



TRIGGER Research Working Paper Series

Working Paper No. 3

Mentoring for Women Academics: a Review of the Literature and Proposition for Future Research

by

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Mentoring for women academics. A review of the literature and proposition for future research

Abstract

We aim to review literature on mentoring in academia, with a focus on women at an early stage of their academic career: mentoring has been recognised as an important instrument to foster careers and address the gender imbalance in science. However, while mentoring initiatives for women academics are flourishing, most of these experiences are not discussed in scholarly literature: this does not help to understand the role and implications of mentoring in women's academic careers and in fostering gender equality in universities. Furthermore, empirical literature underlines that there is not an agreement on the definition of mentoring; indeed, such literature is often poorly grounded from a theoretical and conceptual point of view. This means that drawing comparisons among different studies is challenging, and also, learning from best practices is compromised. This literature review maps and discusses research on academic mentoring for women: more specifically, we aim to detect the challenges associated with academic mentoring, and provide categories and concepts to scholars in education and management for conducting future research.

1. Introduction

The relevance and need of mentoring to support newcomers and especially minority groups in organisations has been underlined for decades (Allen, Eby, O'Brien, & Lentz, 2008; Kram, 1983). Mentoring broadly indicates a relationship where a more expert person - the mentor - provides advice to a less expert one - the mentee. Daloz (1999), referring to the character of Virgil in Dante's *Divine Comedy*, writes that the mentor's role would be that of "engendering trust, issuing a challenge, providing encouragement, and offering a vision for the journey" (Daloz, 1999, p. 30). Actually, there is an aura of mythology around mentoring: the word itself comes from "Mentor", the name of the old sage (personification of the goddess Athena) who took care of the young Telemachus while his father Odysseus was away in the Trojan war.

Coming back to our days, Megginson and colleagues define mentoring as "off-line help by one person to another in making significant transitions in knowledge, work or thinking" (Megginson, Clutterbuck, Garvey, Stokes, & Garret-Harris, 2006, p. 4). Schramm (2004, p. 64) underlines the developmental aspect of this relation, and adds that the mentor should "challenge the mentee to go beyond the comfort zone". These definitions may appear wide, but they underline well the basic features of mentoring: mentoring implies an exclusive relationship in which a more experienced person provides strategic advice to facilitate the professional and personal development of another, less experienced one. The breadth of this definition is considered by many scholars a problem: as noted by Mullen (2009), today the word mentoring is used interchangeably not only with advising and supervising, but, among others, with coaching, leading, teaching, and socializing, thus making comparisons difficult.

In this review, we focus on those studies where mentoring involves a relation beyond supervision, line management and probationary processes, and that aims to enhance the career trajectory of a

(female) mentee in academia. We aim to investigate and clarify the role of mentoring in higher education, with a focus on mentoring women academics, and proposing a model to guide future research. Mentoring is considered an instrument to support the advancement of women and minorities. More institutions are committed to fund and promote mentoring programmes: mentoring for women academics is widespread in most universities in the UK (Hawkes, 2012), Germany (Gottschall, 2010; Zuber, 2010), and Switzerland (Jäger, 2010), but the European Commission and the National Science Foundation in US also support the creation of mentoring programmes and networks (Nöbauer & Genetti, 2008; Rosser, 2010). Mentoring should help to tackle horizontal and vertical segregation of women in academic careers: women are still underrepresented in many scientific disciplines (the “STEMM” subjects especially, i.e. science, technology, engineering, mathematics, and medicine), and in the middle and especially the highest ranks of academic careers (EC, 2008, 2012a). Former EU-funded projects have demonstrated the positive role of mentoring for women; nevertheless, it is still too early to understand its long-term effects on academic careers and challenges persist, since in many institutions and EU countries mentoring is almost non-existent (ASDO, 2009; Fügen, et al., 2008).

It is worth noting that mentoring has been applied in very different organisations, and the business sector has been more ready to exploit the potential of mentoring: as underlined by Boyle and Boyce (1998), universities have a “laissez-faire” approach to mentoring, this meaning that they are not likely to be proactive in supporting mentoring initiatives and underlining the relevance of this instrument. Kram’s (1983) seminal contribution greatly inspired research on mentoring: Kram focuses on a large public organisation in the US, and she underlines the outcomes of mentoring for the mentees, distinguishing between career (such as sponsorship, exposure-and-visibility, coaching, protection, challenging assignments) and psychosocial functions (role modelling, acceptance-and-confirmation, counselling, friendship), this showing how this process can encompass more domains and be quite complex. Still today, effects of mentoring are often conceptualised following these functions.

It is possible to distinguish between different types of mentoring: it can be informal or it can be organised along formal programmes, in which the mentee’s needs are analysed and, on the basis of those, the mentee is matched with a mentor; the development of the mentorship is guided and it is supported with training and networking opportunities. The more traditional type of mentoring is constituted by the dyad mentor-mentee, but other forms of mentoring are also possible, such as: peer mentoring, i.e. colleagues mentoring one another (Driscoll, Parkes, Tilley-Lubbs, Brill, & Pitts Bannister, 2009); group mentoring, i.e. a mentor (or more) mentoring several mentees, as described in the “mentoring circles” by Darwin and Palmer (2009); and mentoring consortia, i.e. more organisations building a joint mentoring programme (Fügen et al., 2008; Nöbauer & Genetti, 2008). The work by Wunsch (1993) constitutes one of the first contributions focused on a formal mentoring programme for academic women: the design of the programme she presents, i.e. one-to-one mentoring with training and workshops, can be considered exemplar.

