



# The mentoring of women for medical career development

Medical career  
development

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## Abstract

**Purpose** – In Germany, scientific qualifications and an academic career in medical disciplines require mastering and balancing clinical, research and teaching activities. Systematic interdisciplinary human resource development is rare in German medical faculties. The purpose of this paper is to describe the MediMent programme, which is a model for systematic interdisciplinary support of early- and mid-phase career development for medical academics. It comprises mentoring, training and networking modules tailored for pre- and post-doctoral students at the Medical Faculty. It contributes to organisational development and reducing gender inequality by an affirmative action programme for women. The programme supports individual career-building, teaches networking skills for an interdisciplinary workplace and assists in conflict resolution.

**Design/methodology/approach** – Mentors and mentees provided feedback via standardised forms. Additional open-ended questions were interpreted by content analysis. Statistics were prepared using SPSS.

**Findings** – Evaluation of the first six-year programme run revealed several benefits, indicating the trio of mentoring, networking and the accompanying seminar series efficiently supports career development of young medical academics. Participating mentees felt they achieved career goals within the mentoring programme. Evaluations indicated a strong potential for future investment in the organisation through better training, improving institutional visibility and stimulating recruitment of excellent students.

**Originality/value** – The success of the MediMent programme described in the paper recommends it for implementation at other institutions.

**Keywords** Germany, Universities, Mentoring, Women, Career development, Medicine, Mentorship of early career faculty members, Mentorship of doctoral students, Organizational development, Mentoring and coaching in higher education, Career counselling, Human resources

**Paper type** Case study



### Introduction

Profile development, quality management and support of young medical academics are of crucial importance to assure competitiveness and sustainability of universities. In order to permanently guarantee competitive, cutting-edge research on an international level, medical faculties must face the challenge of developing talent resources and supporting young medical academics as essential providers of innovation. It is crucial to recruit high-quality employees at an early stage. Research projects are increasingly carried out by international and interdisciplinary teams supported by extramural funding. This requires that, in addition to training as medical specialists, young medical academics must gain more extensive research expertise and management skills than have been necessary in the past. They should be qualified to initiate and organise projects as well as building and leading research teams. Furthermore, they must be able to translate clinical questions into translational research projects, and present concepts and research for grant applications and dissemination of project results. Several questions remain that must be answered together with young medical academics to elucidate how universities can better prepare them for these tasks and how medical faculties can benefit from such a process: how is the decision for an academic career in the field of medicine made? What do young medical academics need to develop the clinical and research components of their careers? What is expected from young medical academics? How is it possible to combine clinical work with research and teaching? How can the educational training necessary for qualified teaching be implemented? How does one shape an individual research profile? How does one gain visibility in the scientific community? How does one develop a scientific network?

The MediMent programme, consisting of mentoring, seminars, networking, was designed to answer these questions, and help improve representation of women in leading scientific positions on a medium-to-long-term basis. It is obvious, that the academic medical community has to stop describing the problem and begin to develop concrete solutions (Mayer *et al.*, 2008). In Germany, more than 60 per cent of the medical students are women, with more than 70 per cent of them successfully completing doctoral work. The percentage of women qualified for university teaching and to pursue independent research projects (obtaining the habilitation degree) and women who obtain the rank of full, tenured professors are considerably lower.

There are a number of studies demonstrating that insufficient career-oriented support for women provided by established academics is one of the key factors in the disproportionate loss of potential female researchers in the academic field (Allmendinger *et al.*, 2000; Grant and Ward, 1996; Bagilhole, 1993). Insufficient mentoring of female researchers as well as the lesser extent to which they are integrated in the academic network are both parts of a subtly progressing disintegration, which begins at an early career stage.

As a result, women not only have less actual social capital (Bourdieu, 1986), but they face subtle actions of disregard and are often ignored. It is believed that they experience themselves to be less suitable for an academic career than their male colleagues. As a consequence, they “voluntarily” withdraw from the science field (Leemann and Heintz, 2000).

