Multiple mentoring in academe: Developing the professorial network

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Abstract

Previous studies in business organizations have shown that mentoring provides numerous benefits for both individuals and organizations. Most of this mentoring research has been based on traditional, hierarchical mentor–protégé relationships in non-academic settings. We discuss why there is little empirical research on faculty mentoring and review changes in professors' careers that necessitate a fresh look at this issue. We suggest that because of environmental changes, the traditional model of professors being guided throughout their careers by one primary mentor, usually the dissertation advisor, may no longer be realistic or desirable. Instead, professors may be better served by a portfolio of mentors (Baugh & Scandura, 1999; Higgins & Kram, 2001) who facilitate the protégé's development of career competencies. Building on the work of intelligent careers (DeFillippi & Arthur, 1996), we examine how the career competencies of knowing why, how, and whom interact with learning demands to produce the need for faculty to develop multiple mentoring relationships across their academic career. We build on this conceptualization by considering the role of signaling of career competencies (Jones, 2002) in developing the professorial network, offering managerial implications in developing mentoring programs, and discussing avenues for future research.
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1. Introduction

Mentoring is a powerful process for enhancing the development of individuals and organizations (Allen, Poteet, & Burroughs, 1997; Arnold & Johnson, 1997; Dreher & Cox, 1996; Higgins & Kram, 2001; see Ragins, 1997 for a recent review). Individuals who have a mentor report higher job satisfaction, compensation, promotions, as well as lower turnover intentions and less work–non-work conflict (Allen, Russell, & Maetzke, 1997; Dreher & Ash, 1990; Fagenson, 1989; Higgins, 2000; Nielson, Carlson, & Lankau, 2001; Scandura & Viator, 1994; Tenenbaum, Crosby, & Gliner, 2001; Viator & Scandura, 1991; Wallace, 2001). Organizations benefit from mentoring as well, as mentors facilitate the socialization process, help acculturate junior members of the organization, and foster more positive attitudes toward their work settings and higher organizational commitment (Aryee, Chay, & Chew, 1994; Baugh, Lankau, & Scandura, 1996; Fagenson, 1989; Hunt & Michael, 1983; Kram, 1985; Lankau & Scandura, 2002; Whiting & de Janasz, in press; Wilson & Elman, 1990).

Traditional definitions of mentoring suggest a dyadic relationship in which the more experienced mentor helped guide the career of a younger organizational member as this protégé learned to "navigate the world of work" (Kram, 1985, p. 2) and moved up the firm's hierarchy (Levinson, Darrow, Klein, Levinson, & McKee, 1978; Ragins, 1997). Much of the mentoring research has been conducted within traditional organizational settings with traditional, dyadic mentor–protégé relationships (Allen et al., 1997; Chao, 1997; Kram, 1985; Ragins, 1997). However, changes in the workplace in general and in our conceptualization of careers in particular (see Sullivan, 1999 for a recent review), have necessitated a shift in our thinking about the process of mentoring (Higgins, 2000; Higgins & Kram, 2001; Kram & Hall, 1996). Complexities and challenges in the contemporary environment render the single master–apprentice mentor model insufficient. Individuals need to consider relying not just on one but on multiple, diverse individuals to provide needed development to succeed in their chosen career (Baugh & Scandura, 1999; Higgins, 2000; Higgins & Kram, 2001; Kram, 1985; Thomas & Higgins, 1996). Having a network of mentors can provide a protégé with a variety of developers with different perspectives, knowledge, and skills and who can serve different mentoring functions such as being a role model or providing career-related or emotional support (Baugh & Scandura, 1999; Burt, 1992; Eby, 1997; Higgins, 2000; Kram & Isabella, 1985).