We maintain that a literature review focused on mentoring in academia and on its role in supporting women’s careers can be beneficial to both scholars and practitioners, because it will allow us to: (1) further understand the role of academic mentoring, which different types of mentoring have been tried, in which settings and with which effects; (2) investigate how mentoring can be used to favour the development of female academics’ career trajectories; (3) propose a model that can guide future

studies and will help in developing a more consistent research agenda. The most recent literature review on mentoring women is the one by Hawkes (2012): this provides a good basis for our arguments, and we will draw on that especially to discuss the implications of mentoring for women and drawing a research agenda; indeed, these points are not addressed in detail by Hawkes (2012) who is instead more focused on working out good practices.

1.2 The mentoring literature: starting points

Mentoring literature emerges from the growth of mentoring in organisations. Especially from the 70's onwards, organisations have been committed to favouring mentoring or even establishing formal mentoring programmes. The rationale is that such a relationship can help the mentee to better understand the organisational context and career opportunities, avoid isolation, and access relevant networks. Clutterbuck and Ragins (2002) underline that mentoring initiatives can vary in relation to their aims, target groups, and specific functioning or design. Allen and colleagues (2008) provide an up-to-date review on mentoring, including mentoring in different types of organisations: they show that most of the studies on mentoring come from the US, and, in general, mentoring research still appears in a primitive state, being characterised by few methodological approaches, few theory and measurement developments, and a lack of longitudinal studies.

Effects, or outcomes, of mentoring for the mentees are a very common topic in the literature (Allen, et al., 2008; Ugrin, Odom, & Pearson, 2008). In general, the positive outcomes are underlined: Eby, Allen, Evans, Ng, and DuBois' (2008) review distinguishes between youth, academic, and workplace mentoring, and stresses the favourable outcomes for mentees, especially in the case of academic mentoring; Ehrich, Hansford, & Tennent (2004) review several programmes, including academic mentoring schemes, and underline the positive effects for mentors and mentees; this is confirmed by Schrodt, Cawyer, & Sanders' (2003) and Cawyer, Simonds, and Davis' (2002) studies on new faculty members in US. On the other hand, an old contribution by Clawson (1985) underlines how having a mentor did not make any difference to mentees, and as a consequence the author dismisses the need for formal programmes. Tolar (2012) reports experiences of women mentees and underlines how mentoring can, at the same time, provide beneficial opportunities and hinder women's contributions. Inconsistency of findings can be due to differences in definitions, but also, the mentoring literature is built on different epistemologies, this implying that there are important differences in recruitment of participants and methods applied (de Janasz & Sullivan, 2004); additionally, some papers do not explain the specific type of mentoring that is going to be investigated (Zellers, et al., 2008), although when considering the effects of mentoring it is necessary to consider the type of mentoring, because this has an impact on the results (Lillian T. Eby, et al., 2008).

Boyle and Boice (1998) underline that historically academia has been less proactive compared to other organisations in promoting mentoring initiatives, this being underlined more recently by Eby, Rhodes and Allen (2007) and de Janasz and Sullivan (2004); Mullen (2009) argues that the present orientation to metrics does not help in cultivating a culture of mentoring. However, experiences of introducing mentoring in academia have proven to be positive: for example, Wunsch (1993) reports the benefits of one of the first programmes dedicated to women; Johnston and McCormack (1997) report on the benefits of a mentoring programme designed to enhance the research potential; Madison, Knight, and Watson (1993) report the positive experiences in Australian universities. There

are some critical aspects in relation to mentoring in academia, and especially when referring to formal mentoring programmes: for example, time and inertia can become critical factors hindering participation in activities (Boice, 1992; Harnish & Wild, 1994); other factors are related to a mismatch between mentor and mentee (Bell & Treleaven, 2011; Ehrich, et al., 2004). Furthermore, Zellers and colleagues (2008) stress that because academia is quite an individualistic environment, junior members especially may feel uncomfortable showing a need for mentoring and can even feel stigmatized for participating in a programme: this inhibits not only individual participation, but also the establishment and development of mentoring programmes in the long term.

The rationale behind the need for mentoring to support minorities and disadvantaged groups inside organisations can be explained by the fact that majorities and people with higher status can usually count on more networking and development opportunities, while minorities risk being marginalised and excluded from the channels helping to advance one's own career. In relation to academia, it seems that a bias exists: this bias brings more senior academics to favour those with whom they identify, and consequently, men may favour other men; Johnson (2007) refers to this as "the cloning phenomenon", while van den Brink and Benschop (2014) speak about "homophily". Moreover, minorities and marginalised groups tend to suffer from restricted power (Ragins, 1997). These dynamics have important implications in relation to diversity in academia, given that the more senior positions are mostly populated by white men (Dixon-Reeves, 2003; Garrett, 2006; Perna, Lerner, & Yura, 1995). Additionally, minorities can experience different issues compared to the white male majority: for example, Quinlan (1999) points out how women in academia often engage in very different career paths, have less continuity in their CV, and experience more stress and greater isolation. All these considerations have important implications on how formal mentoring programmes for women and minorities should be run. For example, it is more likely that matching mentor and mentee from the same gender and ethnicity will help the relationship to develop because people from the same group feel more comfortable in relating to each other, especially in a relationship involving a newbie with an expert (Chesler & Chesler, 2002; Gibson, 2004), but there may be fewer mentors available from minority groups (Johnson-Bailey & Cervero, 2004; Tillman, 2001). Furthermore, white male mentors may be better networked and better able to provide mentees with the relevant connections and strategies: the study by Ugrin and colleagues (2008) shows that mentees involved in cross-gender and cross-ethnicity dyads were even more productive scientifically; on the other hand, mentoring is not only about scientific productivity but especially about personal development, and it should not replicate the same structures of power and paternalistic relationships, but challenge them.

In the next section, the aims and criteria for this review will be presented, so as to be able afterwards to further comment on relevant literature, to underline the main findings and the pitfalls, and finally present a model that can guide future research.