This problem is not only limited to Germany or Europe (Tamar, 2010). In July 2010, *The New York Times* wrote with regard to all scientific disciplines that “Women get more degrees and score higher grades than men in industrialised countries. Only 18 percent of tenured professors in the 27 countries of the European Union are women”

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(Brennhold, 2010). The bottom line was stated by Reichenbach and Brown, “There is a gap between gender equality and gender equity within academic medicine, gender equality refers to men and women having equal opportunity and access to resources, whereas gender equity strives for fairness and justice for men and women in the professional opportunity structure” (Reichenbach and Brown, 2004). For these reasons, MediMent also offers a programme that is exclusively directed at women.

Standardised questionnaires and additional open questions were used to control whether specific career-related and psychosocial goals for mentees were achieved. It should provide first indications the efficacy.

### **Structure and contents of the MediMent programmes**

The MediMent programme of the Medical Faculty at the University Duisburg-Essen consists of three modules: mentoring, seminars and networking. Each are described in detail in this section.

#### *Mentoring in the MediMent programmes*

Mentoring is known to be of crucial importance for human resource development (Kram, 1985; Segermann-Peck, 1991; Daloz, 1990; Bozeman and Feeney, 2007; Allen *et al.*, 2004; Allen and O’Brien, 2006). It is defined by Bozeman and Feeney as a:

[...] process for the informal transmission of knowledge, social capital (Bourdieu, 1986), and the psychosocial support perceived by the recipient as relevant to work, career, or professional development; mentoring entails informal communication, usually face-to-face and during a sustained period of time, between a person who is perceived to have greater relevant knowledge, wisdom, or experience (the mentor) and a person who is perceived to have less (the protégé) (Bozeman and Feeney, 2007).

In the past, career support in Germany has been provided, when at all, informally or by mentors who perceived personal gain from the mentor-mentee relationship. As an experienced person, the mentor informally provides his/her knowledge to a less experienced person, the mentee. In this way, the mentor supports the professional and personal career of the mentee for a limited period of time. If left to spontaneous development, this information transfer will only occur for very few people selected by a person of higher status through subjective selection. These relations are often characterised by paternalistic structures and relationships of dependence.

The MediMent structured mentoring concept invites all medical faculty members to participate in supporting young medical academics as in-house mentors. Faculty members agreeing to act as mentors participate in a personal conversation with either the project coordinator or a member of the advisory council to prepare for mentorship. The MediMent programme also provides any interested faculty members with a brochure containing detailed information about the role of a mentor within the programme. It is important to point out that the mentoring concept is based on an advisory and not an authoritarian relationship to the mentee. Mentors do not directly plan and shape the career of their mentees, but provide the mentee with objective advice and perspective so they can better plan and shape their own careers. Mentors distinguish themselves from their mentees by more extensive practical and organisation-specific knowledge from working in a related scientific field.

Mentoring is considered as supplemental to, but not a substitute for, direct professional supervision in the mentee’s field of expertise. In contrast to informal mentoring, MediMent mentors do not decide who their mentees will be.