Despite the growth of mentoring research in the management literature and the research on the mentoring of graduate students (Tenenbaum et al., 2001), there are relatively few empirical studies on the mentoring of professors. Three key reasons may explain this. First, it is presumed that faculty are well prepared for their careers and therefore do not require a mentor. Most entrants in academe are expected to have studied extensively to acquire their degrees and have had extensive one-on-one apprenticeship-like training with their dissertation advisor (Betz, 1997). Duderstadt (2001, p. 35) notes that: "Our current paradigm of graduate education is based on an important, yet fragile, relationship between the graduate student and the faculty that evolves from mentorship into collegiality. Graduate students are expected

to attach themselves early and tightly to individual professors." It is assumed that the master scholar/faculty advisor develops the skills of the apprentice/doctoral student, thoroughly preparing him/her for using these skills throughout his/her career (Betz, 1997). Because other well-trained professionals (e.g., lawyers, accountants) typically do not have this kind of master–apprentice relationship, the need for mentoring in such fields may be more apparent and thus the subject of more investigation (e.g., Scandura & Viator, 1994).

Second, the separation of management and labor in an academic environment is more permeable than in many business organizations. In a traditional business environment, one might expect to find a wide variation in terms of employees' education, experience, and responsibilities between hierarchical layers. For this reason, management scholars have warned that employees who are promoted are likely to face many new challenges and need to be prepared for them, perhaps through the guidance of a mentor (e.g., Brett, Feldman, & Weingart, 1990). By contrast, professors of different ranks within an academic environment typically have the same education level and relatively similar experiences and responsibilities, albeit a different mix. College administrators (management) are typically academicians who have accepted the additional responsibility of managing other academics (labor) and engaging in cost-cutting, fund-raising, or other administrative activities. Although traditional business organizations typically have top-down hierarchical reporting relationships, with the exception of the top level administrators (e.g., department chair or dean), professors have few supervisors and these supervisors have limited power because of benefits unique to academe including tenure and academic freedom. Moreover, within the faculty ranks, full professors do not manage associate professors and associate professors do not manage assistant professors. Because of management's and labor's shared professional interests and experiences in teaching and research, it may appear that the barriers to academic career advancement are fewer than in business organizations, thus supposedly reducing the professor's need for mentoring. Further, whereas promotions in business may require a much different set of knowledge, skills and responsibilities, most promotions in an academic environment (from assistant to associate to full) usually bring about only marginal changes in a professor's required tasks and responsibilities, again supposedly reducing a professor's need for mentoring.

Third, the three-rung tenure track academic career ladder (assistant, associate, and full professor) does not parallel the traditional, multi-layered organizational hierarchy. Therefore, the need to have and utilize internal and external sources to obtain necessary opportunities, connections and visibility seems less clear in academe than in a traditional environment (Zanna & Darley, 1987). Boice (1991) interviewed faculty about their careers, and reported many did not believe they needed mentors. For example, in response to whether a new faculty member would be interested in having a mentor on campus, one faculty member stated: "No, I think I am too busy for that... and I'm not sure what such a person could tell me. That's why I decided to become a professor; I like to have good people around me but I prefer to manage on my own." (Boice, 1991, p. 154). Although research (Sorcinelli, 2002) suggests that support from senior faculty, chairs, deans and other campus administrators is critical to the success of new faculty, many of the department chairs interviewed by Boice

(1991, p. 156) expressed the opinion that "the best faculty seem to figure these things out on their own." Many faculty believe in the "sink or swim model" of career advancement; as reported by one of Boice's (1991, p. 165) faculty interviewees "... no one cares what I'm doing... they make a big deal of my one poor teaching rating but not one of them has offered to help. This system would be considered madness in industry. They wouldn't... recruit a doctoral-level specialist and then watch him or her fail." Faculty who do survive the tenure process are presumed "set for life" and to have few career concerns. Thus, it appears that many professors do not view mentoring as a priority.

Given the relatively small amount of empirical research on the mentoring of professors (see Hall & Sandler, 1983; Hill, Bahniuk, & Dobos, 1989 for exceptions), especially in the management literature, the goal of this article is to integrate the literatures on intelligent careers and signaling of career competencies to better understand how a network of mentors can assist in the development of a professor's career, and to suggest further avenues of inquiry within the context of career competencies. We hope that this effort encourages further research on developmental relationships across individuals' careers, and a better understanding of professors' careers in particular.

In the following section, we examine recent environmental changes and their impact on academic careers. Next, we address these changing demands, and discuss how career competencies (knowing why, how and whom) and signaling to convey information to others about these competencies help professors match themselves to potential mentors and aid in professors' development and career advancement. We suggest that some professors may already have multiple developmental relationships, beyond the traditional dyadic mentoring model described in the literature (Betz, 1997; Duderstadt, 2001), which have helped them navigate the changing work landscape. We recommend that more professors examine their careers and consider developing such relational networks in order to increase their career advancement and satisfaction. Finally, we discuss implications and directions for future research.