2. Aims of the review and methods

This review focuses on mentoring for women academics at any level from doctorate to professorship. We aim to highlight the current debate and state of the research on mentoring female academics, specifically clarifying:

1. What is meant by mentoring female academics;

2. What is the rationale behind the need for mentoring women and designing women specific programmes;
3. Which types of mentoring have been experimentally tested to enhance women's academic careers;
4. What are the main topics emerging from research on mentoring academic women;
5. What are the effects of mentoring, for the mentors, the mentees, and the institutions involved;
6. By considering all the points above, how can we design a model that can support future research in the field?

This review has been first guided by a general knowledge of mentoring: the first author has five years' experience of coordinating academic mentoring programmes in Switzerland; what is more, all the authors are currently involved in the European project TRIGGER on gender in science, in which mentoring represents an important part. This background knowledge and experience possessed by the authors instilled further interest in the topic. We wanted to be better informed about the literature and what it offers about mentoring academic women and how both literature and practice can be advanced.

To conduct a thorough review, we searched EBSCO Academic Search Complete, ABI/INFORM Global, and ERIC: these databases together cover the disciplinary areas of education, psychology, management and business studies. EBSCO includes more databases, and Business Source Premier and PsychINFO were accessed specifically for this paper. ABI/INFORM Global is focused on business and management research; ERIC is focused on education. An initial search was conducted in October 2014, and a second one in September 2015; the results presented here refer to the more recent search.

An advanced search was conducted with the following keywords: mentoring (in the title), academia or university (in the abstract), and women (in all text). Other combinations, with slightly different terms, have been applied (for example, mentor in the title field), but the combination above gave the better list. EBSCO produced a list of 65 results comprising publications from 1991 to 2015 (45 academic journals, 10 dissertations, and magazines articles)¹; ABI/INFORM retrieved 62 publications from 1989 to 2013 (54 journal articles, plus dissertations and one magazine article); ERIC retrieved 62 results from 1986 to 2015 (37 journal articles, plus evaluative or descriptive reports and a few dissertations)². First, we went through the abstracts of these studies to make a selection using the following criteria:

1. Research published on academic journals, conference proceedings or dissertations;
2. Empirical research investigating mentoring for women in higher education (from doctorate to professorial level);

¹ EBSCO provides users with the possibility to create a permanent link to their search:

[http://search.ebscohost.com.ezproxy.lib.bbk.ac.uk/login.aspx?direct=true&db=buh&db=psyh&bquery=\(TI+mentoring\)+AND+\(AB+university\)+AND+\(TX+women\)&type=1&site=ehost-live](http://search.ebscohost.com.ezproxy.lib.bbk.ac.uk/login.aspx?direct=true&db=buh&db=psyh&bquery=(TI+mentoring)+AND+(AB+university)+AND+(TX+women)&type=1&site=ehost-live)

² ERIC provides users with the possibility to create a permanent link to their search:

[http://eric.ed.gov/?q=\(title%3amentoring\)and\(abstract%3awomen+AND+academic\)](http://eric.ed.gov/?q=(title%3amentoring)and(abstract%3awomen+AND+academic))

3. Papers defining mentoring as a peculiar form of relationship, that is not related to supervision or line management relationships;
4. Formal mentoring programmes involving women academics;
5. Reviews of mentoring literature focused on mentoring for women academics, following the four criteria above.

The following have been excluded: papers not referring to academic mentoring for women, and papers referring to youth or workplace mentoring, mentoring of undergraduate students, supervisory relationships, or not investigating gender differences. In the case of ERIC, it is possible to apply this selection automatically.

From EBSCO, 15 studies have been retained; 14 from ABI/INFORM, and 11 from ERIC. One overlap was found between EBSCO and ABI/INFORM, and one between EBSCO and ERIC. Publication years ranged from 1983 to 2015; it was decided to focus on studies published after 2000, since the ones published in the previous years (5 in our lists) have been covered by more recent literature. In the end, 33 studies have been included. Also, some of these studies cited relevant research that we could not find in our search, and we decided to consider it when it fulfilled the inclusion criteria above. In the appendix we present a table of the included studies with their methods.

We went through the included studies and grouped them following their main aims and findings, as explained in the next section. To better frame the arguments presented in these papers, we will first focus on why mentoring for women is important.

3. Mentoring women academics: insights form the literature

The challenges encountered in this review are related to the fact that literature on mentoring is highly fragmented and often mentoring refers to both formal and informal initiatives; what is more, mentoring initiatives can underpin very different forms of relationships, as commented upon in the introduction. de Janasz and Sullivan (2004) note the paucity of research on academic mentoring, and Zellers, Howard and Barcic (2008), given the peculiarities of the academic profession, argue for the need to build a consistent research agenda.

Literature focused on mentoring academic women is mainly concerned with the effects for the mentee, who is often centre stage because they represent the actor who is considered to be in need of help. However, we noticed that often these studies are based on self-reported, subjective measures, and they are focused on the short term. More specifically, the studies reviewed can be grouped along these four main topics:

1. The mentee's perspective and mentoring outcomes;
2. The mentors' perspective;
3. Group and multiple mentoring as a strategy for fostering support and networking;
4. Mentoring women as a resource for fostering institutional change.

This grouping aims at providing a quick overview on this literature, following aims, methods, and implications presented in these studies. Sometimes it is not easy to draw clear distinctions between

one group and the other, and these groupings are not mutually exclusive. What is important is the main underlying message shared by the studies in each one of the four groups: in the first case, that mentoring is beneficial because it has positive effects for the mentee (this the most recurring topic); in the second, that the mentor role is particularly relevant for a good mentorship; in the third, that a move from the dyadic to the group relationship is beneficial; in the last, that mentoring should be used to change institutions. Table I in the appendix groups the studies retrieved in our search and considered for this review; below, we will comment on the ones reporting particularly relevant or unexpected findings.

