DOES MENTORING MAKE A DIFFERENCE FOR WOMEN ACADEMICS? EVIDENCE FROM THE LITERATURE AND A GUIDE FOR FUTURE RESEARCH

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ABSTRACT. This paper aims at reviewing literature on mentoring in academia, with a focus on mentoring to enhance women's careers. A significant gender imbalance in science persists, and mentoring has been recognized as an important instrument for fostering academic women's careers and addressing such imbalance. However, often the benefits of mentoring are taken for granted. This review aims to unpack the concept of mentoring, understand which trends characterize the mentoring literature, and analyze the evidence; moreover, it aims to discover potential gaps and propose a model to guide future research. A systematic approach is undertaken: four relevant search engines, covering more disciplines, are browsed to look for empirical studies on mentoring academic women from 1990 to March 2017. The review shows that there are some problems. First, there is no agreement on the definition of mentoring. Then, often studies are poorly grounded from a theoretical and conceptual perspective. In addition to the dominating research stream, focused on the benefits for the mentee, three other streams are consolidating: impact on the mentors, the role of group mentoring, and mentoring as an instrument to change institutions. At the end, we propose a model to guide future studies built on a longitudinal perspective.

Keywords: mentoring; women; academia; gender imbalance; literature review

1. Introduction

The relevance of mentoring to support newcomers and minority groups in organizations has been underlined for decades (Allen et al., 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 (2012), 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, 2012: 30). 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 the present day, Megginson et al. (2006: 4) define mentoring as, "off-line help by one person to another in making significant transitions in knowledge, work or thinking." Schramm (2004: 64) underlines the developmental aspect of this relationship and adds that the mentor should "challenge the mentee to go beyond the comfort zone." The definition and its extension may appear broad, but they underline the basic features of mentoring. This is that 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. When applied to organizations, mentoring should help the mentee to better understand the organizational context and career opportunities, avoid isolation, and access relevant networks. Mullen (2009) noted that the breadth of the definition might be problematic: today the word mentoring is often used interchangeably not only with advising and supervising, but, among others, with coaching, leading, teaching, and socializing, thus making comparisons difficult for scholars and practitioners in studying this process.

In this paper, we provide a review of the literature on mentoring, where mentoring is considered as a process to enhance the career trajectory of women in academia and involves a relation beyond supervision, line management and probationary processes. We investigate and clarify the role of mentoring for women academics, and propose a model to guide future research.

Academic mentoring is an especially interesting area for building a scholarly contribution. The first literature on mentoring originated in the 1980s, but it was more focused on private organizations than academia. Boyle and Boice (1998) underlined that universities initially showed a "laissez-faire" approach, this meaning that, compared to the private sector, they have been less proactive in promoting mentoring. This has implications on scholarly literature as well. Still nowadays, literature on academic mentoring is highly fragmented. This led Zellers et al. (2008) to argue for the

need to build a consistent research agenda, better able to investigate the peculiarities of the academic profession.

The main factor making mentoring for women important in universities is that academia has been a male environment for centuries (Bagilhole and Goode, 2001): women are still underrepresented at the more senior levels and in some disciplines (usually the fields related to science, technology, mathematics and medicine, STEMM for short) (EC, 2016). This means that women are often excluded from important networks (van den Brink and Benschop, 2014), even if not directly discriminated (Savigny, 2014). Quinlan (1999) earlier pointed out (and still relevant today) how women in academia often engage in very different career paths compared to men, have less continuity in their CV, and experience more stress and greater isolation. Mentoring, therefore as an instrument to support professional development, should be especially useful to ensure a smoother career path for women.

The academic profession presents specificities that might challenge the development and uptake of mentoring. First, academics have a balance of responsibilities that is much broader and more complex compared to other professions. These responsibilities are related to research, teaching, and service. And, even if ideally they should be balanced, research is the element making the difference to an academic's CV, hence on career development. The current academic environment is very focused on performance, account-ability, and metrics (Shore, 2008). Mullen (2009) argues this system does not help in cultivating a culture of mentoring, because it is very focused on individual performance and scientific productivity, while mentoring is especially about personal development. This means that there might be tensions among the different elements of the job and time becomes a critical resource (Sang et al., 2015). Second, hierarchies are much flatter than in businesses, and academics usually do not consider themselves as employees, but more as intellectuals or free-thinkers, whose independence is especially important. Finally, the younger generation of academics might not espouse the need for supporting mentoring programs for women: as stated in Vongalis-Macrow (2014), young women assume equality has been achieved. Consequently, they might refrain from committing to women-only initiatives.

A literature review focused on mentoring in academia and on its role in supporting women's careers can be beneficial to both scholars and practi-tioners. This is because it, (1) furthers understanding of the role of academic mentoring, which different types of mentoring have been tried, in which settings and with which effects; (2) investigates how mentoring can be used to support the development of women academics' career trajectories; (3) enables a model to be proposed that can guide future studies and help in developing a more consistent research agenda; (4) inspires individuals and institutions willing to design and pilot mentoring programs. In fact, despite

the literature on mentoring for women academics massively increased in the last few years, we could not find a comprehensive review aimed at supporting the development of both a research agenda and meaningful practice.

One of the more recent comprehensive reviews on mentoring in general is provided by Allen et al. (2008). They underline that most of the studies on mentoring come from the US, and mentoring research still appears in a primitive state, being characterized by few methodological approaches, few theory and measurement developments, and a lack of longitudinal studies. When focusing on mentoring academic women, the most recent literature review is the one by Hawkes (2012). However, Hawkes' (2012) review principally aims to understand the implications of mentoring for the mentee's career trajectory and to elaborate good practices, while this paper critically examines the literature from a holistic perspective, with the aim to propose a model to guide future research.

In the next section, we explain the aims and methods of the literature review. Before going in-depth into the findings of the literature search, we first provide an overview of the practice in relation to mentoring academic women and its background assumptions, since this helps to better understand the positioning and relevance of the studies on which we comment. Afterwards, we go in-depth into the literature and group it in categories, depending on the main topic being addressed. Then, we present a model to guide future research and conclude by commenting on the main contributions and possible future developments.

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 women academics, specifically clarifying:
1. What is meant by mentoring women academics;
2. What is the rationale behind the need for mentoring women and designing women specific programs;
3. Which types of mentoring exist 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, we design a model that can support future research in the field.

To conduct a thorough review, we searched EBSCO Academic Search Complete together with PsychINFO; ProQuest Business Collection; ERIC;

SCOPUS. All together they cover the disciplinary areas of sociology, gender studies, education, psychology, management and business studies. EBSCO Academic Search Complete covers more disciplines in the social sciences (it includes databases such as Business Source Premier and Women's Studies International), and we included in this search PsycINFO as well (this covering disciplines in the psychological sciences). ProQuest also includes more databases (such as ABI/INFORM and International Bibliography of the Social Sciences), and it is especially good for research in the field of management. ERIC is the world's largest source of education information. SCOPUS is presently the largest abstract and citation database of peer-reviewed literature. An initial search was conducted in September 2015, and the final one in March 2017; the results presented here refer to the more recent search.