Changing careers of professors

Recently researchers have begun to study changes from traditional career stage models to boundaryless and protean models (see Sullivan, 1999 for a review). The traditional career models (e.g., Levinson et al., 1978; Super, 1957) suggested that individuals worked for one or two firms and focused on hierarchical movements up the career ladder with accompanying increases in salary and status (Cytrynbaum & Crites, 1989; Dalton, 1989). Today, however, most professionals work for several firms or move from project to project (Ensher, Murphy, & Sullivan, 2002; Jones, 1996; Saxenian, 1996) and focus on the intrinsic outcomes of work (Arthur & Rousseau, 1996; Hall, 1996; Osterman, 1996).

The academic career has been thought of in much the same way as the traditional organizational career, with a professor working at one or two universities (Forsgren, 1969; Shuster, 1970) and progressing from assistant to associate to full professor.

Ideally, the dissertation advisor/mentor would help guide the protégé throughout the career. The mentor would teach the new academic much like apprentices learn their craft from masters in the field. Usually, as the protégé progressed towards tenure, the two would co-author articles and the mentor would help the protégé gain status and visible positions in professional organizations. As the protégé obtained tenure and moved toward full professorship, s/he would mentor newer scholars.

For the last two decades, employees in traditional organizations have witnessed dramatic changes in what constitutes a career. Driven by organizational downsizing, mergers and acquisitions, global competition and the growth of small entrepreneurial startups, the "company man" ideal of stability and upward mobility has given way to a career model that is characterized by flexibility, project work and an emphasis on learning rather than promotions and salary increases (Arthur & Rousseau, 1996). Like business organizations, academic organizations are facing external pressures for change. Because of greater public scrutiny of university spending, legislative pressures for increased faculty interaction with students and the community, and growing expectations for and accountability in learning and university outcomes (Austin, 2002; O'Neil, Bensimon, Diamond, & Moore, 1999), the professor's job has changed. Professors must not only contribute to their field of study and share this knowledge with students, but many must do so with decreased resources and increased workloads (Austin, 2002). Even many teaching-focused universities have increased their research expectations and requirements for tenure and promotion (Blackburn & Lawrence, 1995). Many professors are now required to work with local businesses, engage in public relations work (e.g., media interviews, writing newspaper columns), participate in faculty and student recruiting activities, and teach classes in non-traditional settings (e.g., distance education, on-line courses) to a more diverse student population (Bowser, Auletta, & Jones, 1993; Fox & Levin, 1993; Gmelch, 1993). Technology and globalization have also impacted the professor's job resulting in increased demands for faculty to manage research relationships across organizational and geographic boundaries as well as to teach abroad. Moreover, faculty mobility has increased (McKenna & Sikula, 1981) requiring professors to learn new organizational rules, procedures, and politics each time they relocate. Ironically, these increasing performance and learning pressures come amidst a decreasing proportion of faculty in tenured or tenure-track positions and a growing number of academic institutions seeking to end the tenure system (Benjamin, 2002; Whicker, 1997). Estimates suggest that faculty in temporary (i.e., term) or part-time situations outnumber those who hold regular tenure or tenure-track appointments (Sanchez, 1996; Schuster, 1999).

Given these changes, we suggest viewing the careers of professors not as a linear progression up a specified path, but as a series of learning cycles (Hall, 1996) where professors move from project to project—whether based on research articles, student programs or committee assignments—gaining experience and developing connections with others. The traditional academic mentoring model of a single, more experienced faculty member from the degree-granting institution guiding the protégé throughout his/her tenure track career needs to be reconsidered in light of the increased environmental turbulence (Kram & Hall, 1996). This traditional dyadic

apprenticeship approach has likely become the exception, not the rule, as some faculty have already begun to establish multiple developmental relationships. For example, 70% of the 224 faculty surveyed by Hill and associates (1989) reported having more than one mentor.