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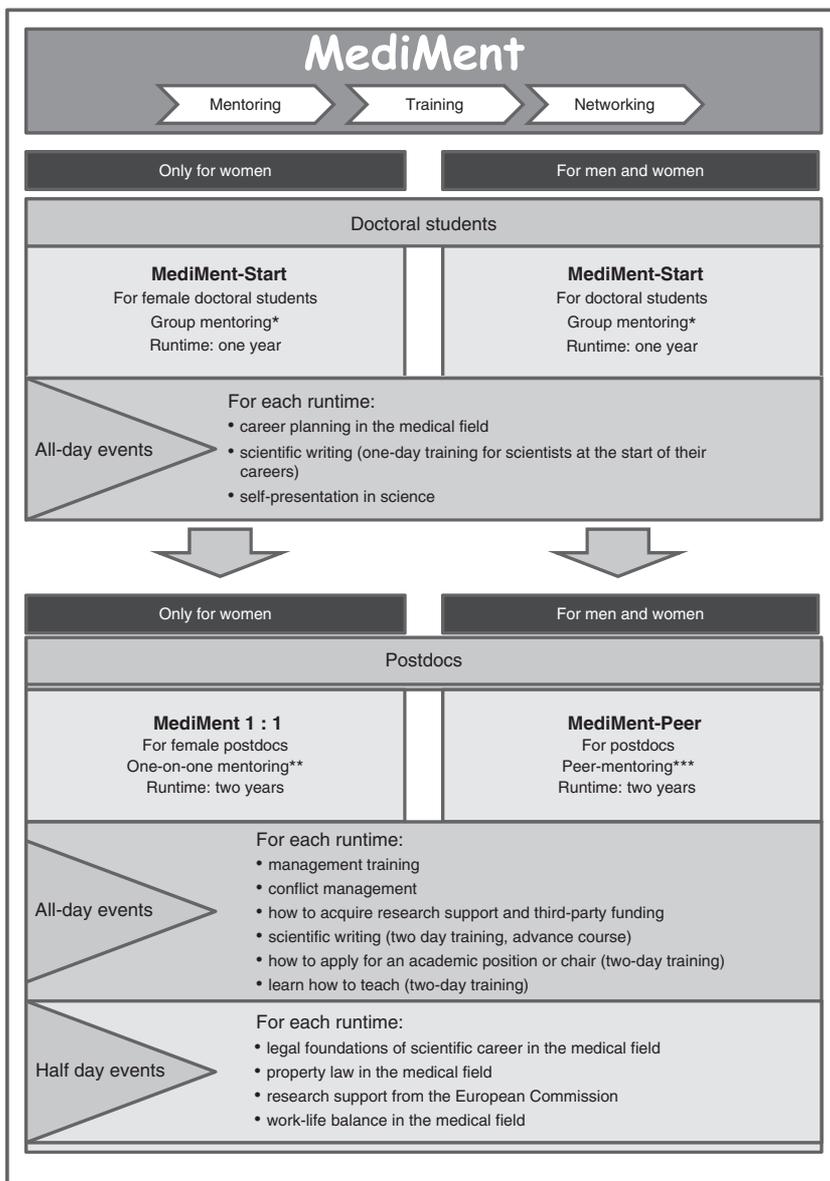
In order to actively raise the representation of women in leading scientific positions, MediMent mentoring programmes are carried out exclusively for women in alternate years. The contents of the postdoctoral programme build on the predoctoral programme. After having successfully completed their doctoral work, young medical academics may apply for one of the two postdoctoral programmes. The completion of the predoctoral programme is not required for participation. Different formats of mentoring programmes are offered to the participants, including group mentoring, one-on-one mentoring and peer mentoring. The MediMent programme is presented as an organigram showing the overall structure in Figure 1.

*Group mentoring for male and female predoctoral students in MediMent-Start.* Small groups of four mentees meet in an informal setting in the MediMent-Start programme. Project board members ask a potential mentor if they are willing to participate as a group mentor. In agreeing, the mentor puts him/herself at the mentees' disposal to answer their questions in group meetings. Mentees prepare these conversations together in group meetings where mentees can also exchange experiences and advise each other. Meetings with the mentors have the purpose of answering the following questions: is an academic career in medicine an option for me? Which steps must I take next? Is it possible to establish important contacts and profit from networks at an early stage? What kind of scientific skills and soft skills do I need? With which structures and rules of the medical scientific community must I become familiar at this early stage? The MediMent-Start programme runs for one year.

*Individual mentoring for female postdocs in MediMent One-on-One.* In the MediMent One-on-One programme, female scientists get the chance to build a one-on-one mentoring relationship with a professor in the Medical Faculty, who is not working in the discipline of the mentee. This relationship is free of any kind of dependence. This unique form of human resource development is characterised by the dialog maintained between mentor and mentee, which allows a free development of mentoring topics tailored to the mentee's needs, and is accompanied by the professional support programme. One duty of the mentor is to help open up access to scientific networks, since it is especially difficult for women to gain access to professional/academic networks due to hierarchical structures or missing connections within the medical field.