3.2 The mentee's perspective and mentoring outcomes

Gardiner, Tiggemann, Kearns, and Marshall (2007) provide the most complete empirical study on mentoring for female academics: they focus on a formal programme for junior female academics in an Australian university, involving 22 women mostly at the Lecturer level, and try to understand the outcomes for the mentees. They distinguish between objective (promotion, grants and publication achievements) and subjective outcomes (participants' perceptions of their careers). The relevance of this study is that not only do the authors draw on a longitudinal design, this being remarkable in the literature (data are collected at three points in time, in 1998, 1999 and 2004), but also, they draw comparisons with a control group of 46 not-mentored women. The mentored group had more achievements in terms of promotion and research grants, even if there were not any significant differences in relation to career and job satisfaction. In general, the mentees showed great satisfaction for having the possibility to receive feedback and guidance, and having somebody to converse with.

Gibson's contributions (2004, 2006) are also relevant. She draws on an in-depth study of women mentees, and underlines both the benefits and the drawbacks of mentoring, and how women feel more comfortable to be mentored by other women. Among the benefits are having someone who cares about one's own career, not feeling isolated, feeling reaffirmed in one's own worth; among the most serious drawbacks are the fact that one participant experienced being confronted with a mentor who reported information back to other senior people in the mentee's department. Conversely to the contribution by Gardiner and colleagues (2007), in this case mentees self-selected themselves stating that they had been involved in some mentoring activity, and we do not have specific information on the type of mentoring they participated in previously (they may be referring to informal mentoring networks).

Bell and Treleaven (2011) underline especially how the mentee's outcomes are related to a good match between mentor and mentee, a factor that seems particularly important in formal mentoring programmes (in informal mentoring this happens on a spontaneous basis and usually on a pre-existing common interest between mentor and mentee). They draw on their own experience in designing and conducting mentoring programmes, and report how they addressed a problem they had in their first pilot: mentees had been asked to select their own mentor on a database of academics who volunteered, but 40% of them did not select any. They report that, in subsequent iterations of the programme, assisting the mentees has been particularly important. While the authors argue about the importance of this process for women especially, their conclusions do not further reflect on this.

We found several accounts focused on the authors' own experience, and these offer a very interesting perspective. Similarly to Bell and Treleaven (2011), Driscoll, Parkes, Tilley-Lubbs, Brill, and Pitts Bannister, (2009) focus on their own experience of organising and managing a women peer mentoring group, and underline the positive effects this had not only in terms of building a network and improving research skills, but also of understanding the organisation and one's own role. Schramm (2004) reflects on her experience with three different mentors all along her career path, and on the benefits of being mentored by other women, with whom she could feel more comfortable to speak about the discriminations she experienced.

Gender is not the only important aspect to be considered in relation to mentoring: ethnicity is particularly important, especially in those disciplines in which women represent a minority. Grant and Simmons (2008), and Grant and Ghee (2015) analyse the experiences of African-American women and PhD students: they underline the benefits of mentoring, but also the need to provide additional support strategies to women belonging to ethnic minorities. Buzzanell and colleagues (2015) critically analyse the narratives of women of colour in a faculty of engineering, stressing how their experiences of mentoring are characterised by ambiguity, vulnerability, and suspicion; they argue that mentoring systems often reproduced the narratives of the elite group. Other studies focused on black doctoral students give relevant insights on how mentoring works for minorities: both Garrett (2006) and Dixon-Reeves (2003) surveyed, respectively, near to completion and recently awarded PhD students of African origin. Most of the students who had a mentor reported a high degree of satisfaction and good career outcomes; however, from the second study, it emerged that black men were more likely to act as a mentor, instead of black women, this potentially having implications for the advancement of women themselves, but also, being a possible sign of the overload that black women may experience.

The literature investigating the outcomes for the mentees stems from different epistemologies and applies different methods: some contributions are based on surveys, and use gender as a control variable; the issue is that most of these do not further investigate implications for designing mentoring programmes and do not reflect on the issues related to cross- or same- gender matching. For example, Bilimoria, Perry, Liang, Palo Stoller, Higgins and Taylor (2006) surveyed more than 248 professors from the same private US university, and show the relevance of mentoring for job satisfaction; they pinpoint to some gender differences, i.e. men tend to focus on academic resources while women on internal support networks. Çetin, Kizil, and Zengin (2013) test a model to analyse the relationship between mentoring, organisational commitment and job satisfaction: while they could not find a relationship between mentoring and job satisfaction, they show that mentoring has an impact on commitment and, especially, they find that gender impacts on two of the four sub dimensions of commitment (continuance and normative); however, the authors do not go into the implications of their study for designing mentoring initiatives. It is nevertheless remarkable that Gardiner and colleagues (2007), even if starting from very different assumptions, come to the same conclusion in relation to job satisfaction. Kirchmeyer (2005) studies 142 American academics in accounting, and shows that mentoring influences on career progression and salary, more than on performance; mentees often rely on several mentors (but on average mentors are fewer than 2). Also, in this case, as in the previous two, the study participants self-selected themselves; what is more, there is no investigation of possible gender differences.

Some contributions are especially focused on disciplines in which women are strongly underrepresented, such as informatics, engineering, and academic medicine. Kosoko-Lasaki et al. (2006) focus on three mentoring programmes for junior women and minority faculty in two different academic health centres, and stress the achievements in terms of increased retention rate and personal satisfaction; mentoring involved cross-gender and cross-ethnicity pairs. Ugrin and colleagues (2008) focus on information system departments in US business schools and come to similar results when checking the effects of mentoring on academic productivity; but also, they find that female mentees declared to prefer a male mentor, this contradicting Gibson's (2004,2006) contribution mentioned above. The authors explain that the more individualistic and goal-oriented nature of academia in respect to workplace probably impacted on this result. It is worth underlining that this study has a strong focus on the publication pipeline, and mentors are represented by the dissertation chairs of the mentees; this means that this relationship is *per se* very different from mentoring relationships where the mentor does not officially have any obligation towards the mentee and the mentee is looking for a different kind of support.