An advanced search was conducted with the following keywords: mentoring (in the title), universit* or academi* (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. We ran the search from publication year 1990 to 2017. When applied to EBSCO, the combination produced a list of 155 results (among them, 120 academic journal papers and 10 dissertations, plus more news feeds); ProQuest retrieved 158 publications (among them, 61 academic journal papers, 7 dissertations, plus news feeds and others); ERIC retrieved 64 results (among them, 34 academic journal papers); SCOPUS retrieved 79 results (23 among them are sections of four different edited books). First, we went through the abstracts (or executive summaries) of these studies, and we privileged the following:
1. Research published on peer-reviewed academic journals, conference proceedings, books by authoritative publishers, or dissertations (magazine and news feeds are excluded);
2. Empirical research investigating mentoring for women in higher education (from doctorate to professorial level);
3. Papers defining mentoring as a special form of relationship, that is not related to supervision or line management relationships;
4. Formal mentoring programs involving women academics;
5. Reviews of mentoring literature focused on mentoring for women academics, following the four criteria above.

The following have been excluded: news feeds; papers not referring to academic mentoring for women; papers referring to youth or workplace mentoring, mentoring of undergraduate students, supervisory relationships; papers not investigating gender differences.

From EBSCO, 25 studies have been retained, 17 from ProQuest, 20 from ERIC (that provided the more consistent list, according to our criteria), 8

from SCOPUS. More overlaps were found: five between EBSCO and ERIC, five between EBSCO and ProQuest, one between EBSCO and SCOPUS, three between SCOPUS and ERIC, two between ProQuest and SCOPUS, one between ProQuest and ERIC, and one between EBSCO, ERIC and SCOPUS. Overall from this search 51 contributions have been included. Also, some of this work cited relevant research that we could not find in our initial 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. To be able to better comment on the results of our literature search, we first give an overview of the current state of the literature on mentoring academic women and explain why this type of mentoring deserves a relevant place in universities.

3. Mentoring for Women: Rationale, Types of Mentoring and Main Issues

Mentoring for women academics is widespread in most universities in the UK (Hawkes, 2012), Australia (Devos, 2008), Germany (Gottschall, 2010; Zuber, 2010), and Switzerland (Jäger, 2010). A policy agenda in both the European Commission and the National Science Foundation in US supports the creation of mentoring programs and networks (Nöbauer and Genetti, 2008; Rosser, 2010). Mentoring in principle provides a mechanism for supporting women's progression and retention along the academic career. Progression and retention are key issues: it is demonstrated that the entry of more women at undergraduate degrees is not helping to solve women's underrepresentation, because after years of getting more women graduates, the same problem remains (De Madariaga, 2013).

Evidence coming from EU-funded projects (ASDO, 2009; Füger et al., 2008) and other scholarly literature, tends to highlight the positive role of mentoring for women. Wunsch (1993) reports the benefits of one of the first programs dedicated to women; Johnston and McCormack (1997) report on the benefits of a program designed to enhance the research potential; Madison, Knight, and Watson (1993) report the positive experiences in Australian universities. More recently Banerjee-Batist and Reio (2016) stress the positive relationship between mentoring and organizational commitment. However, it seems still early to understand the long-term effects of mentoring on women's academic careers and on institutions. Besides, challenges persist, because in many universities mentoring is almost non-existent.

The rationale behind the need of mentoring to support women is explained by referring to relationships between minorities and majorities in organizations, role of networks and power dynamics. Majorities and people with higher status can count on more networking and development opportunities, while minorities risk being marginalized and excluded from the channels

helping to advance their careers. Women, being still underrepresented in the STEMM disciplines, and at the more senior ranks of academic careers, are therefore at risk of being marginalized. Minorities and marginalized groups tend to suffer from restricted power (Ragins, 1997). Moreover, there are biases bringing people to favor the ones with whom they can identify themselves: Johnson (2007) refers to this as "the cloning phenomenon," while van den Brink and Benschop (2014) speak about "homophily." These dynamics have important implications in relation to diversity in academia, given that the more senior positions are mostly populated by white men, who might privilege other white men (Dixon-Reeves, 2003; Garrett, 2006; Perna et al., 1995).

The points above are at the base of the argument supporting the need to promote formal mentoring programs for women: because of the power of existing networks, men are more likely to benefit from informal opportunities, while women and minorities, in absence of formal programs, might not have any opportunity at all. We are aware that women's underrepresentation is not solely caused by limited access to informal mentoring; however, as shown by van den Brink and Benschop (2014), networks are paramount in an academic career, and mentoring can significantly help in building a network (Van Emmerik, 2004). Given the different power positions implied by one's own gender identity, 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 and Chesler, 2002; Gibson, 2004). However, there may be fewer mentors available from minority groups (Johnson-Bailey and Cervero, 2004; Kwan et al., 2015; 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 et al. (2008) shows that mentees involved in cross-gender and cross-ethnicity dyads were even more productive scientifically. Nevertheless, it should be noted that the rationale of mentoring is to challenge existing structures of power and paternalistic relationships, and not to replicate them blindly. In other words, providing mentees with the instruments to navigate power structures might be helpful, but building more diverse institutions is far more needed (de Vries and van den Brink, 2016). This parallels Schiebinger's (1999) argument that we should aim at changing institutions, not women.

3.1 Types of mentoring
In this review, studies focused on formal mentoring programs are privileged. In formal programs, mentee's needs are analyzed 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. Still

nowadays, many mentoring programs for women are inspired by the model described by Wunsch (1993), i.e. one-to-one mentoring with training and workshops for mentors and mentees.

Clutterbuck and Ragins (2002) underline that formal mentoring programs can vary in relation to their aims, target groups, and specific functioning or design. Other than the traditional type of mentoring, constituted by the pair mentor-mentee, other forms are also possible. Among these: group mentoring, i.e. a mentor (or more) mentoring several mentees, as described in the "mentoring circles" by Darwin and Palmer (2009); peer mentoring, a type of group mentoring, but with colleagues mentoring one another (Driscoll et al., 2009); and mentoring consortia, i.e. more organizations building a joint mentoring program (Füger et al., 2008; Nöbauer and Genetti, 2008).