In the following section, we examine how the literatures on intelligent careers (Bird, 1996; DeFillippi & Arthur, 1996) and signaling of these career competencies (Jones, 2002) can be integrated to provide a greater understanding of multiple mentoring relationships (Baugh & Scandura, 1999; Higgins, 2000; Higgins & Kram, 2001) that comprise a professor's developmental network. We then examine how career competencies (knowing why, how, and whom) and signaling to convey information to others about these competencies, help professors locate and identify potential mentors that can aid in their career development. Given the changing environment, professors need to signal or convey information about their competencies so that they can attract and match themselves to mentors who can assist in their career advancement. We begin this discussion by examining the career competencies of knowing why, how, and whom.

A competency-based view of the professors career

Following Quinn's (1992) ideas of the intelligent enterprise and competencies within them, DeFillippi and Arthur (1996) suggest that personal competencies reflect different forms of knowledge that can be applied and adapted to the shifting career opportunities characterized by the current turbulent environment (e.g., Kram & Hall, 1996). DeFillippi and Arthur (1996) posit that each form of knowledge—and the accumulation thereof—changes in response to shifting environmental, employment and personal variables and is not dependent on or subordinate to a single organization. This learning-centered approach reflects the shift from employees' assumed long-term commitment to a firm, wherein competencies were built according to organizational needs, to a model of occupational excellence, wherein employees seek to continually upgrade the skills they offer to the marketplace. As academic institutions move toward reducing the proportion of tenured and tenure-track faculty, professors—like other workers—must develop competencies that enhance their reputation and marketability beyond a single organization. Additionally, improved technology (e.g., internet, inexpensive air fares) and the growth and globalization of professional organizations has made it easier for professors to develop working relationships across organizational and geographic boundaries. Furthermore, using this competency-based view to examine professors' careers seems particularly relevant as academics are in the business of learning, i.e., the work of a professor is learning.[2]

These three forms of knowing or career competencies are manifested in people's beliefs and identities (knowing why), knowledge and skills (knowing how) and

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[2] Our thanks to Tim Hall for his help in clarifying this idea.

network or relationships (knowing whom). Specifically, the knowing why competency reflects a professor's values and motivation, otherwise known as a passion, career anchor (Schein, 1978) or career orientation (Derr, 1986; Driver, 1982). Knowing why relates to the identity of an individual faculty member and the fit between this identity and choices made relative to tasks, projects and organizations. Knowing how refers to the skills and knowledge needed for performance on the job. It is the professor's level of expertise. Individuals may use their various employment settings and experiences on different projects to both apply and enlarge the skills and knowledge they possess. Knowing whom refers to the relationships or links that contribute to an individual's networking activities. The friends, colleagues, and professional associations with whom professors network can help build a reputation, provide needed visibility and access to opportunities, as well as provide new sources for learning outside of the professor's university.

As depicted in Table 1, drawing from the ideas of intelligent careers (Arthur, Claman, DeFillippi, & Adams, 1995; Baker & Aldrich, 1996; Bird, 1996; DeFillippi & Arthur, 1996), we will examine how the career competencies of knowing why, how and whom interact with learning demands to produce the need for different types of mentoring. In doing so, we break with the traditional apprenticeship model and demonstrate that it would be unlikely that one mentor could fulfill all the needs of the faculty protégé, necessitating the creation of a developmental network. It is through the interaction with multiple "mentors of the moment" that faculty protégés will expand their competencies and their beliefs about future career possibilities (Baugh & Scandura, 1999).

Table 1
Mapping knowing competencies across career ranks

Career ranks	Knowing why	Knowing how	Knowing whom
Doctoral Student	Is this what I want?	Need to amass technical skills (to do research)	Need to network with professional colleagues to obtain first job
Assistant Professor	Did I make the right choice? What changes should I make?	Increase skills in non-research areas, such as teaching, service	Network with members of the organization to learn through whom decisions are made and how work gets assigned
Associate Professor	How can I balance my life and work after obtaining tenure?	Increase skills in administration and coaching others (e.g., junior faculty, doctoral students), increase skills in new technologies and pedagogies	Network with professional colleagues for collaboration and job change opportunities
Full Professor	What is my legacy?	Increase skills in development and community service	Network with junior colleagues to provide them mentoring and benefit from their newly developed skills