The project board consists of professors of the Medical Faculty. The project coordinator works together with the project board to match mentors with mentees in MediMent One-on-One. Preferences and goals of each mentee and mentor profiles are used as matching criteria. Project board members meet each mentee in a personal interview and know most colleagues in the Medical Faculty personally, so that character traits can also be taken into account for matching. It is, however, impossible to anticipate mutual sympathy in a mentoring relationship. If cooperation is unsuccessful, the mentoring relationship can be broken off from either side, and a new match made on request of the mentee. The MediMent One-on-One programme runs for two years.

*Peer mentoring for female and male postdocs in MediMent-Peer.* Young medical academics mutually support each other in the MediMent-Peer mentoring programme to improve their integration into the respective scientific community, self-organisation and professional networking. Peer mentoring groups consist of interdisciplinary and non-competing groups of four to six participants (50 per cent women and 50 per cent men) matched by the board committee. Peers discuss their future scientific careers with scientists in similar stages of their careers. MediMent-Peer provides a forum for mutual support by colleagues and exchange of experiences. Mentees may also invite



**Notes:** \*Groups of four to five mentees + mentor for three to four meetings;  
 \*\*one-on-one mentoring: one mentee + mentor; \*\*\*groups of four mentees,  
 possibility to invite mentors to their meeting

**Figure 1.**  
 MediMent organigram  
 showing the overall  
 structure

mentors of their choice to the meetings. These mentors give advice and accompany the group for a short period during the programme. Professors and senior scientists, who actively want to support young medical academics, can act as mentors. The MediMent-Peer programme runs for two years.

### **Seminars in the MediMent programmes**

Participating in a MediMent programme includes professional training opportunities aimed to build dedicated skills and further career-related topics. Nationally and internationally renowned lecturers with extensive experience in their respective fields conduct these seminars. Networking meetings, complementary seminars and introductory courses and a final evaluation of the programme by the mentees are part of every MediMent programme. Every seminar is separately evaluated to support further development of the workshops and seminars. The goal of these seminars is to provide mentees with key skills preparing them for future leadership functions. Training events are tailored for pre and postdoctoral student groups (thematic overview in Figure 1).

### **Networking in the MediMent programmes**

A survey of how scientists are made by Sandra Beaufaÿs (2003) has shown that next to professional achievements, acknowledgement by recognised scientists is most significant for advancing one's personal career. A scientist is defined as a scientist by the scientific community through the interplay of many complicated interactions. This idea has its root in the theory of symbolic interactionism, developed by Herbert Blumer (Mead, 1934; Blumer, 1969; Berger and Luckmann, 1966), and means that a person recognised as a scientist in their professional field attributes that fact to a process of acknowledgment by peers (Beaufaÿs, 2003). As a result, the combination of mentoring and networking to enhance interaction with members of the scientific field is of crucial importance for career advancement. The combination of both assures increased visibility of the researcher's work within their field, and in doing so also enhances their success in the scientific community (Haynes *et al.*, 2008).

### **Goals of the MediMent programme**

Mentoring within the MediMent programme aims to support young medical academics in achieving the next qualification level and being successful in their scientific work. A mentor can help the mentee become more visible in his/her home organisation. Through lively exchange with a mentor and other mentees, young medical academics have the possibility to experience their own careers in a more dynamic way, and become strongly motivated. A mentor can help mentees to define personal and professional goals and to strategically plan their careers. For example, a mentor can help the mentee to clarify the specific measures necessary for success in a certain field and to contour an individual research profile. A mentor can also give advice about setting priorities and balancing obligations in clinical work and research. Participants in the MediMent programme become better acquainted with the structures and informal rules of the scientific community, and learn how to use them effectively with mentoring.

For example mentors can provide insights into their own strategies for coping with conflicts, discuss issues of work (time) organisation, inform about new strategies and rules for passing peer-review and discuss their own experiences with "work-life balance".