It has been found that there are some critical aspects in relation to establishing formal mentoring programs in academia, this being related to the specificities of the academic profession as described in the introduction. Lack of time and inertia might hinder participation in activities (Boice, 1992; Harnish & Wild, 1994). Another potential problem might be represented by a mismatch between mentor and mentee (Bell and Treleaven, 2011; Cullen and Luna, 1993; Ehrich et al., 2004). Furthermore, Zellers et al. (2008) stress that because academia is quite an individualistic environment, junior members may feel uncomfortable showing a need for mentoring and can even feel stigmatized for participating in a program. This inhibits also the establishment and development of mentoring programs in the long term.

3.2 The state of the literature: Main topics
When analyzing the literature selected in our search, we noticed that we could group it into four main topics depending on the main focus of the study:
1. The mentee's perspective and mentoring outcomes;
2. The mentors' perspective;
3. Group and multiple mentoring as a strategy for fostering support and net-working;
4. Mentoring women as a resource for fostering institutional change.

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 1 in the appendix groups the studies retrieved in our search and considered for this review.

Below, we comment on the ones reporting particularly relevant or unexpected findings.

4. The Mentee's Perspective and Mentoring Outcomes

The literature focused on mentoring academic women is mainly concerned with the effects for the mentee (or outcomes). When defining mentoring outcomes, the distinction elaborated by Kram (1983) is still valid: mentoring outcomes are related to both career (such as sponsorship, exposure-and-visibility, coaching, protection, challenging assignments) and psychosocial functions (role modeling, acceptance-and-confirmation, counseling, friendship). Among the career-related outcomes more often demonstrated by the literature, there are increased retention and more success in promotion and research grants. In relation to psychosocial effects, mentoring helps to avoid feeling isolated and contributes to increased self-confidence and work engagement. The mentee often is at centre stage because she represents the actor who is considered to be in need of support. Overall, the positive effects of mentoring on mentees are much more relevant than the negative ones. However, these studies are often based on self-reported, subjective measures, and they are focused on the short term.

Gardiner et al. (2007) provide the most complete empirical study on mentoring for female academics: they focus on a formal program 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 study is relevant first of all because 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); second, the authors also 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; conversely to the contribution by Gardiner et al. (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). However, the study focuses well on 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. Gibson (2006) also underlines how a cross-gender mentorship might be challenging: some of the participants in her study, who had men mentors, underlined how they were feeling uncomfortable to share their experiences in relation to family and work-life balance. The evidence seems to show that same-gender mentorships might be more beneficial when referring to psychosocial functions; however, this should be further investigated, and there is not much evidence looking into the relationship between same-gender mentorships and career functions.

Bell and Treleaven (2011) underline especially how the mentee's outcomes are related to a good match between mentor and mentee, a key factor in formal mentoring programs (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 programs, 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 program, 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.

Some contributions are focused on disciplines in which women are strongly underrepresented (the STEMM subjects). Kosoko-Lasaki et al. (2006) focus on three mentoring programs for junior women and minority faculty in two different academic health centers, and stress the achievements in terms of increased retention rate and personal satisfaction; mentoring involved cross-gender and cross-ethnicity pairs. Ugrin et al. (2008) focus on information system departments in US business schools and come to similar results when checking the effects of mentoring on academic productivity. However, 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. Probably this is also the reason why one of their results, i.e. the declared preference of female mentees toward a male mentor, contradicts previous research showing that mentees prefer same-gender (and same-ethnicity) mentors (Gibson, 2004, 2006).

Gender is not the only aspect to be considered in relation to mentoring: women might be in a weak position because of their ethnical background as well. Grant and Simmons (2008), Curry (2011), and Grant and Ghee (2015) analyze the experiences of African-American women academics and PhD students. They underline that mentoring is especially beneficial, but also, additional support strategies are needed because of the different forms of discriminations women of color might experience. Additionally, the mentoring relationship itself can present more barriers for women from ethnic minorities: as stressed by Buzzanell et al. (2015), who critically analyze the narratives of women of color in a faculty of engineering, such mentoring experiences might be characterized by ambiguity, vulnerability, and suspicion. The main problem is that mentoring systems tend to reproduce the narratives of the elite group; often differences and contradictions emerge strongly, and it is still the mentee's work trying to find a way of reconciling these tensions.

Some studies focused on black doctoral students give relevant insights on the underlying factors that might make mentoring more problematic for women from ethnic 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, Dixon-Reeves (2003) found 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 might experience. In fact, women from ethnic minority groups, once they access senior or high-visibility roles, are expected to act as champions of more causes and might be overloaded by service and pastoral care activities. This last point is also considered by Lloyd-Jones (2014), who recommends to department chairs to closely monitor the workload of staff involved in mentoring.

It is worth underlining that the literature investigating the outcomes for the mentees stems from different epistemologies and applies different methods. Some contributions are based on big surveys, and use gender as a control variable. The issue is that most of these do not further investigate implications for designing mentoring programs and do not reflect on the issues related to cross- or same-gender matching. For example, Bilimoria et al. (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: in the case of men, the relationship between job satisfaction and mentoring is mediated by both the academic resources available in their department and the internal support networks; for women, internal support networks are twice more important. Çetin et al. (2013) tested a model to analyze the relationship between mentoring,

organizational 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 et al. (2007), even if starting from very different assumptions, come to the same conclusion in relation to job satisfaction. Whitten (2016), in her survey to women accounting professors in the US, finds that mentored women report highest levels of work engagement compared to non-mentored women; also, she demonstrates that there are not differences when considering the gender composition of the mentoring pair. 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), however, there is no investigation of possible gender differences. Also in this case, as in the previous three, the study participants self-selected themselves, and we do not have any contextual information about the type of mentoring they benefited from. To sum up, literature inspired by a positivist stance shows that there are relationships between mentoring and work commitment (an important psychosocial function), but results are mixed in relation to job satisfaction. Furthermore, the only study considering the gender composition of the mentoring pair, does not find significant difference between having a man or a woman mentor in the case of work engagement.

We found several accounts focused on the authors' own experience, and these offer a very interesting perspective. Similarly to Bell and Treleaven (2011), Driscoll et al. (2009) focus on their own experience of organizing 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 organization 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. Agosto et al. (2016) and Esnard et al. (2015) also reflect on their own mentoring experience as women from an ethnic minority group; we will further focus on it when considering group mentoring.

To sum up the main issues characterizing this prolific stream of the mentoring literature, we can say that mentoring has positive effects on women, especially concerning psychosocial functions; outcomes related to career functions are not always clear given that their study would need a more long-term oriented perspective. Mentoring might have some drawbacks (Gibson, 2004, 2006; Tolar, 2012), but these appear to be minor and manageable in

the framework of a formal program. Only an old contribution by Clawson (1985) underlines that having a mentor did not make any difference to mentees. Scholars are often interested in understanding if mentoring has an impact on scientific productivity and whether women prefer to have a same-gender mentor. Inconsistency of findings in relation to these topics can be due to differences in definitions of mentoring and in the design of the study. For example, in the study by Ugrin et al. (2008) mentoring and supervision overlap. The difference in epistemological positioning represents a richness of the mentoring literature focused on the mentee: this means that similar issues are investigated in very different ways, thus maximizing the possibility of comprehending the mentoring process.