Knowing why

Professors may have different career goals, with preferences ranging from a focus on research, teaching or administrative work and will seek situations that support their preferences and identity. Early in their academic career, doctoral students pursuing tenure-track positions learn that success in academe is generally defined by some standard of performance in three areas: teaching (creating and delivering class content to students), research (presenting and publishing scholarly work), and service (participating in university committees, engaging in professional activities). Within their programs, doctoral students are exposed to research, teaching, and to a lesser degree, service. From this exposure, they begin to learn what they enjoy, are good at, and identify with; in essence, they receive confirmation for selecting this particular career path (or not and leave the field). Their identity is then translated into choices about the institution in which they begin assistant professorhood. Should they work for a research- or teaching-focused university? Are they suited for academia or should they go into consulting or work at a research institute? To help answer these career questions, doctoral students probably seek the counsel of their dissertation advisor as well as one or more faculty mentors who provide both career-related and psychosocial support for making difficult career decisions.

Once a junior faculty member, the knowing why competency continues to be tested and developed. Was the right career path chosen? Is the work satisfying? Junior faculty may seek the advice of their dissertation advisor for help with these questions, as well as seek out new mentors within their university for more organization-specific knowledge about choices and to assist in the newcomer socialization process (e.g., Wilson & Elman, 1990). Junior faculty also begin to build reputations about who they are and for what they will be known.

Should the faculty member earn tenure and eventually full professorship, s/he may continue on the same career path or may reevaluate her/his career path and choose to focus on different activities. Some professors may decide to focus on consulting. Others may switch from a focus on research to teaching or administrative and service work. Still others may focus on their non-work identity and reduce their workload in order to spend more time with family and non-work activities (i.e., community service, church). As these professors change career directions (e.g., as a new department chair or dean) and begin developing new skills and abilities, they will need to seek out new mentors to help guide them.

Knowing how

Despite the advanced degree and beliefs to the contrary, new professors' training for effective and successful performance (i.e., knowing how) in teaching, research, and service may be lacking. Each of these performance areas subsume a great number of proficiencies. For example, being an effective teacher requires the ability to design curriculum, choose necessary materials, design assignments, grade assignments, counsel students, deliver effective lectures and such. Many doctoral programs provide little if any training about the pedagogical and practical necessities or

requirements of effective teaching. Where teaching opportunities exist, they are designed to serve institutional or faculty needs more so than affording a high-quality learning experience for the doctoral student (Austin, 2002). This lack of effective preparation and inadequate matching of students' developmental needs to institutional needs combine to create "trials by fire" early teaching experiences. Upon completion of their programs, these newly-minted Ph.D. are given responsibility to teach multiple, simultaneous courses—sometimes in fields other than for which they were trained or with a population of students that is either more diverse or demanding than the group to which they have become accustomed. The lack of suggested strategies for dealing with difficult students and the near absence of a social network for discussing teaching (Boice, 1991) can make teaching quite difficult for new faculty. Moreover, even as proficiencies are developed, requirements shift, requiring a need for continuous learning (e.g., distance education technology, new class preps).

Knowing how also extends to the ubiquitous "publish or perish" requirement of many universities. These requirements vary from school to school and are generally ambiguous, moving targets (e.g., "publish a lot and in A journals") informally communicated from one colleague to another (Hall & Sandler, 1983). In fact, for those soon-to-be-faculty targeting prestigious or visible universities, evidence of publishing ability must be demonstrated before they graduate (Sheppard, Nayyar, & Summer, 2000). These individuals, many of whom were hired to replace retiring faculty, are expected to demonstrate significantly higher levels of scholarly productivity than their predecessors (Fairweather, 1996; Massy & Wilger, 1995). Publication in academic journals is highly competitive, as acceptance rates average about 15 percent in management fields (Starbuck, 1999). Even when a manuscript is accepted, the time from idea conception through revisions and eventual publication can easily exceed five years. Given the five- to eight-year tenure horizon, faculty must have several articles in process at any given time in order to approach publication performance standards, making critical the involvement with multiple faculty research projects as early as the start of the doctoral program (Sheppard et al., 2000). Because of the high rejection rates, lack of immediate feedback, and lack of research resources, the pursuit of publications can be frustrating for junior and senior faculty alike. Mentoring (and co-authoring) may continue with a former dissertation advisor. However, given the need to maintain a healthy pipeline of research and demands on the former dissertation advisor's time, other mentors or "developers" (Higgins, 2000; Higgins & Kram, 2001) may be sought with different skills (e.g., know how in newer statistical techniques, access to samples).

