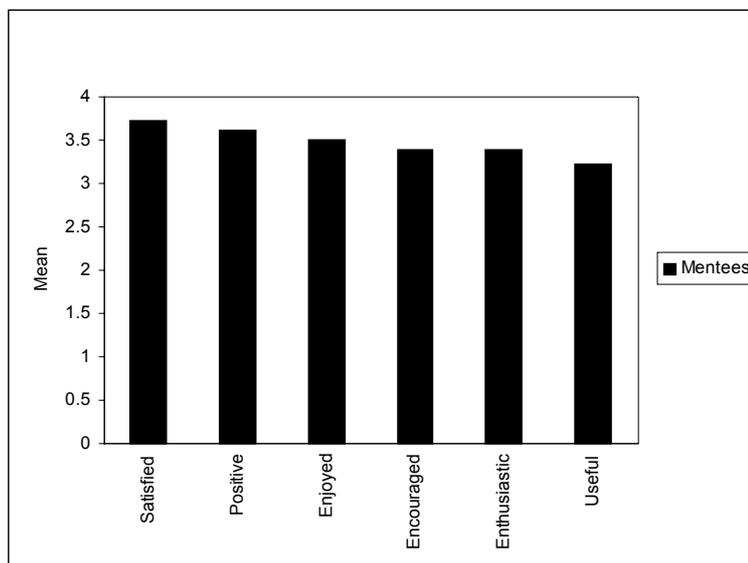


Figure 14: Mean rating scores for mentees of how they feel about mentoring and their mentors (scale = max. of 4)

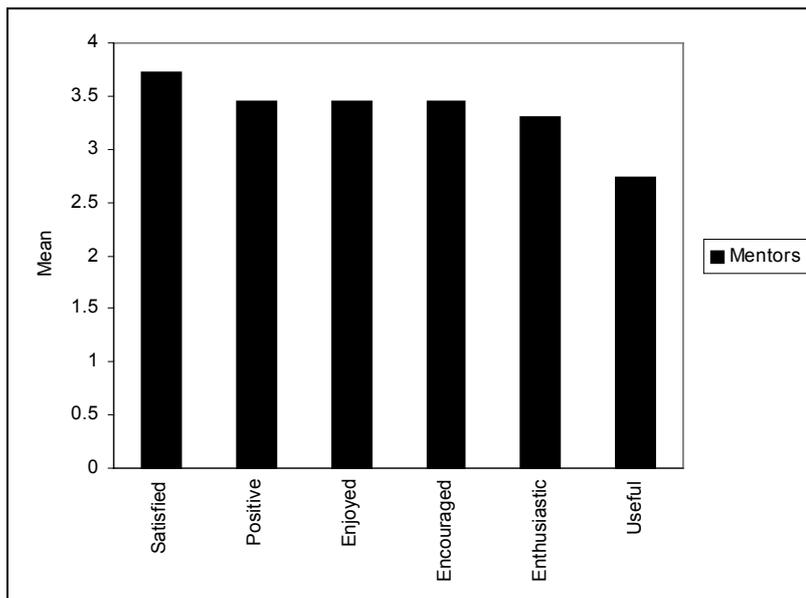


Figure 15: Mean rating scores for mentors of how they feel about mentoring and their mentees (scale = max. of 4)

The mean score of 2.7 indicates that the mentors see the scheme as being between ‘somewhat’ and ‘moderately’ useful, a finding which is supported by the mentors’ comments about the perceived benefits of the scheme for themselves.

Summary of findings for perceptions about mentoring

Both mentees and mentors perceive mentoring to be worthwhile. Mentees had clearly defined expectations of mentoring which were easily exceeded. The quantitative and qualitative data showed slight differences in the priority of the outcomes that the mentees and mentors perceived as having occurred. However, both sets of data clearly showed that mentees appreciated general outcomes such as support, guidance and reassurance that they are doing the ‘right thing’, as well as more specific help such as clarifying career directions and dealing with university politics. The mentees’ perceptions were consistent with those of the mentors, who also rated their most valuable contributions to the mentees as career guidance and general support and advice. Mentors also saw some benefits for themselves in the form of closer connection to another academic, as well as providing the impetus to think more deeply about their own careers.