   This stream of the literature would benefit from studies with a clear scope in defining the type of mentoring relationship under investigation, a long-term oriented approach, a focus on both career and psychosocial effects, analysis of subjective experiences together with objective measures (for example, time for getting a promotion), and comparisons with non-mentored women, as in the case of Gardiner et al. (2007). Also, this research stream would benefit if there was the attempt to study the mentee's perspective together with the mentor's one, in order to aid understanding of the conditions and effects of the matching process and how the relationship impacts on both parties. Finally, we would need more evidence on how the composition of the mentoring pair (i.e. having a woman or a man mentor) impacts on mentoring outcomes.

5. The Mentor's Perspective

A part of the mentoring literature focuses on the mentor's perspective. Füger and Höppel (2011) who rely on their experiences in designing and coordinating mentoring programs, argue that this topic has emerged recently, but is still relatively overlooked. Pisimisi and Ioannides (2005), who focus on women in engineering, 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 think that the disciplinary background is relevant (it can facilitate communication between mentor and mentee), this is not enough. Instead, 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 mentors 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 favoritism. The main drawbacks to 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.

It is worth noting that both Pisimisi and Ioannides (2005) and Childress Townsend (2002) are focused on specific disciplines but do not further investigate how disciplinary cultures impact on mentoring. Moreover, 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 and Höppel (2011) provide notable contributions. Lechuga focuses on mentors from underrepresented groups in STEM disciplines and on their experiences with their graduate students (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.

On a related point, Füger and Höppel (2011), based on their experience in coordinating a European network of mentoring programs, underline how mentors should be "partners for change," for the mentee and for the institution, and how training is important for that. They report on the work of Alean-Kirkpatrick (2011): drawing on her experience as a trainer, she explains 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.

Much could be done to advance the literature in this stream. It is surprising how the role of the mentor, who should be an equal partner in the mentoring relationship, is overlooked. We know almost nothing about mentors' expectations, needs, and experiences. More importantly, it seems that the mentoring relationship affects the mentee only, not the mentors. We do not know anything about how mentors change in response to their mentoring experiences.

6. 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 whereby mentees are grouped and can rely on several mentors. This model should be better able to address the challenges of present academic careers, especially given time constraints and the lack of women role-models due to their underrepresentation at senior levels, this considerably reducing the pool of women potentially available for mentoring early-career academics (Darwin and Palmer, 2009; de Janasz and Sullivan, 2004; Sorcinelli and Yun, 2007). Van Emmerick (2004) shows that the size of "developmental network" has a positive impact on career satisfaction, especially in the case of women.

De Janasz and Sullivan (2004) argue that the opportunity for mentees to rely on several mentors could help in an academic world that is increasingly competitive, changing and diverse. They stress that, although the relevance of senior academics' support in promotion procedures has been clearly shown (Bensimon et al., 2000; Sorcinelli, 2002), in academia the "sink or swim" model still seems to exist and does not help in creating a culture of mentoring. However, they do not report on any specific mentoring experience. Also they do not focus on implications in relation to gender. In fact, empirical research on group mentoring is still in its infancy and most of it is very recent.

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 programs. They mention peer mentoring: this is especially helpful in supporting mentees to broaden their network and feel comfortable in sharing their experiences (since they are confronted with peers and not with somebody more senior). More generally, any form of group mentoring is helpful where there are especially few women in senior positions, and finding a mentor for each mentee might be problematic. This is the case described by Kwan et al. (2015), who report their experiences from a mentoring program in medicine.

Darwin and Palmer (2009) report on a study of a "mentoring circles" program at the University of Adelaide. In this study, 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, there is information about the gender composition of only one group and the authors do not focus on gender dynamics. Wasburn (2007) discusses a case of a program that,

similarly to the one above, mixes peer mentoring with support from more experienced colleagues, but with a specific focus on advancing women. She reports the lack of one-to-one contact with mentors and too few meetings as a drawback. We mentioned above Driscoll et al.'s (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 clearly how sharing information, knowledge and experience within a group support personal and professional growth. On the one hand this has been helped by setting clear objectives (academic writing and publications), on the other 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.

It is worth underlining that, despite the many benefits of group mentoring cited above, this also might present unique challenges. Esnard et al. (2015) build on their experience in a mentoring network for women from ethnical minority groups, presented in Agosto et al. (2016) as well. The authors use social capital theory to unveil the unpredictable dynamics that group mentoring can have. On the one hand, being part of a mentoring network meaningfully helped the participants to make sense of their experiences at work and provided them with a space where to ask for advice. On the other, some participants developed frustration for more reasons: perceived passivity of some members; perceived pressure to perform; lack of willingness to address in-depth the issues related to race and gender. Citing Johnson-Bailey and Cervero (2004), the authors state that cross-cultural group mentoring is a "networking dance," where there are "ongoing hidden forces threatening mentoring opportunities" (31). For this reason, they maintain, any study of mentoring should be inspired by a consistent and holistic theoretical framework, because this helps to have a close to the ground understanding of the process.

The literature on group mentoring is still in its infancy, but it has produced interesting lines of future research. On the one side, group mentoring is praised for providing a wider network of support and also, it represents a clever strategy to allow more mentees to have women mentors even in those

sectors where women are strongly underrepresented. On the other side, some group dynamics might cause frustration and hinder benefits for the mentees. It would be important to know more in which conditions this happens, and also, to further study in which situations a group of mentees can thrive.

7. 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 et al., 2006; Füger and Höppel, 2011; Jäger, 2010; Thomas et al., 2015). Gibson's (2006) contribution builds on her 2004 study and focuses on organizational politics. She shows how understanding organizational structures is a fundamental part of mentoring, since these have an impact on the mentoring experience itself. She argues that universities that are careful to provide mentoring for women (or even to ground it in formal career development initiatives), are more likely to transform themselves into better workplaces.

de Vries et al. (2006) focus on the evaluation of a mentoring program for women in Australia, and especially on the mentors' perceptions about mentoring (the program recruits women-only mentees, but 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 organizational change. Jäger (2010) builds on de Vries et al.'s (2006) contribution to investigate the effects of ten years of women-only mentoring programs in Swiss universities. It was found that 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 Füger 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: the role of the mentor should be centre stage in the process of change. Thomas et al. (2015) report on an interesting study of a peer mentoring program, where issues identified in mentoring circles have been used as an input for reflection at the College level. 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 program; these reflections underline how organizational cultures are difficult to change. Similarly, Kalpazidou Schmidt and Faber

(2016) underline how mentoring, other than having positive effects on mentors and mentees, can positively impact on institutions by making them more aware of the importance of supporting career development, retaining talents, and promoting a more inclusive environment.