As Table 1 illustrates, the need to know how does not end early in a professor's career. As faculty improve their ability to teach and perform research, they may be called upon to manage a committee or coordinate community service activities. Each of these projects may require a different mentor who can guide the protégé to fulfill his/her duties effectively.

Knowing whom

The need to develop the knowing whom competency begins shortly after the doctoral program commences. Who is a good mentor? Who has a good reputation?

Who is easy to work with? Doctoral students network with more senior students to learn answers to these questions. They also learn to join professional associations to make contacts with other faculty doing similar work or who might have job positions available. Nearing graduation, students use not only their dissertation advisor's counsel and networks, but also their own connections to gather information on job openings, salaries and other pertinent information.

Networking with other faculty not only helps the junior faculty member to make needed connections, but also expands his or her constellation of developmental relationships (Higgins, 2000; Higgins & Kram, 2001; Kram, 1985). By tapping the faculty member's professional network, the junior faculty member gains assistance in completing research projects and developing teaching skills needed to obtain tenure. Additionally, there are other less apparent dimensions to the tenure process that require skill in knowing whom. For example, obtaining tenure is not possible without the support of faculty in the department, school, or researchers in the field who will be asked to write external letters of review. Early on, junior faculty may need mentors to help them navigate the political environment of their university and profession.

As the academic career unfolds, the shifting demands on faculty can prove unsettling, necessitating a collection of mentors to provide not only career guidance but also psychosocial or emotional support—an important and helpful function of mentoring (Kram & Isabella, 1985). Junior faculty must cope with simultaneous and often conflicting work/family demands as well as possible money problems because of student loans and other financial obligations. It is not surprising that 50% of all faculty in new positions leave their initial institution without tenure (Dowd, 1993). Faculty who are unsuccessful at obtaining tenure go on to other institutions, accept non-tenure track positions or transfer into non-academic settings.[3] Mentors provide the social support necessary to cope with such stressors (Nielson et al., 2001; Young & Perrewé, 2000). Additionally, a lack of knowing whom competencies may decrease a professor's mobility as others do not know them and cannot advocate their knowing how competencies should a move to another institution be desired or required.

Even once a faculty member obtains tenure, the need for mentoring continues. Some professional organizations have recognized this need and have established "not so junior faculty" consortiums to help guide professors through their associate and full professor years. Such formal networking, as well as informal conversations, may help more mature faculty make career decisions about midlife renewal, updating skills, and retirement options.

In sum, we argue that it is unlikely that one person can fulfill the mentoring role across the various projects, functions and learning environments experienced by professors today. We suggest that professors need to, and have already begun to, break away from the traditional dissertation advisor as career mentor model and develop relationships with multiple mentors who can assist in different aspects of their career.

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[3] Although the careers of faculty who leave academe after failing to obtain tenure would be an interesting study, the focus of this paper is on the careers of faculty who remain in academe.

These multiple mentors may or may not be in the protégé's same organization, academic discipline, or even in academia. Junior faculty will target and cultivate relationships with those mentors who can assist them in developing a specific skill or develop the competency (i.e., knowing why, how or whom) needed for a specific project or task. While some mentors may be sought for their career advice, others may be sought for the emotional support they provide. Thus, like managers, professors will need to develop a network or portfolio of mentors who can help them develop across a variety of learning experiences and over the phases of their careers.

For example, Mentor A may provide guidance to a protégé on knowing why for projects 1 and 2 and knowing whom for project 1. Mentor C may provide information on knowing how and why across multiple projects. The protégé may seek the assistance of several mentors to effectively complete one project. This depiction demonstrates how protégés need a variety of different mentors to help them achieve and learn across projects. Multiple "mentors of the moment" (Baugh & Scandura, 1999) who provide specialized advice in matters related to various aspects of research, teaching, technological change, professional service, media relations, consulting, and administrative duties will be better able to respond to the varied and changing needs of the protégé's careers than could a traditional dissertation advisor/mentor. Thus, creating a network of developmental relationships becomes critical to achieving career success (Baugh & Scandura, 1999; Higgins, 2000; Higgins & Kram, 2001; Thomas & Higgins, 1996).