Assistance and advice in establishing scientific networks improves mentee integration in both the university and scientific communities. This emphasis on networking increases the mentees' visibility among colleagues and within the research community at an early career stage. Participants have a greater chance to reflect on their research projects and further develop them by mutual exchange. Providing this

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fresh stimulus also furthers interdisciplinary research cooperations. New contacts can be made to scientists in centrally organised network meetings as well as with other mentees and in informal MediMent-Peer meetings. During networking dinners, mentors and (former) mentees have the chance to exchange experiences and maintain or establish important contacts. The MediMent programme could also be linked to similar mentoring programmes from other universities as they develop, providing participants with a larger peer network. The mentor and mentee provide each other with fresh stimulus and knowledge in the reciprocal mentoring process, enhancing both their working fields. A mentor-mentee relationship should be regarded as a complementary developing relationship, in which both sides develop personally during fulfilment of the task (Kram, 1985).

### Methods of evaluation

As described above, the mentees and project board set specific career-related and psychosocial goals (Kram, 1985) at the beginning of the MediMent programme.

Standardised questionnaires with five-point Likert scales and additional open questions were used to control whether these goals were achieved.

Mentees and mentors were asked different questions regarding the process of mentoring from their perspective as a mentee or mentor (frequency of meetings, matching of the tandem, atmosphere). They were also asked to evaluate the mentoring conversations (content, helpfulness of the answers), as well as the network activities and seminars. Finally, mentees and mentors indicated their expectations about possible synergistic effects the organisational development of the Medical Faculty.

Both mentees and mentors submitted a personal appraisal of how many of their goals were achieved and their level of satisfaction with the three modules of the MediMent programme. The evaluation we present here is based on the participant satisfaction survey of the first three MediMent One-on-One programmes containing only women (postdocs) that ran between 2005 and 2011 (Figure 1). The evaluations of the MediMent programmes for doctoral students (MediMent-Start) and for female and male postdocs (MediMent-Peer) are not yet available.

A total of 44 mentees and 24 mentors participated in these programmes, and we received completed evaluations from 32 (73 per cent) and 18 (75 per cent) participants, respectively. Open-ended questions were interpreted by content analysis (Mayring, 2008). SPSS was used for statistical analysis.

It is too early to present a final impact analysis. However, even when this analysis becomes available, it will be difficult to establish causality between MediMent programme participation and an actual career boost, since the professional success always depends on several factors, such as personality traits (e.g. self-confidence, the ability to perform under stress, achievement motivation, etc.), social background, network integration, among others. In order to achieve better reliability and validity of the statements, deeper insights into the mentoring relationship have to be gained. Referring to the state-of-the-art of mentoring research methods (Allen *et al.*, 2008) the results provided above should be triangulated with other data from qualitative research (narrative or guideline-based interviews). This is useful to further explore the role of mentoring and contemporary careers (Allen *et al.*, 2008). Taking a close look at the mentoring relationships certainly helps optimising the programme conception. Furthermore, longitudinal research strategies are essential to capture the dynamic aspects of mentoring (Allen *et al.*, 2008).

**Results of evaluation**

Overall, evaluations from the MediMent 2005-2011 programme runs show that participants were highly satisfied with the programme.

Evaluations by participants also indicated that the MediMent programme creates great potential for organisational development by reinforcing intensive networking.

*Benefits for mentees*

Self-evaluations from mentees indicated that the MediMent programme supported their strategic career planning, “The mentoring was helpful to work out priorities” and that their careers in an academic medical field had become better defined to them. Female mentees in the One-on-One mentoring programme reported motivating effects of having female role models (“My mentor has encouraged me”, “She has also managed her career while having a child”), specifically that they felt their identities as scientists were reinforced in this programme (Petersen, 2008). A summary of the mentee responses to questions about changes in their professional situation and goals they achieved during the programme is shown in Table I.