3.3 The mentor's perspective

A smaller part of the literature focuses on the mentor's perspective. In fact, this topic emerged more recently and is still overlooked by the literature, as argued by Füger & Höppel (2011) who rely on their experiences in designing and coordinating mentoring programmes. Pisimisi and Ioannides (2005) focus on women in engineering, and present a study, conducted at the European level, on the ideal characteristics of the mentor. From this survey it emerges that most of the respondents, even if they repute that the disciplinary background is relevant (it can facilitate communication between mentor and mentee), this is not enough: more important are social skills (the mentor should be a charismatic leader and a role model), the professional role and status of the mentor, and previous experience and training in mentoring. Childress Townsend (2002) focuses on computer science and claims that mentor and role models can help increase the number of women in this field, where they are especially underrepresented. The author presents advantages and possible drawbacks of mentoring and guidelines for mentors and mentees. She points out that the best mentors should be good listeners and problem solvers, approachable, available, and supportive, but without turning the mentorship into favouritism. The main cons of mentoring are that it requires time and energy, and also that the mentor can become too closely associated with women's issues such that the disciplinary community seems to forget about all his/her other achievements.

In relation to these studies, we underline, first, that they are focused on specific disciplines but do not further investigate how disciplinary cultures impact on mentoring and on the mentor/mentee role. Second, we notice that, even if the role of the mentor is centre stage, such a role is investigated always referring to the mentee's needs and how to better satisfy mentees, while the authors could, for example, further investigate the challenges and outcomes of being a mentor. In relation to this last point, Lechuga (2011) and Füger & Höppel (2011) provide a notable contribution. Lechuga focuses on mentors from underrepresented groups in STEM disciplines and on their experiences with their graduate students (in fact, here mentoring and supervision overlap); the author underlines especially how mentoring goes well beyond the master-apprenticeship relation, and involves becoming "allies" and "ambassadors" for the mentees; however, the author states that he could not draw conclusions regarding how the status of minority impacted on the relationship. Füger & Höppel (2011), based on their experience in coordinating a European network of mentoring

programmes, underline how mentors should be “partners for change”, for the mentee and for the institution, and how training is important for that. Fuger & Hoppel (2011) present a contribution by Alean-Kirkpatrick (2011): drawing on her experience as a trainer, she reports about mentors’ expectations; it is particularly interesting to see that mentors expect also to receive something from the mentorship and to grow professionally and personally; additionally, they think that not being in a supervisory or line management position constitutes an advantage for the relationship; the issue of time constraints and time management emerges in this case as well.

3.4 Group and multiple mentoring as a strategy for fostering support and networking

Several scholars stress the need for shifting from the traditional one-to-one mentoring model to group mentoring, where mentees are grouped and can rely on several mentors: this model should be better able to address the challenges of present academic careers (Bristol et al., 2014; Collins et al. 2014; Darwin & Palmer, 2009; de Janasz & Sullivan, 2004; Sorcinelli & Yun, 2007). De Janasz and Sullivan (2004) note that, although the relevance of senior academics’ support in promotion procedures has been clearly shown (Bensimon, Ward, & Sanders, 2000; Sorcinelli, 2002), in academia the “sink or swim” model still seems to exist, and this does not help in creating a culture of mentoring. The opportunity for mentees to rely on several mentors could help in an academic world that is increasingly competitive, changing and diverse; however, they do not report on any specific experience and also, they do not focus on implications in relation to gender. Sorcinelli and Yun (2007) build on de Janasz and Sullivan’s (2004) arguments, and they present several resources to draw on for designing group mentoring programmes.

Empirical research on this topic is still in its infancy, and most of it is very recent. Van Emmerick (2004) shows that mentoring is positively related to job and career satisfaction, and that the size of “developmental network” has a positive impact on career satisfaction, especially in the case of women. The author notes that a longitudinal perspective may be useful to understand how networks develop through the careers of women and men.

Darwin and Palmer (2009) report on a study of a “mentoring circles” programme at the University of Adelaide: three groups of researchers and academics at different levels met several times over six months to discuss career related issues. This pilot underlines the benefits and limits of group mentoring: benefits are increased opportunities of learning from others, sharing information, and avoiding isolation; challenges are related to time and to unpredictable group dynamics. However, we have information about the gender composition of one group only and the authors do not focus on gender dynamics. Wasburn (2007) discusses a case of a programme that, similarly to the one above, mixes peer mentoring with support from more experienced colleagues, but with a specific focus on advancing women; as a drawback, she reports the lack of one-to-one contact with mentors and too few meetings. We mentioned Driscoll and colleagues’ (2009) study on a peer support group focused on writing: at the beginning the group was facilitated by a more expert person, but then it began to run on its own with benefits for all the participants: this contribution shows very well how sharing information, knowledge and experience within a group supports personal and professional growth; this has been helped by setting clear objectives (academic writing and publications), but also, the authors note how participants started, as the mentorship progressed, to introduce new topics and the groups became an intimate space for discussion.

Allen and Finkelstein (2003) focus on professional employees within a US university, and try to investigate all the different types of developmental relationships they rely on other than mentoring; we are not presented with a clear definition of mentoring, but what emerges from this study is that both women and men employees are likely to develop several sources of support, these including co-workers, peers, supervisors, family members and friends. Differences between women and men are present in relation to the functions provided by these relationships: men emphasize that they could gain additional perspectives, while women emphasize support and coaching.