This stream of research is especially relevant for both scholars and practitioners interested in the long-term effects of mentoring and more generally in drivers of institutional change. To progress this stream, a longitudinal perspective is necessary, so as a focus on both mentors and mentees. We notice that the role of mentors as drivers of change is underlined, but it should not be forgotten that the mentee also has a role in this process.

8. Summary of the Literature

After having presented the relevant literature, we can make several observations in relation to the studies considered. First, the overlap between mentoring and supervision is apparent. Second, it has been challenging to focus our literature review on mentoring women academics. Other than studies focused on mentoring for women, we could find more examples of research investigating the experience of academics (women and men) involved in both formal and informal mentoring. In this second case, often we do not have many details about the functioning of the mentorship. Third, 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 or subjective stance. Each of those provides a different contribution. The big numbers addressed by surveys appear reassuring since the findings tend to stress the benefits of mentoring. However, studies embracing qualitative approaches further deepen the implications of mentoring for gender equality. Fourth, many interesting studies reporting on mentoring programs lack clear theoretical groundings. This might be seen as a part of a more general problem. As underlined by de Vries and van den Brink (2016), a theory-practice divide can be observed in the study of organizational interventions designed to advance gender equality. This does not help the development of organizations, or that of sound scholarly literature.

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 programs 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 junior women academics before tenure; this is by far the most usual type of mentoring. The rationale described by Wunsch (1993) provides a guide for

many mentoring programs. A considerable amount of empirical research on formal mentoring is often related to, or is part of, the evaluation of mentoring programs, and often it is authored by researchers who have also participated in the design or coordination of mentoring programs. Most of these studies are based on a qualitative design and on subjective measures, with the exception of Gardiner et al. (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 programs is often taken for granted or just briefly explained. Thus providing women with mentoring programs 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 programs, there is little evidence that shows its effects for both the mentors and the mentees over the long-term. The studies by Gardiner et al. (2007) and Kosoko et al. (2006) represent an exception, and the results are encouraging. The contribution by Jäger (2010) is interesting in this regard because it focuses on the long-term effects of mentoring on institutions, and it underlines how institutional change is difficult to achieve. The more recent literature stressing the role of mentors and how mentors can contribute to achieve institutional change is particularly relevant. 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 drawbacks such as the lack of time for the mentor and the mentee, and relevant negative aspects for the mentee, usually related to the fact that a formal mentoring program 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 see how the problems here detected, i.e. lack of clarity in definitions, paucity of longitudinal approaches, a quasi-exclusive focus on the mentee, poor theoretical grounding, can be addressed. We believe that the poor theoretical grounding is an especially serious problem. We argue that theoretical grounding not only helps to conduct a more thorough analysis but importantly it makes researchers go a step beyond their findings and interrogate themselves about the broader implications of their study.

9. A Future Research Agenda

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

First, 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. This is well exemplified in the contribution by Esnard et al. (2015), where social capital theory is profitably used to investigate the dynamics of group mentoring. This theory has significantly helped to examine that social capital works as a key driver in academic careers and how mentoring can intervene in this process. The choice of this theory allowed for advancing our understanding of both mentoring and the more general functioning of career patterns in universities. We can say that this theory helped the authors to go a step further from the description of the findings and helped the readers to further reflect on the implications of mentoring. There are other research areas that can provide a sound grounding. These include 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 (Schramm, 2000); power (Ragins, 1997). Also, it could be worth using the lenses of organization theory and organizational change approaches (Van de Ven, 2005), that would 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 organizational change).

Second, empirical research should be clear about the type of mentoring it is referring to, and, if it is focused on a formal program, 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 as supervisory relationships have a very different nature in comparison to mentoring. This is because the negotiation power of the mentee in setting objectives and timing is very low or almost non-existent, and such objectives cannot be changed without direct implications on one's own career path.

A third 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 which leads us to believe

that focusing on the experiences of both mentors and mentees can help to improve mentoring practice.

Fourth, as claimed by Van Emmerick (2004), a longitudinal perspective is necessary to understand the effects of mentoring and, also, to understand the potential effects at the institutional level. Gardiner et al. (2007) provide the most notable example of studying the effect of mentoring over a sustained period of time. 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 analyzing 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
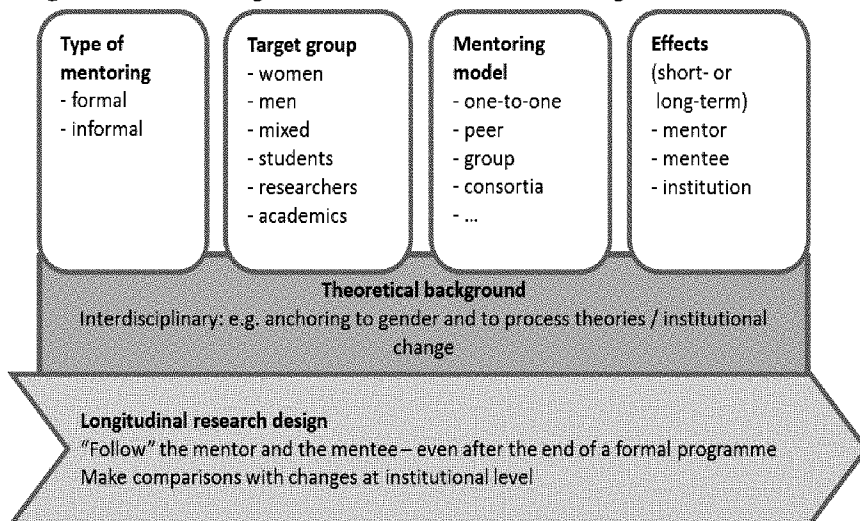
Source: authors' elaboration

10. Conclusion

This literature review aimed to focus on academic mentoring for women, to understand the rationale for mentoring women, the main issues addressed, 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 it difficult to make academic mentoring a consistent research area. It also presents a challenge in drawing implications from practice from a sound evidence base. 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.

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Tolar, M. H. (2012). "Mentoring Experiences of High-Achieving Women," *Advances in Developing Human Resources* 14(2): 172–187.

Ugrin, J. C., Odom, M. D., and Pearson, J. M. (2008). "Exploring the Importance of Mentoring for New Scholars: A Social Exchange Perspective," *Journal of Information Systems Education* 19(3): 343–350.

Van de Ven, A. H. (2005). "Alternative Approaches for Studying Organizational Change," *Organization Studies* 26(9): 1377–1404.

van den Brink, M., and Benschop, Y. (2014). "Gender in Academic Networking: The Role of Gatekeepers in Professorial Recruitment," *Journal of Management Studies* 51(3): 460–492.