Approximately 20 per cent of the mentees reported that occasions arose in which they could present their own interdisciplinary research projects and plan further ones because of networking or mentoring from the MediMent programme. This is of crucial importance for their further integration into the medical scientific community. Due to further non-measurable factors (such as socialisation and personal factors), the extent to which these successful achievements can be attributed to participating in one of the MediMent programmes requires further clarification. However, the evaluations clearly showed that participating in MediMent strongly motivated the young medical academics to achieve scientific goals linked with their own career development.

The statement that participating in the programme has “demystified” the long way to habilitation shows that the individual skepticism as to whether habilitation is an achievable goal, was reduced.

MediMent reinforced their scientific self-conception as well as their self-confidence. Some mentees positively identified themselves with their place of work, and reported they were more satisfied with their work: “I feel happier on campus because I am better connected”. “Other mentees have similar problems as I have”.

Mentees assessed MediMent seminars as overall very good, with average ratings spanning 1.08-1.92 on a scale of 1-5. For more details see Table II.

Several remarks indicated that participants felt better prepared for their future scientific work (see Table III).

Changes in their professional situation and goals	Number of responses	% of the responses
Have achieved the next level of qualification	10	31
Presented own work at a conference	26	81
Published scientific work in a peer-reviewed journal	19	59
Launched own research project	18	56
Built a research cooperation with third parties	14	44
Received a scientific award	4	13
Received a postdoctoral research fellowship	2	6
Accepted an offer from industry	2	6

Notes: *n* = 32. Multiple answers were possible

**Table I.**  
Mentee responses about changes in their professional situation and goals

Items:	Average ratings (m)			
	1-1.99	2-2.99	3-3.99	4-4.99
				5
To which extend are you satisfied with the selected contents with regard to the topic of the seminar?	Very satisfied (1)	1.28		Very dissatisfied (5)
To which extend are you satisfied with the structure of the seminar?	Very satisfied (1)	1.34		Very dissatisfied (5)
To which extend are you satisfied with the working atmosphere?	Very satisfied (1)	1.14		Very dissatisfied (5)
The course instructor seems to be well prepared	Totally agree (1)	1.07		Totally disagree (5)
I can easily understand the course instructor's descriptions and explanations with regard to contents	Totally agree (1)	1.21		Totally disagree (5)
There are enough possibilities to ask questions	Totally agree (1)	1.08		Totally disagree (5)
The used media help me to deeper understand the contents	Totally agree (1)	1.92		Totally disagree (5)
All in all, I consider this seminar as...	Very good (1)	1.14		Very bad (5)
All in all, I consider the organisation of this seminar as...	Very good (1)	1.23		Very bad (5)
This seminar revealed new courses of action to me	Totally agree (1)	1.36		Totally disagree (1)

Note:  $n = 32$

**Table II.**  
Mentee responses about satisfaction with seminars

**Table III.**  
Selected mentee responses  
about satisfaction with  
mentoring

Items: how satisfied are you with	Average ratings ( <i>m</i> )			
	1-1.99	2-2.99	3-3.99	4-4.99
Selection of Mentors		2		5
Insight into scientific careers				Very dissatisfied (5)
Support with career planning	1.9	2.2		Very dissatisfied (5)
Insight into the scientific community		2.3		Very dissatisfied (5)
Increase of your own network within the scientific community		2.5		Very dissatisfied (5)
Insights into work processes and their organisation		2.5		Very dissatisfied (5)
Insights into work-life-balance experiences		2.6		Very dissatisfied (5)
Setting of personal goals		2.0		Very dissatisfied (5)
Deal with the strengths and weaknesses		2.5		Very dissatisfied (5)
Deepen your own research perspective		2.2		Very dissatisfied (5)
New impulses regarding the improvement of management skills in relation to multiple needs of management, clinic, research, teaching		2.6		Very dissatisfied (5)
Insights in strategies for coping with conflicts		2.5		Very dissatisfied (5)
Insights into working (time) organisation		2.2		Very dissatisfied (5)
Common reflection on publication activity		2.6		Very dissatisfied (5)
Learning about new strategies and rules for passing the peer-review			3.1	Very dissatisfied (5)
Preparing interdisciplinary contributions to journals and conferences together				Very dissatisfied (5)
			3.8	

Note: *n* = 32

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The testimony of a mentee: “The Faculty is interested in us,” shows that the need-based nature of personnel development measures for young academics is perceived as a personal appreciation. It can be assumed that this emanates a further motivating effect.