Mentees saw the main limitation with respect to mentoring as being a lack of time to fully take up the opportunities available. There were only a few disappointments for mentors and these related mostly to not seeing their mentee frequently enough.

Interestingly, these limitations could be related, as it is probable that the reason the mentors don't see more of their mentees is because of time restrictions. The comments by mentees and mentors demonstrate, and this is supported by the data on feelings about mentoring, that mentees and mentors have positive feelings both towards each other and towards mentoring.

7. Coordination of the Scheme

As a means of evaluating the effectiveness of the coordination of the mentoring scheme, participants were provided with a questionnaire at the follow-up workshop. They were asked to rate the coordination of the scheme and to provide written comments on what they most liked and most disliked about the coordination.

7.1 Ratings

Both mentees and mentors were asked to judge how well they thought the mentoring scheme had been coordinated and how worthwhile they felt the workshops had been. Responses to the questions were made on a 4 point Likert scale ranging from 1 'poor/not at all' through to 4 'very good/very much'. Figure 16 (see p. 44) shows that both mentees and mentors judged the mentoring scheme to have been well coordinated. All participants rated the effectiveness of the coordination of the scheme as good to very good. Mentees judged both workshops as having been slightly more worthwhile than did the mentors. This is probably not surprising as the mentees stood to gain, and have gained, more from the mentoring scheme than the mentors. Both mentees and mentors judged the initial workshop as being slightly more worthwhile than the follow-up workshop. Again this is probably not surprising, as most of the mentoring partnerships were working well and less input from the coordinator was required/requested at this point than at the beginning.

7.2 Participants' comments

In addition to asking mentees and mentors to rate the effectiveness of the scheme, they were also asked to provide written comments about what they most liked and most disliked about the coordination of the scheme. Most frequently, both mentees and mentors indicated that they felt the personal skills of the scheme's coordinator helped in making it a success. For example, over half of the comments related directly to the coordinator's management and personal skills. Participants felt that they could trust the coordinator and that her professional attitude, energy and personal skills were the most liked aspects of the scheme's coordination.

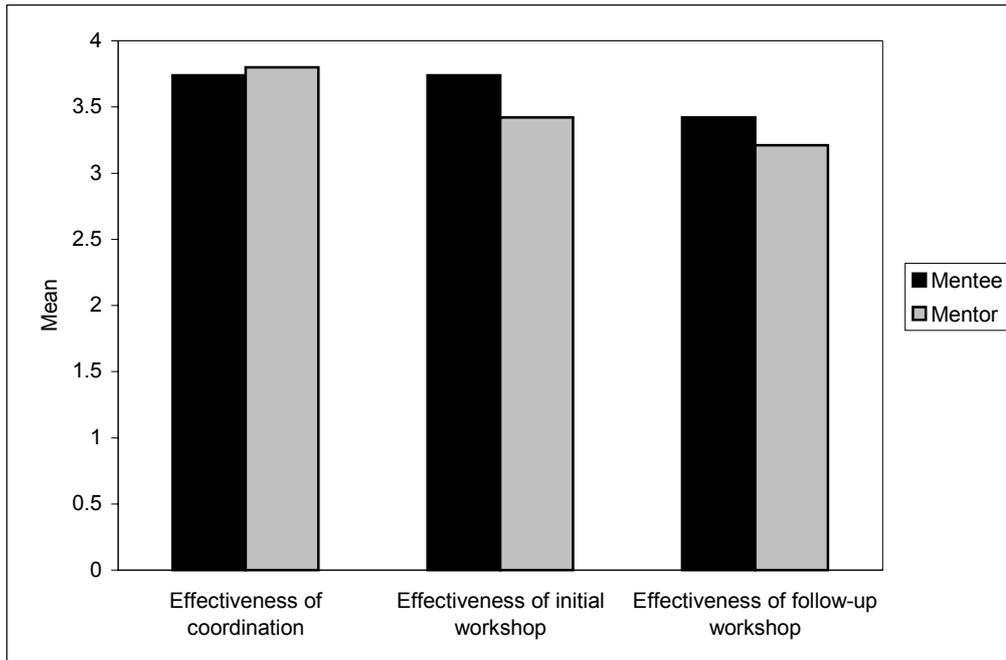


Figure 16: Mean ratings from mentees and mentors of how effectively they believe the scheme has been coordinated and the effectiveness of the initial and follow-up workshops (scale = max. of 4)

Comments about the most liked aspects of the scheme included:

The friendly, inclusive, supportive and meticulous follow-up, information giving and feedback.