3.5 Mentoring women as a resource for fostering institutional change

Interestingly, several studies stress that mentoring can be not only a resource for fostering academic careers, but also an input for orienting academia towards policies supporting diversity and gender equality, even if these changes are visible only in the long term and are the most difficult to attain (de Vries, Webb, & Joan, 2006; Fügler & Höppel, 2011; Jäger, 2010). Gibson's (2006) contribution builds on her previous study (Gibson, 2004) and focuses especially on organisational politics: she shows how understanding organisational structures is particularly important and is a fundamental part of mentoring, since these impact on the mentoring experience itself, and she argues that universities that are careful to provide mentoring for women (or even to ground it in formal career development initiatives), can be more likely to transform themselves into better workplaces.

de Vries, Webb, and Joan (2006) focus on the evaluation of a mentoring programme for women in Australia, and they focus on the mentors' perceptions about mentoring (while the programme recruits women-only mentees, it recruits both women and men as mentors). They found that mentors became more aware of the challenges of junior faculty and of the relevance of gendering processes, this meaning that mentoring has the potential to push organisational change. Jäger (2010) builds on de Vries and colleagues' (2006) contribution to investigate the effects of ten years of women-only mentoring programmes in Swiss universities: while benefits for mentors and mentees are clearer, the effects in term of institutional change are still ambivalent and difficult to ascertain. These two studies are echoed in Fügler and Höppel's (2011) contribution, where they argue that mentor's training is especially relevant and its content can be designed so as to sensitize mentors to gender equality and institutional change; they state that the role of the mentor should be centre stage in the process of change. The short contribution by Brennan (2000) does not explicitly mention institutional change, but it underlines as well the importance of mentoring to overcome gender discrimination in academic disciplines, and reports on some difficulties in recruiting women to engage in a pilot programme; these reflections underline how organisational cultures are difficult to change.

4. Summary of the literature

After having presented the relevant literature, we can make several observations in relation to the studies considered. First, it has been challenging to focus our literature review on mentoring female academics. The overlap between mentoring and supervision is apparent. Also, other than studies focused on formal mentoring programmes, we have found several examples of research investigating the experience of academics (women and men) involved in both formal and informal mentoring; in this second case, often we did not have many details about the functioning of the mentorship. Second, mentoring literature is based on very different epistemologies, especially when

investigating outcomes for the mentee: from experimental and survey designs, inspired by a positivist approach, to phenomenological and auto-ethnographic studies, inspired by a constructivist and subjective stance. Each of those provides a different contribution: if the big numbers addressed by surveys appear reassuring since the findings tend to stress the benefits of mentoring, on the other hand, studies embracing qualitative approaches further deepen the implications of mentoring for gender equality. Third, many interesting studies reporting on mentoring programmes lack a clear theoretical grounding.

Going back to the aims stated in section 2, we are now able to provide consistent answers. Mentoring literature focusing on women's experiences and on the implications of mentoring for gender equality usually draws on data coming from formal mentoring programmes designed for women, where mentor and mentee are matched, following the mentee's needs, and have the opportunity to participate in training and workshops; mentees are commonly young female academics before tenure; this is by far the most experimented type of mentoring. The rationale described by Wunsch (1993) provides a guide for many mentoring programmes. A considerable amount of empirical research on formal mentoring programme is often related to, or is part of, the evaluation of mentoring programmes, and often it is authored by researchers who have also participated in the design or coordination of mentoring programmes. Most of these studies are based on a qualitative design and on subjective measures, with the exception of Gardiner and colleagues (2007), who also consider objective outcomes in terms of career. Mentoring based on peer support and group interactions is emerging and results are interesting, especially in the light of Driscoll et al. (2009) and Darwin and Palmer's (2009) contributions. There is an important collection of studies focused on mentees' needs which draws on quantitative and experimental designs, but often these studies do not investigate in depth the implications in terms of gender.

The rationale behind the need for mentoring women and designing women specific programmes is often taken for granted or just briefly explained: providing women with mentoring programmes expressly designed for them is especially a matter of counterbalancing the existence of networks, informal habits, hidden rules, and biases that negatively impact on women's careers.

While several studies underline the positive effects for the mentee's career, and the mentee's personal satisfaction in participating in mentoring programmes, there is little evidence showing its effects for both the mentors and the mentees in the long-term. The studies by Gardiner and colleagues (2007) and Kosoko and colleagues (2006) represent an exception, and the results are encouraging; the contribution by Jäger (2010) is also interesting in this regard because it focuses on the long-term effects of mentoring on institutions, and it underlines how institutional change is challenging to achieve. The more recent literature stressing the role of mentors and how mentors can contribute to achieve institutional change is particularly interesting. It seems there is still a lot to be investigated in terms of the mentors' perspective, how mentoring impacts on institutions and how to create a culture of mentoring. Also, it is worth noting that some studies mention not only drawbacks such as the lack of time for the mentor and the mentee, but even relevant negative aspects for the mentee, usually related to the fact that a formal mentoring programme can become a "spy system" (Buzzanell, et al., 2015; Gibson 2006); these aspects are often overlooked, while we would need to know more and understand how they can be counteracted.

In the next section, as a last step in this review, we will attempt to propose a model for guiding research.

5. Model for future research

After this review, we propose to focus especially on the following points to advance research on academic mentoring, with a focus on women's equality and gender issues.

First, we argue that it is necessary to have a stronger theoretical grounding to enhance the explanatory power of the related empirical research. The theoretical background will also help to make the definition of mentoring much more explicit. We think that there are different research areas that can provide a good grounding: for example, literature on socialization, learning and situated learning, that is often referred to especially when investigating group mentoring (Driscoll, et al., 2009); phenomenology (Gibson, 2004, 2006); feminist theory (S. Schramm, 2000); power (Ragins, 1997); but also, it could be worth using the lenses of organization theory and organizational change approaches (Van de Ven, 2005), that would especially help to investigate the effects of mentoring at the macro level. It could be fruitful to explore interdisciplinary research, by bridging, for example, two different research areas (e.g. gender and process theory).