The added value of a constellation of mentors over a single mentor seems clear, however, how does (or should) a protégé connect with these various mentors? We suggest that professors use signals to convey (or interpret) information about their (or others') knowing why, how, and whom competencies. Similar to the entertainment industry where careers are constructed around film projects (Jones, 2002), research projects and articles are often the output of collaboration between/among professors with different skills and resources and are not always based on a single or traditional master/apprentice bond. Thus, professors must engage in a matching process to connect with others who have the skills and resources they need in order to successfully complete desired projects. Professors find these matches by signaling or conveying information about their competencies and reading the signals of other professors about their competencies and interests. In the following section, we discuss how professors use signaling to match with other scholars in order to obtain career success.

The role of signaling in creating the professorial network

Following Jones' (2002) work in signaling in creative industries, we suggest that mentors and protégés use tactics to signal identity (knowing why), performance (knowing how) and social capital (knowing whom). Parties signal or convey information to others, which is interpreted relative to one's past experiences and ability to decipher ambiguous signals. Individuals with more expertise in signaling, especially in accurately interpreting signals, are more likely to find the most effective mentoring matches.

Professors signal their knowing why or identity by which university they obtained their degree, project choices, target journals, and/or preferred research methods. For example, one professor may be identified with her publishing of a large quantity of articles in top academic journals whereas another may be known for his popular press books, speeches, and consulting. These individuals have clearly recognizable identities that indicate the type of projects in which they are interested. Protégés reading these signals might decide to approach the professor who shares common values and interests.

Professors signal knowing how or performance through their reputation. Reputations are based on factors such as past articles, grants obtained, involvement in professional associations, and awards for teaching, research, or service. For example, presidents of the National Academy of Management usually have built a reputation for excellence in a specific research stream and have held many other leadership positions in the Academy. Such visibility also increases the likelihood that they will be sought out by protégés. In addition, as these professors' protégés gain status and reputation (e.g., publishing articles in top journals), this serves to further increase the mentors' status and reputation.

Professors signal knowing whom or social capital by their networks for getting things done. Professors may become known for their collaborative skills and resource acquisition. For example, professors who have successfully obtained a number of high-profile federal grants signal their networking ability to obtain resources for projects. Similarly, professors with extensive consulting contracts may signal their access to firms for data collection and potentially research collaboration purposes.

In sum, as individuals complete projects, these collaborative relationships and outcomes influence their knowing competencies and increase their odds of matching with more and higher status partners and projects. However, the use of signaling may present some challenges to creating an optimal professorial network. First, professors who read and narrowly interpret signals may limit their mentors to single relationships or relationships with only those of higher rank (e.g., She's the best in the field; I want to work with her). Even if the high-profile faculty member agrees to mentor a junior faculty member, she may be stretched among too many protégés to provide needed support. Further, professors may be better served by having multiple developmental relationships, both formal and informal, as well as participating in peer or learning circles (e.g., Higgins, 2000). Moreover, because signals may be altered through impression management, status enhancement and other techniques (Jones, 2002), professors need to learn to how to accurately interpret those signals, aided by cues such as the mentor's past behaviors or the protégé's previous experiences connecting with other mentors. For example, while some faculty may be better known in their field, others—with slightly less prestige—may be better to work with, due to personality or other factors. Faculty who develop their skills in signaling—both conveying and interpreting information—will have more opportunities to develop valuable mentoring relationships.

By building on the Jones' (2002) recent work on signaling, we take a modest but needed step in furthering the initial research on how mentors become part of a

protégé's developmental network (Higgins & Kram, 2001). The use of signaling in developmental relationships is deserving of future research.

Implications and directions for future research

In the past, academics often relied on establishing a strong bond with their dissertation advisor to help them advance throughout their relatively stable careers. Environmental changes including globalization, increased diversity on campus, and rapid technological advances have placed a heavy—and at times seemingly insurmountable—burden on junior and senior faculty alike. Undoubtedly, we will see more changes in the academic career as legislative and cost pressures continue, and the use of adjunct, part-time, and non-tenure track faculty increases.