#### *Benefits for mentors*

Participating mentors reported that they profited from exchanging interdisciplinary knowledge and experience with their mentees. Mentors also indicated that the MediMent programme helped increase their own contacts, and prompted reflection on their own leadership experiences and personal careers. By interacting freely and easily with their mentees, mentors gained new insights into the situation of young medical academics.

#### *Benefits for the organisation*

All participants of a mentoring programme developed new knowledge resources and synergy effects by learning with and from each other. In the sense of a “learning organisation” (Senge, 1990), mentees and mentors contribute to organisational development of the Medical Faculty by transferring personal knowledge to collective knowledge. Looking back on many years of experience in leadership, participating mentors see advantages for organisational development in motivated employees who regard their status within the university as enhanced by this programme (Petersen and Sauerwein, 2010). This contributes to retaining the most committed young medical academics with the greatest potential for development at the university hospital, evidenced by the high number of research projects initiated by postdoc mentees and mentors that acquire third-party funding. Although it is impossible to calculate exactly how much the MediMent programme influenced the success of acquiring funding, it is probably that the frequent use of interdisciplinary advice at such an early career stage via MediMent mentoring at least influences this success rate. Peer mentoring and group mentoring very likely will reinforce interdisciplinary discourse and research by extending the existing networks.

In summary, the MediMent programme is useful to:

- promote recognition of and innovative potential for women in science;
- support pursuit of set goals by young medical academics;
- improve mentee motivation and willingness to achieve scientific goals;
- reinforce employee identification with the university;
- make science more interesting, especially for young female scientists;
- support interdisciplinary cooperation;
- stimulate communication within the university; and
- reduce dropout rates for talented young medical academics.

#### **Discussion/conclusion**

The MediMent programme explicitly invites young medical scientists to consider academic research as a career option. It opens up knowledge resources and systematically uses them to support young medical academics in their individual career development. This knowledge is otherwise difficult to acquire through standard

training and educational channels. Mentoring that reinforces interdisciplinary cooperation and assists building methodological skills on an individual level is eminently suitable to develop and strengthen skills of young medical academics. Individual mentoring provides personal feedback for how to deal with one's strengths and weaknesses, which is important for developing a personalised career concept. Mentoring also helps to develop self-reflection in young academics, a trait important for identifying strengths and weaknesses. The sustainability of the MediMent programme lies in complementary effects from the interaction between mentoring (peer, one-on-one and group), the seminar programme and networking.

On the organisational level, the MediMent programme creates a supporting culture by establishing learning contacts on a social level between mentors, their mentees and within peer groups. This supporting culture creates a work environment that is more transparent, cooperative, appreciative and fairer than the often criticised traditional behavioural structures. In this way, one strategic benefit of supporting young medical academics lies in its positive effect on communication within the Medical Faculty. Incorporating the different perspectives from men and women as a topic within the context of this programme makes organisations more sensitive to equal opportunity and assists gender mainstreaming. In addition to mentoring both young men and women entering the medical sciences, the MediMent programme also supports female scientists with the presence of female role models as mentors to further increase the efficiency and excellence of women in medical science.

To sum up, there are three key aspects of the MediMent program that make it valuable for any medical faculty:

- (1) the programme is an innovative instrument for human resources development and promotion of young talents;
- (2) it contributes to a more equal representation of women in academic leadership positions; and
- (3) MediMent acts as a knowledge management technique for creating and sharing knowledge, that can be used for organisational development.

The success of the MediMent programme recommends it for implementation at other institutions.

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