Van Emmerik, I. (2004). "The More You Can Get the Better: Mentoring Constellations and Intrinsic Career Success," *Career Development International* 9(6): 578–594.

Vongalis-Macrow, A. (2014). *Career Moves: Mentoring for Women Advancing Their Career and Leadership in Academia.* Dordrecht: Springer.

Wasburn, M. H. (2007). "Mentoring Women Faculty: An Instrumental Case Study of Strategic Collaboration," *Mentoring & Tutoring: Partnership in Learning* 15(1): 57–72.

Whitten, D. L. (2016). "Mentoring and Work Engagement for Female Accounting, Faculty Members in Higher Education," *Mentoring & Tutoring: Partnership in Learning* 24(5): 365–382.

Wunsch, M. A. (1993). "Mentoring Probationary Women Academics: A Pilot Programme for Career Development," *Studies in Higher Education* 18(3): 349–362.

Zellers, D. F., Howard, V. M., and Barcic, M. A. (2008). "Faculty Mentoring Programs: Reenvisioning Rather than Reinventing the Wheel," *Review of Educational Research* 78(3): 552–588.

Zuber, S. (2010). "Women in Cutting-edge Research – Gender Equality and the German Excellence Initiative," in B. Riegraf, B. Aulenbacher, E. Kirsch-Auwärter and U. Müller (eds.), *Gender Change in Academia: Re-mapping the Fields of Work, Knowledge, and Politics from a Gender Perspective.* Wiesbaden: VS Verlag für Sozialwissenschaften, 189–202.

Table 1 Literature selected in this review

References	Summary of methods	Retrieved from
1. The mentee's perspective and mentoring outcomes		
Agosto, V., Karanxha, Z., Unterreiner, A., Cobb-Roberts, D., Esnard, T., Wu, K., et al. (2016). "Running Bamboo: A Mentoring Network of Women Intending to Thrive in Academia," *NASPA Journal about Women in Higher Education* 9(1): 74–89.	Autobiographical study of a group of academic women involved in peer mentoring. Esnard et al. (2015) provide a follow-up to this paper.	ERIC
Bilimoria, D., Perry, S. R., Liang, X., Eleanor Palo, S., Higgins, P., and 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," *Journal of Technology Transfer* 31(3): 355–365.	Survey on 248 professors (male and female) from a US private university.	ProQuest
Bell, A., and Treleaven, L. (2011). "Looking for Professor Right: Mentee Selection of Mentors in a Formal Mentoring Program," *Higher Education* 61(5): 545–561.	Study of a mentoring programme, University of Sydney, which the authors organized.	EBSCO / ProQuest
Blau, F. D., Currie, J. M., Croson, R. T. A., and Ginther, D. K. (2010). "Can Mentoring Help Female Assistant Professors? Interim Results from a Randomized Trial," *The American Economic Review* 100(2): 348–352.	Study (randomized control trial) of three cohorts of participants to a mentoring programme for women economists (US).	ERIC / ProQuest
Buzzanell, P. M., Long, Z., Anderson, L. B., Kokini, K., and Batra, J. C. (2015). "Mentoring in Academe: A Feminist Poststructural Lens on Stories of Women Engineering Faculty of Color," *Management Communication Quarterly* 29(3): 440–457.	Critical analysis of the mentoring experiences of women of colour in a faculty of engineering.	EBSCO
Çetin, A. T., Kizil, C., and Zengin, H. I. (2013). "Impact of Mentoring on Organizational Commitment and Job Satisfaction of Accounting-Finance Academicians Employed in Turkey," *Emerging Markets Journal* 3(2): 1–28.	Survey on 90 academics in accounting and finance from Turkish public and private universities.	ProQuest
Cullen, D. L., and Luna, G. (1993). "Women Mentoring in Academe: Addressing the Gender Gap in Higher Education," *Gender and Education* 5(2): 125–137.	In-depth interviews to 24 senior women about their mentoring experiences (as mentees or mentors).	ERIC
Curry, N. D. (2011). *Mentoring and Professional Identity Development for African American Female Doctoral Students: An Exploratory Study*. PhD diss., Michigan State University.	Exploratory study of the mentoring experiences of 16 female doctoral students from an African-American background.	ERIC

193

Reference	Description	Database
Devos, A. (2008). "Where Enterprise and Equity Meet: The Rise of Mentoring for Women in Australian Universities," *Discourse: Studies in the Cultural Politics of Education* 29(2): 195–205.	Review of mentoring programmes in Australia and focus on the mentoring experiences (mentee) of two academic women.	EBSCO / ProQuest
Devos, A. (2007). "Mentoring and the New Curriculum of Academic Work," *Journal of Organisational Transformation & Social Change* 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.	EBSCO
Devos, A. (2004). "The Project of Self, the Project of Others: Mentoring, Women and the Fashioning of the Academic Subject," *Studies in Continuing Education* 26(1): 67–80.	In-depth study of the mentoring experiences of 17 Australian women academics. Focus on one experience to understand how women construct identity through mentoring.	EBSCO / ERIC
Dixon-Reeves, R. (2003). "Mentoring as a Precursor to Incorporation: An Assess-ment of the Mentoring Experience of Recently Minted Ph.D.s," *Journal of Black Studies* 34(1): 12–27.	Survey on recently awarded PhD in a US institution.	
Doyle-Scharff, M., and Conley, V. M. (2015). "Women Faculty in STEM and the Value of Mentoring in Advancing the Field," in Howley, A. and Trube, M. B. (eds), *Mentoring for the Professions: Orienting toward the Future*. Charlotte, NC: IAP Information Age Publishing, 243–258.	Review, mentoring for women in STEM.	EBSCO
Johnson-Bailey, J., and Cervero, R. M. (2004). "Mentoring in Black and White: The Intricacies of Cross-cultural Mentoring," *Mentoring & Tutor-ing: Partnership in Learning* 12(1): 7–21.	Auto-ethnographic account of the authors' mentoring experiences.	ERIC
Johnston, S., and McCormack, C. (1997). "Developing Research Potential through a Structured Mentoring Program: Issues Arising," *Higher Education* 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., and Marshall, K. (2007). "Show Me the Money! An Empirical Analysis of Mentoring Outcomes for Women in Academia," *Higher Education Research & Development* 26(4): 425–442.	Longitudinal study on a mentoring programme for women academics in an Australian university.	ERIC / EBSCO
Garrett, R. U. (2006). "Effects of Mentoring on the Quality of the Doctoral Experience at Historically Black Colleges and Universities: Results of Groundwork Investigation," *Race, Gender & Class* 13(3/4): 311–327.	Survey on 47 doctoral students near to completion, US.	