Second, empirical research should be clear about the type of mentoring it is referring to, and, if it is focused on a formal programme, it should outline its main features and target group, because this impacts on the effects of mentoring and on the implications both at the individual and institutional level. Presently, many studies tend to equate mentoring with other formal line management relationships, and we think this does not help to advance mentoring research: supervisory relationships have a very different nature in comparison to mentoring, because the negotiation power of the mentee in setting objectives and timing is very low or almost non-existent, and such objectives cannot be interrupted or changed without direct implications on one's own career path.

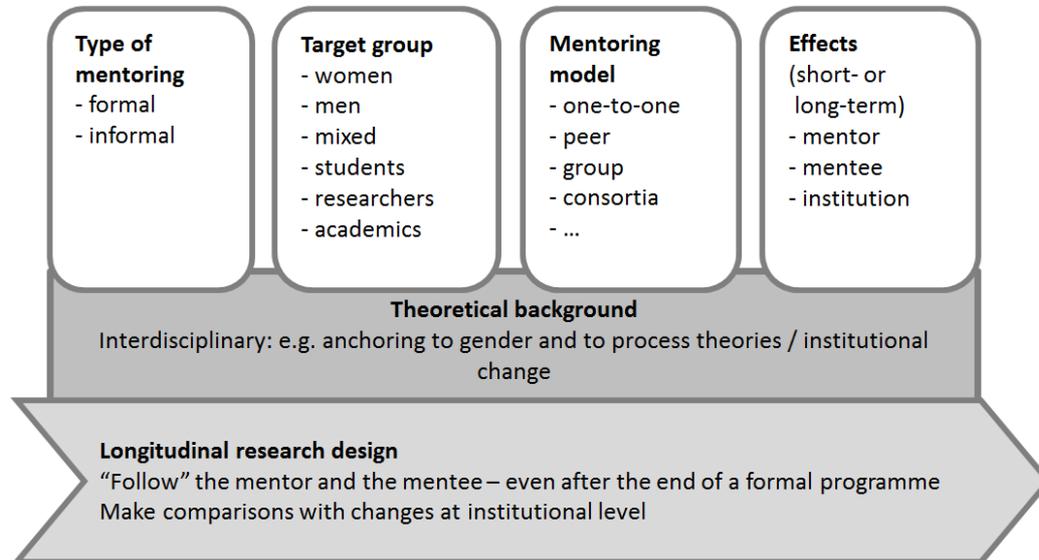
Another important point is related to the need to embrace a relational view and focus both on mentors and mentees, to understand how mentors are also affected by mentoring. The literature notes that, in academia, time and inertia in particular seem to be critical issues, and we think that focusing on the experiences of both mentors and mentees can help to improve mentoring practice.

Fourth, a longitudinal perspective, as showed in Gardiner and colleagues (2007), is necessary to understand the effects of mentoring and, also, to understand the potential effects at the institutional level. From a methodological point of view, several methods could be applied and both subjective (as reported by participants and stakeholders) and objective measures should be compared. We notice that empirical research based on qualitative approaches more strongly reflects the implications in relation to gender; however, quantitative research could also further improve in the understanding of differences between women and men in mentoring or being mentored, and mixed methods could provide an interesting path to be explored.

To sum up, we propose that research on academic mentoring should be guided by some sensitizing categories that help researchers to indicate the type of mentoring they are going to investigate, i.e. formal or informal, who is the target group, and which model. Instead of distinguishing between type of outcomes, as most literature does, we propose distinguishing between short-term and long-term effects and analysing them in relation to the mentor, the mentee, and the institution. The

longitudinal perspective is important and a theoretical background is necessary. This is shown in the next figure.

Figure 1: A model to guide future research on mentoring



6. Conclusions

This literature review aimed to focus on academic mentoring, especially on mentoring for women, to understand the main issues addressed by the literature in this field, the rationale for mentoring women, and the uncovered topics; as well as proposing a model for future research. We showed that literature on academic mentoring is much less developed than literature on mentoring in general, and quite fragmented especially when looking for contributions on mentoring women. The theoretical background is sometimes quite poor, mentoring is often confused with supervision, studies are usually interested in investigating the effects for the mentee and rely on self-reported measures; moreover, there are few longitudinal research studies. This situation not only renders difficulty in making academic mentoring a consistent research area, but also, it is challenging to draw implications from practice from a sound evidence base. On the other hand, this means that mentoring offers many research opportunities to scholars interested in exploring the issue further. If the rationale for women's academic mentoring is to advance gender equality in academia, we need to learn more about the long-term effects of mentoring at both the individual and institutional level. Mentoring seems to have positive effects on the mentee, but we need to understand if this is going to help institutions to change and to become more gender equality and diversity oriented.

Acknowledgements

A previous version of this paper has been presented at the Annual Research Conference of the Society for Research into Higher Education in December 2014. We would like to thank Dr. Laurel Edmunds for her comments on previous versions of the paper.