The 'light hand' with which the scheme has been coordinated. The organisation has been well conceived and seems to have worked very smoothly.

The enthusiasm of the coordinator.

Efficient. I felt I could trust the coordinator – that she was very understanding and sympathetic.

The coordinator's availability and discretion in handling questions.

Genuine interest in my needs/professional ability.

Other responses about the scheme's coordination related to the way that it was conducted without a sense of pressuring participants or insisting on certain behaviours. This made an impact on several participants and again was attributed to the coordinator's management style. Comments included:

I don't feel pressure to perform or act – that I can interact with my mentor however I wish.

Sensitive approach and appreciative of the time constraints we have on our time.

Optimal level of contact – not too much or too little.

Interaction with other academics was also seen as a strength, with participants appreciating the opportunity to meet other women and senior academics in the University. Participants felt that this had helped to improve the sense of collegiality and community within the University. Comments included:

*That it has helped women and brought together senior academics and women in the University. Improved the network of all.
Created a sense of academic community.*

[Have appreciated] the other women I have met because of the scheme.

Participants also reflected upon the successful mentee/mentor matches, the non-invasive monitoring of the partnerships and the feeling that there was a genuine interest in their needs.

Suggestions for improving the current mentoring scheme included a written guide outlining the mentor/mentee partnership; organised mentor/mentee 'happy hours'; mentees grouped by common problems; expansion of the program; and the program to be maintained at same level of input (i.e. maintain existing level of coordination). One mentor commented 'For me the choice of mentee has worked well, but I feel that greater choice on both sides might well be an advantage'. Also, one mentee commented that while she was happy with her mentor, she would have liked someone who understood her research area a little better.

7.3 Summary of coordination of the mentoring scheme

Both the ratings and the written comments indicate that the coordination of the mentoring scheme was judged positively. Participants clearly stated that what they most liked was the personal and flexible nature of the coordination. It is likely that this flexibility ensured many of the partnerships survived. As one mentee wrote, ‘The coordination has ensured my continued participation in the scheme and assisted in my motivation’.

8. Summary of Findings and Conclusions

The Flinders University Mentoring Scheme for Early Career Women Researchers was introduced in April 1998 based on a proposal of the Affirmative Action in Research Committee and funded by the University Research Committee (now called the Strategic Research Advisory Committee). The ultimate aim of the scheme was to help redress the imbalance between women's and men's academic careers, in particular the lack of women in middle and senior academic positions. Although many reasons have been put forward to explain the relative lack of women in senior academic positions, two explanations seem particularly compelling. Firstly, women lack access to informal networks that hold much of the information relevant to career advancement, and secondly, women lag behind men in their research careers, with research performance being an integral component of promotion. Mentoring was selected as an intervention strategy because it was believed that this would help to increase women's inclusion in informal networks, particularly those that consist of senior, experienced, successful researchers. Consequently it was expected that research-related mentoring would expand women's successful research activities and ultimately lead to more women in middle and senior positions.

Participants in the scheme consist of 22 women mentees (mostly at academic Level B) and 24 women and men mentors (mostly at academic Levels D and E). Mentees and mentors were matched by a coordinator who managed all aspects of the scheme. Based on an extensive review of the literature and other schemes, dyadic mentoring partnerships were adopted, although group mentoring for writing grant proposals was also trialed. Both mentees and mentors underwent (separately) an initial skills-based workshop and a follow-up review and feedback session nine months into the scheme.