194

Gibson, S. K. (2004). "Being Mentored: The Experience of Women Faculty," *Journal of Career Development* 30(3): 173–188.	Phenomenological study on women faculty from the University of Minnesota about their experiences of mentoring.	ERIC
Gibson, S. K. (2006). "Mentoring of Women Faculty: The Role of Organizational Politics and Culture," *Innovative Higher Education* 31(1): 63–79.	Phenomenological study on women faculty from the University of Minnesota about their experiences of mentoring.	ERIC
Godwin, K. (2013). "The University of Sheffield: Mentoring Women Academics," *Equal Opportunities Review* 236: 24–25.	Presentation of the initiative for mentoring women at the University of Sheffield.	EBSCO
Grant, C. M., and Simmons, J. C. (2008). "Narratives on Experiences of African-American Women in the Academy: Conceptualizing Effective Mentoring Relationships of Doctoral Student and Faculty," *International Journal of Qualitative Studies in Education* 21(5): 501–517.	Narrative analysis of the mentoring experiences of African-American female doctoral student aspiring for the professoriate.	EBSCO
Grant, C. M., and Ghee, S. (2015). "Mentoring 101: Advancing African-American Women Faculty and Doctoral Student Success in Predominantly White Institutions," *International Journal of Qualitative Studies in Education* 28(7): 759–785.	Narrative analysis of the mentoring experiences of African American women faculty and PhD students.	EBSCO
Grant, L., Ward, K. B., and Forshner, C. (1993). "Mentoring, Gender, and Careers of Academic Scientists," paper presented at the annual meeting of the AERA, Atlanta, GA.	Survey (N 587) and in-depth interviews (N 55) with mentees form different disciplines.	ERIC
Kirchmeyer, C. (2005). "The Effects of Mentoring on Academic Careers over Time: Testing Performance and Political Perspectives," *Human Relations* 58(5): 637–660.	Survey on 143 US academics, male and female, in accounting.	ProQuest
Kosoko-Lasaki, O., Sonnino, R. E., and Voytko, M. L. (2006). "Mentoring for Women and Underrepresented Minority Faculty and Students: Experience at Two Institutions of Higher Education," *Journal of the National Medical Association* 98(9): 1449–1459.	Evaluation of three mentoring programmes for junior women faculty and minority faculty in two academic health centres, US.	EBSCO
Lloyd-Jones, B. (2014). "African-American Women in the Professoriate: Addressing Social Exclusion and Scholarly Marginalization through Mentoring," *Mentoring & Tutoring: Partnership in Learning* 22(4): 269–283.	Conceptual paper and literature review.	ERIC / SCOPUS
Perna, F. M., Lerner, B. M., and Yura, M. T. (1995). "Mentoring and Career Development among University Faculty," *The Journal of Education* 177(2): 31–45.	Literature review, focus on US.	EBSCO

Reference	Description	Source
Quinlan, K. M. (1999). "Enhancing Mentoring and Networking of Junior Academic Women: What, Why, and How?" *Journal of Higher Education Policy and Management* 21(1): 31–42.	Review of different types of mentoring and developmental opportunities, recommendations for practice.	ERIC
Schramm, S. (2000). "Thinking Thrice: A Feminist Response to 'Mentoring' that Marginalizes," ERIC, ED 446463.	Opinion paper – Author reflecting on her own experience as a mentee.	
Tolar, M. H. (2012). "Mentoring Experiences of High-Achieving Women," *Advances in Developing Human Resources* 14(2): 172–187.	Case study on women's leadership pathways. Qualitative survey (N 71) to women awarded with a Truman scholarship.	EBSCO / ProQuest
Ugrin, J. C., Odom, M. D., abd Pearson, J. M. (2008). "Exploring the Importance of Mentoring for New Scholars: A Social Exchange Perspective," *Journal of Information Systems Education* 19(3): 343–350.	Survey in US business schools.	ProQuest
Whitten, D. L. (2016). "Mentoring and Work Engagement for Female Accounting, Faculty Members in Higher Education," *Mentoring & Tutoring: Partnership in Learning* 24(5): 365–382.	Survey on women accounting professors in the US.	ProQuest / SCOPUS
Zellers, D. F., Howard, V. M., and Barcic, M. A. (2008). "Faculty Mentoring Programs: Reenvisioning Rather than Reinventing the Wheel," *Review of Educational Research* 78(3): 552–588.	Review of research and mentoring schemes, focus on US.	
2. The mentors' perspective		
Beres, J. L. (2010). *Examining Mentoring Relationships within the Sport Management Academy: Perspectives of Mentors and Proteges.* Unpublished M.H.K., University of Windsor, Ann Arbor.	Interviews with 13 dyads, male and females, doctoral advisors and PhD students – goes back to Kram and reviews her model by specifying it for the academic sector.	ProQuest
Childress Townsend, G. (2002). "People Who Make a Difference: Mentors and Role Models," *ACM SIGCSE Bulletin* 34(2): 57–61.	Literature review.	
Füger, H., and Höppel, D. (eds.) (2011). *Mentoring for Change. A Focus on Mentors and Their Role in Advancing Gender Equality.* Fribourg: eumentnet.	Edited book reporting more experiences with mentoring programmes for women academics in Europe.	
Lechuga, V. M. (2011). "Faculty–Graduate Student Mentoring Relationships: Mentors' Perceived Roles and Responsibilities," *Higher Education* 62(6): 757–771.	In-depth study on 15 underrepresented mentors from one US university.	EBSCO / ProQuest

Reference	Description	Database
Nielson, T. R., and Eisenbach, R. J. (2001). "Mentoring in Academia: A Conversation with Lyman Porter," *Journal of Management Inquiry* 10(2): 183–189.	Interview with a renowned senior scholar and his experiences in mentoring PhD students.	ProQuest
Pisimisi, S. S., and Ioannides, M. G. (2005). "Developing Mentoring Relationships to Support the Careers of Women in Electrical Engineering and Computer Technologies. An Analysis on Mentors' Competencies," *European Journal of Engineering Education* 30(4): 477–486.	Survey on the ideal characteristics of a mentor, in more academic and non-academic institutions across Europe.	EBSCO
Vongalis-Macrow, A. (2014). *Career Moves: Mentoring for Women Advancing Their Career and Leadership in Academia.* Dordrecht: Springer.	Edited book collecting the experiences of women faculty, from different countries, who achieved leadership positions in universities.	SCOPUS