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Table I: Literature selected in this review

1. The mentee's perspective and mentoring outcomes	
Bilimoria, D., Perry, S. R., Liang, X., Eleanor Palo, S., Higgins, P., & Taylor, C. (2006). How Do Female and Male Faculty Members Construct Job Satisfaction? The Roles of Perceived Institutional Leadership and Mentoring and their Mediating Processes. <i>Journal of Technology Transfer</i> , 31(3), 355-365.	Survey on 248 professors (male and female) from a US private university.
Bell, A., & Treleaven, L. (2011). Looking for Professor Right: mentee selection of mentors in a formal mentoring program. <i>Higher Education</i> , 61(5), 545-561.	Study of a mentoring programme, University of Sidney, which the authors organised.
Blau, F. D., Currie, J. M., Croson, R. T. A., & Ginther, D. K. (2010). Can Mentoring Help Female Assistant Professors? Interim Results from a Randomized Trial. <i>The American Economic Review</i> , 100(2), 348-352.	Study (randomized control trial) of three cohorts of participants to a mentoring programme for women economists (US).
Buzzanell, P. M., Long, Z., Anderson, L. B., Kokini, K., & Batra, J. C. (2015). Mentoring in Academe. A Feminist Poststructural Lens on Stories of Women Engineering Faculty of Color. <i>Management Communication Quarterly</i> , 0893318915574311.	Critical analysis of the mentoring experiences of women of colour in a faculty of engineering.
Çetin, A. T., Kizil, C., & Zengin, H. I. (2013). Impact of Mentoring on Organizational Commitment and Job Satisfaction of Accounting-Finance Academicians Employed in Turkey. <i>Emerging Markets Journal</i> , 3(2), 1.	Survey on 90 academics in accounting and finance from Turkish public and private universities.
Devos, A. (2007). Mentoring and the new curriculum of academic work. <i>Journal of Organisational Transformation & Social Change</i> , 4(3), 225-236.	Position paper, importance of mentoring of women faculty for promoting self-review and self-regulation in an increasingly performance driven climate.
Dixon-Reeves, R. (2003). Mentoring as a Precursor to Incorporation: An Assessment of the Mentoring Experience of Recently Minted Ph.D.s. <i>Journal of Black Studies</i> , 34(1), 12-27.	Survey on recently awarded PhD in a US institution.
Doyle-Scharff, Maureen; Conley, Valerie Martin (2015). Women faculty in STEM and the value of mentoring in advancing the field. In: Howley, A., Trube, M. B. (Eds). <i>Mentoring for the professions: Orienting toward the future</i> . IAP Information Age Publishing; 2015, pp. 243-258.	Review, mentoring for women in STEM
Johnston, S., & McCormack, C. (1997). Developing Research Potential through a Structured Mentoring Program: Issues Arising. <i>Higher Education</i> , 33(3), 251-264.	Study of a mentoring programme tailored to enhance research skills in junior academics, University of Canberra
Gardiner, M., Tiggemann, M., Kearns, H., & Marshall, K. (2007). Show me the money! An empirical analysis of mentoring outcomes for women in academia. <i>Higher Education Research & Development</i> , 26(4), 425-442.	Longitudinal study on a mentoring programme for women academics in an Australian university
Garrett, R. U. (2006). Effects of Mentoring on the Quality of the Doctoral Experience at Historically Black Colleges and Universities: Results of Groundwork Investigation. <i>Race, Gender & Class</i> , 13(3/4), 311-327.	Survey on 47 doctoral students near to completion, US
Gibson, S. K. (2004). Being mentored: The experience of women faculty. <i>Journal of Career Development</i> , 30(3), 173-188.	Phenomenological study on women faculty from the University of Minnesota about their experiences of mentoring.
Gibson, S. K. (2006). Mentoring of women faculty: The role of organizational politics and culture. <i>Innovative Higher Education</i> , 31(1), 63-79.	Phenomenological study on women faculty from the University of Minnesota about their experiences of mentoring.
Godwin, K. (2013). The University of Sheffield: mentoring women academics. <i>Equal Opportunities Review</i> . 236, 24-25.	Presentation of the initiative for mentoring women at the University of Sheffield.
Grant, C. M., & Simmons, J. C. (2008). Narratives on experiences of African-American women in the academy: Conceptualizing effective mentoring relationships of doctoral student and faculty. <i>International Journal of Qualitative Studies in</i>	Narrative analysis of the mentoring experiences of African-American female doctoral student aspiring for the

<i>Education</i> , 21(5), 501-517.	professoriate,
Grant, C. M., & Ghee, S. (2015). Mentoring 101: advancing African-American women faculty and doctoral student success in predominantly White institutions. <i>International Journal of Qualitative Studies in Education</i> , 28(7), 759-785.	Narrative analysis of the mentoring experiences of African American women faculty and PhD students.
Kirchmeyer, C. (2005). The effects of mentoring on academic careers over time: Testing performance and political perspectives. <i>Human Relations</i> , 58(5), 637-660.	Survey on 143 US academics, male and female, in accounting.
Kosoko-Lasaki, O., Sonnino, R. E., & Voytko, M. L. (2006). Mentoring for women and underrepresented minority faculty and students: experience at two institutions of higher education. <i>Journal of the national medical association</i> , 98(9), 1449.	Evaluation of three mentoring programmes for junior women faculty and minority faculty in two academic health centres, US.
Perna, F. M., Lerner, B. M., & Yura, M. T. (1995). Mentoring and career development among university faculty. <i>The Journal of Education</i> , 177(2), 31-45.	Literature review, focus on US
Quinlan, K. M. (1999). Enhancing Mentoring and Networking of Junior Academic Women: What, Why, and How? <i>Journal of Higher Education Policy and Management</i> , 21(1), 31-42.	Review of different types of mentoring and developmental opportunities, recommendations for practice
Schramm, M. K. (2004). Feminist Mentoring in the Academy. <i>Praxis</i> , 16(2).	Opinion paper – Author reflecting on her own experience as a mentee
Ugrin, J. C., Odom, M. D., & Pearson, J. M. (2008). Exploring the Importance of Mentoring for New Scholars: A Social Exchange Perspective. <i>Journal of Information Systems Education</i> , 19(3), 343-350.	Survey in US business schools.
Zellers, D. F., Howard, V. M., & Barcic, M. A. (2008). Faculty Mentoring Programs: Reenvisioning Rather than Reinventing the Wheel. <i>Review of Educational Research</i> , 78(3), 552-588.	Review of research and mentoring schemes, focus on US
2. The mentors' perspective	
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