While acknowledging that the scheme is a pilot program, a rigorous system of evaluation was introduced to determine the real benefits of research-related mentoring, both to the individuals involved and to the University. The evaluation strategy consisted of a multi-faceted approach that measured career and research attitudes, promotion and research output, and perceptions and feelings about mentoring. Quantitative data were complemented by mentees' and mentors' reports of the mentoring experience.

Based on the quantitative research literature, it was expected that research-related mentoring would lead to changes in career and research attitudes in the mentees. To determine if these changes had occurred, mentees were compared with other Level B women (the control group) before the scheme began and then again nine months later. The results indicate that over the nine months of mentoring, the mentees improved relative to the control group on every measure except career satisfaction and career planning. However, the women chosen as mentees appeared to have somewhat different characteristics in comparison to the control group. At the beginning of the scheme they reported more worries or concerns about research, lower capacity as an academic, lower career satisfaction, less career planning and slightly higher work-related distress. These findings suggest that mentoring had a consistently positive effect on the career and research attitudes of a group of women who may be slightly less certain about their position as academic or researcher, relative to their control group counterparts. Furthermore, while career planning and job satisfaction rose for both groups (a finding possibly related to the Academic Performance Review procedure taking effect), mentoring may have inoculated the mentees against other changes in the university sector which saw a decline in work-related morale and an increase in work-related distress for Level B women.

Findings for promotion and research output suggest that the mentees performed well in relation to applying for promotion, submitting grant applications and securing grant funding. On the other hand, substantially more women in the control group had commenced work on a publication compared with the mentees, although the success rate for those who were active in this area was commensurate. These findings, taken together with the mentees' comments, indicate that the mentees are establishing and building their careers through promotion and grant funding, in many cases supported by their mentor. Ultimately, this should lead to a greater output of publications.

Finally, to assess whether mentoring meets the needs of the participants, both quantitative and qualitative data were collected on the mentees' and mentors' perceptions about mentoring. The mentees' expectations of their mentors centred around general support and advice, research-related support and career-related support. Mentor contributions clearly exceeded the mentees' expectations, with general guidance and support being the most frequently mentioned benefit. The mentees' perceptions were consistent with those of the mentors, with the latter also rating their most valuable contributions to the mentees as both general and specific

career/research-related support. Mentors also saw benefits for themselves arising from mentoring in the form of a closer connection to another academic and having the opportunity to think more deeply about their own careers. Overwhelmingly the mentees reported that the main limitation was a lack of time to take full advantage of the mentoring process. Mentors concurred with this view, with a few commenting that they did not see their mentees often enough. Overall, both mentees and mentors had a very positive perception of mentoring and of each other.

The multi-faceted evaluation strategy adopted for this pilot mentoring scheme presents a consistent and optimistic pattern of results. While the mentees may have started off slightly less confident in research and other aspects of their careers, by nine months into the scheme these differences were largely made up. What's more, the mentees were also outstripping their non-mentored counterparts in both promotion and grant getting. Mentees were less likely to have commenced work on a publication than their non-mentored counterparts, although it seems likely that this will improve once grant funding translates into data suitable for publication. These findings are supported by the perceptions of the mentees and mentors, who saw both general and specific career/research-related support as being the main outcomes of mentoring.

Finally, the results of this evaluation show that mentoring for early career women researchers has provided benefits above and beyond other opportunities and processes available within the University, such as academic staff development and the Performance Review system. It seems likely that the unique feature of mentoring is the opportunity for frequent, personal and individual contact with a senior, experienced academic who has been specifically matched to the mentee's needs. As such, mentoring has led to measurable benefits that would not have otherwise occurred, for both mentees and mentors and for Flinders University.

The purported aims of this scheme were to improve women's success in research and increase the number of women in middle and senior positions in the University. The data support the efficacy of the mentoring process in breaking down the barriers to informal power networks and research knowledge. This pilot program for early career women researchers appears to have met and exceeded its aims, a finding which warrants the program being extended to all early career women researchers, if not all women, in the University.