3. Group mentoring / multiple mentoring as a strategy for fostering networking

Reference	Description	Database
Allen, T. D., and Finkelstein, L. M. (2003). "Beyond Mentoring: Alternative Sources and Functions of Developmental Support," *The Career Development Quarterly* 51(4): 346–355.	Empirical study, survey on 86 employees from the same university.	EBSCO / ProQuest
Bristol, L., Adams, A. E., and Guzman Johannessen, B. G. (2014). "Academic Life-support: The Self Study of a Transnational Collaborative Mentoring Group," *Mentoring & Tutoring: Partnership in Learning* 22(5): 396–414.	Study of the experiences of 19 women involved in a mentoring network across universities (US and Australia).	EBSCO / ERIC / SCOPUS
Collins, A., Lewis, I., Stracke, E., and Vanderheide, R. (2014). "Talking Career across Disciplines: Peer Group Mentoring for Women Academics," *International Journal of Evidence Based Coaching and Mentoring* 12(1): 92–108.	Study of the narratives of 8 women from different disciplines involved in a peer mentoring programme, Australia.	EBSCO
Darwin, A., and Palmer, E. (2009). "Mentoring Circles in Higher Education," *Higher Education Research & Development* 28(2): 125–136.	Investigation of three mentoring circles at the University of Adelaide.	
de Janasz, S. C., and Sullivan, S. E. (2004). "Multiple Mentoring in Academe: Developing the Professorial Network," *Journal of Vocational Behavior* 64(2): 263–283.	Conceptual paper.	
Driscoll, L. G., Parkes, K. A., Tilley-Lubbs, G. A., Brill, J. M., and Pitts Bannister, V. R. (2009). "Navigating the Lonely Sea: Peer Mentoring and Collaboration among Aspiring Women Scholars," *Mentoring & Tutoring: Partnership in Learning* 17(1): 5–21.	Autobiographical study presenting reflections by the participants of a peer mentoring programme at Virginia Tech, US.	EBSCO

Reference	Description	Database
Esnard, T., Cobb-Roberts, D., Agosto, V., Karanxha, Z., Beck, M., Wu, K., et al. (2015). "Productive Tensions in a Cross-Cultural Peer Mentoring Women's Network: A Social Capital Perspective," *Mentoring & Tutoring: Partnership in Learning* 23(1): 19–36.	Autobiographical study by participants in a peer mentoring network for women from ethnic minorities in the US and in the Caribbean. Agosto et al. (2016) report on the same case.	ERIC / SCOPUS
Kalpazidou Schmidt, E., and Faber, S. T. (2016). "Benefits of Peer Mentoring to Mentors, Female Mentees and Higher Education Institutions," *Mentoring & Tutoring: Partnership in Learning* 24(2): 137–157.	Empirical study of a pilot mentoring program for early career female researchers.	EBSCO / SCOPUS
Kwan, J. Y. Y., Prokubovskaya, A., Hopman, W. M., and Carpenter, J. (2015). "Mentoring for Female Medical Trainees in a Dual-setting Group," *Medical Education* 49(5): 540.	Short report of experiences from a group mentoring programme for women in medicine in a Canadian university.	EBSCO
McCormack, C., and West, D. (2006). "Facilitated Group Mentoring Develops Key Career Competencies for University Women: A Case Study," *Mentoring & Tutoring: Partnership in Learning* 14(4): 409–431.	Five-years study of a peer mentoring programme at the University of Canberra.	EBSCO
Murakami, E. T., and Núñez, A.-M. (2014). "Latina Faculty Transcending Barriers: Peer Mentoring in a Hispanic-Serving Institution," *Mentoring & Tutoring: Partnership in Learning* 22(4): 284–301.	Analysis of the experiences of a group of Latina Faculty involved in a peer-mentoring network.	ERIC / SCOPUS
Seritan, A. L., Bhangoo, R., Garma, S., DuBé, J., Park, J. H., and Hales, R. (2007). "Society for Women in Academic Psychiatry: A Peer Mentoring Approach," *Academic Psychiatry* 31(5): 363–366.	Experiences of a peer mentoring group for junior women faculty in psychiatry, 2005–2006, University of California.	EBSCO / ERIC
Sorcinelli, M. D., and Yun, J. (2007). "From Mentor to Mentoring Networks: Mentoring in the New Academy," *Change: The Magazine of Higher Learning* 39(6): 58–61.	Position paper.	ERIC
Van Emmerik, I. (2004). "The More You Can Get the Better: Mentoring Constellations and Intrinsic Career Success," *Career Development International* 9(6): 578–594.	Survey on more than 400 female and 500 male university members in a Dutch university.	ProQuest
Wasburn, M. H. (2007). "Mentoring Women Faculty: An Instrumental Case Study of Strategic Collaboration," *Mentoring & Tutoring: Partnership in Learning* 15(1): 57–72.	Case presenting a new mentoring model based on peer mentoring and networking with more senior professors.	EBSCO
4. Mentoring women as a resource for fostering institutional change		
Brennan, M. (2000). "Mentoring Tenured Women Chemists," *Chemical & Engineering News* 78(36): 46–47.	Opinion paper including short report about a women mentoring and coaching	ProQuest

Reference	Description	Source
de Vries, J., Webb, C., and Joan, E. (2006). "Mentoring for Gender Equality and Organisational Change," *Employee Relations* 28(6): 573–587.	programme in a US University. Empirical study on an Australian mentoring programme for women academics.	
Jäger, U. (2010). "Do Little Strokes Fell Big Oaks? Mentoring within the Federal Programme for Gender Equality at Swiss Universities and Its Impact on Academic Structures," in B. Riegraf, B. Aulenbacher, E. Kirsch-Auwärter and U. Müller (eds.), *Gender Change in Academia: Re-mapping the Fields of Work, Knowledge, and Politics from a Gender Perspective.* Wiesbaden: VS Verlag für Sozialwissenschaften, 409–422.	Empirical study on mentors and mentees in Swiss universities.	
Mullen, C. A. P. (2009). "Re-Imagining the Human Dimension of Mentoring: A Framework for Research Administration and the Academy," *Journal of Research Administration* 40(1): 10–31.	Critical review and presentation of new mentoring models.	ProQuest
Schramm, S. (2000). "Thinking Thrice: A Feminist Response to 'Mentoring' that Marginalizes," ERIC, ED 446463.	Opinion paper.	ERIC
Kalpazidou Schmidt, E., and Faber, S. T. (2016). "Benefits of Peer Mentoring to Mentors, Female Mentees and Higher Education Institutions," *Mentoring & Tutoring: Partnership in Learning* 24(2): 137–157.	Empirical study of a mentoring programme for women early-career researchers in Denmark.	ProQuest / SCOPUS
Thomas, N., Bystydzienski, J., and Desai, A. (2015). "Changing Institutional Culture through Peer Mentoring of Women STEM Faculty," *Innovative Higher Education* 40(2): 143–157.	Empirical study on a peer mentoring programme for women STEM faculty at the Ohio State University.	EBSCO / ERIC

199