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Appendix A
Mentor and mentee agreement

The Flinders University of South Australia
Mentoring Scheme

Mentor and Mentee Agreement

Mentor: _____

Mentee: _____

Approximate Frequency of Meetings: _____

Interim Goals: What you expect to be different in six months time

1. _____

2. _____

3. _____

Overall Goals: What you expect to be different in two years time

1. _____

2. _____

3. _____

Confidentiality Agreement: _____

We both agree that at any time, for any reason, either of us may end this mentoring partnership.

Mentor:

Mentee:

Date:

Date:

Appendix B

Descriptive and inferential statistics for career and research attitudes for mentees and controls

Table 2: Repeated measures T-tests and descriptive statistics for mentees and controls for career and research attitudes

	Mentee		Control	
	Mean	(Standard Deviation)	Mean	(Standard Deviation)
Concerns about Research				
Time 1	44.17	(11.30)	40.18	(11.28)
Time 2	40.94	(10.73)	40.95	(10.72)
	$t = 1.510, p = .149$		$t = .845, p = .403$	
Capacity as an Academic				
Time 1	34.86	(4.02)	37.94	(4.85)
Time 2	36.83	(5.49)	38.20	(3.73)
	$t = -1.621, p = .124$		$t = -.398, p = .693$	
Career Satisfaction				
Time 1	21.11	(5.56)	24.25	(6.54)
Time 2	22.17	(6.12)	25.87	(4.55)
	$t = -1.307, p = .314$		$t = -.765, p = .449$	
Job Satisfaction				
Time 1	13.33	(2.63)	13.60	(2.23)
Time 2	15.50	(3.62)	15.06	(4.25)
	$t = -2.367, p = .030$		$t = -1.90, p = .065$	
Career Planning				
Time 1	22.11	(3.68)	23.33	(3.73)
Time 2	27.17	(8.19)	31.59	(10.46)
	$t = -2.463, p = .025$		$t = -4.361, p = .000$	
Work-related Distress				
Time 1	23.84	(8.82)	20.99	(7.79)
Time 2	24.29	(7.88)	23.58	(11.03)
	$t = -.217, p = .831$		$t = -1.571, p = .124$	
Work-related Morale				
Time 1	33.46	(7.91)	33.08	(7.02)
Time 2	32.18	(7.46)	31.01	(7.36)
	$t = .879, p = .393$		$t = 2.433, p = .020$	

Appendix C

Scales developed for the Flinders University Mentoring Scheme

Capacity as an Academic Scale

A. Please indicate (by circling the appropriate number) how you would rate yourself in each of the following areas.

Very Poor	Poor	Okay	Good	Very Good
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>

Please indicate your judgement of your current capacity to:

1. contribute to the University	1	2	3	4	5
2. understand the University culture	1	2	3	4	5
3. set work-related goals	1	2	3	4	5
4. confidently promote yourself	1	2	3	4	5
5. work to a plan	1	2	3	4	5
6. approach colleagues for assistance	1	2	3	4	5
7. conduct research	1	2	3	4	5
8. write for publication	1	2	3	4	5
9. write research grant applications	1	2	3	4	5
10. balance research with teaching and administration	1	2	3	4	5
11. present your research at a conference	1	2	3	4	5

Concerns About Research Scale

B. Below are some statements that women have made in relation to their academic careers. Please indicate (by circling the appropriate number) how much each statement applies to you.

Strongly Disagree	Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. I feel like I don't really know how to do research
1 2 3 4 5 6 7
2. Doing research feels overwhelming
1 2 3 4 5 6 7
3. There is not enough time to do research
1 2 3 4 5 6 7
4. It is hard to know where to start when doing research
1 2 3 4 5 6 7
5. I feel resentful about the expectation to carry out research
1 2 3 4 5 6 7
6. It is difficult to know how to balance research with other duties
1 2 3 4 5 6 7
7. Research is not all that important to me
1 2 3 4 5 6 7
8. I think that my track record isn't good enough to get a research grant
1 2 3 4 5 6 7
9. I am unsure of how to apply for a research grant
1 2 3 4 5 6 7
10. I don't have many people that I can discuss my research career with
1 2 3 4 5 6 7
11. I do not have an appropriate role model for my career
1 2 3 4 5 6 7