In this article, we have examined academic mentoring, in particular, how the development of a multi-mentor network can help faculty develop the competencies needed to navigate in this increasingly complex environment. Based upon these ideas, we have several recommendations for how universities can improve faculty mentoring. To begin, while 60% of *Fortune's* 100 best companies to work for in the U.S. have formal mentoring programs (Branch, 1999), a web and database search suggests that relatively few universities have such programs for their professors. Universities are beginning to realize what many companies have long recognized; in our knowledge economy (Clawson, 1996; Nielson, 1999; Pinchot & Pinchot, 1994; Webber, 1993), the people within which knowledge resides become the primary assets and sources of competitive advantage to the firm. Academic organizations, like those in industry, can reap benefits by focusing on faculty development, including mentoring programs, as a source of competitive advantage and as a means of reducing turnover and increasing socialization rates, organizational commitment and satisfaction. These benefits would likely extend to faculty as those with mentors should have higher job satisfaction and compensation, more work/family balance, lower stress, and should be more likely to achieve tenure. Such academic mentoring programs can be guided by the successful implementation of similar programs in industry (e.g., Geiger-DuMond & Boyle, 1995; Lindenberger & Zachary, 1999). Research on formal mentor programs in industry suggests that success is more likely when participants have input into the matching of protégé to mentor, when the pair establishes goals and meets regularly, when there is an exit mechanism, and when the mentoring program is integrated into other career development efforts (Forret, Turban, & Dougherty, 1996; Gibb, 1999; Viator, 1999; Wilson & Elman, 1990; see Scandura & Williams, 2002 for a review).

The University of Hawaii (UH) can serve as a model for establishing such faculty development programs. UH has a multi-level program that combines formal mentoring with workshops, seminars, and web information that supports and reinforces mentor relationships. UH provides specific guidelines on how to be a mentor/protégé and encourages the pair to establish a mentoring contract to clarify goals and expectations. UH's program, which works with an average of 200 mentoring pairs a year, has become a model for other universities as well as for the US Army and the Hawaii

business community. UH program's director Carol Dickson sums up the program's vision: "The way a University shows that it cares about students, and even research and service, is by caring about (and actively supporting) the faculty. UH cares." Efforts such as UH's program may result in benefits for the university. Aside from the personal costs of failure in the "up or out" academic career path (Viator & Scandura, 1991) as well as the organizational effects of dysfunctional turnover, replacement costs incurred to universities may be quite high. The cost of hiring new faculty varies depending on rank, field and university with ranges from $2181 (EMA/SHRM/Staffing.org, 2001) to $1 million (Brand, 2000). In addition to the organizational benefits, UH faculty also reap benefits. Mentors report feelings of satisfaction from helping their protégés succeed, and protégés especially acknowledge the help they received in handling department politics as well as assistance in developing teaching and research skills (Dickson, 2002). Because there has been relatively little research on formal mentoring programs (see review by Scandura & Williams, 2002), we recommend that such formal programs as the UH program as well as the interaction between formal and informal mentoring relationships and how individuals initiate and manage these multiple relationships be examined further.

Unlike the UH program, which is institutionally based, the Academy of Management (AOM) has established an on-line mentoring program to assist faculty across different universities to establish mentoring relationships. Initially, the program grew out of a recognized need to provide informal mentoring opportunities for minority junior faculty (Greer, 1999). Currently, the more formalized, on-line program includes minority and non-minority faculty from schools large and small, public and private, national and international. The on-line mentor program, whereby faculty members voluntarily submit information in support of their role as potential mentor or protégé, is one part of AOM's integrative efforts to support developmental faculty interactions. AOM's foray into technologically-enhanced mentoring complements its existing on-site efforts, including divisional mentoring programs, mentoring sessions during the annual meeting, the encouragement of research on mentoring, and awards for outstanding mentors and mentoring programs. While AOM's on-site efforts would be judged by many to be successful, the on-line mentoring program is currently on hiatus. Only 51 (13 mentors, 38 protégés) of AOM's 11,674 current members have participated in the on-line program and very few mentoring matches were made. It may be that the program needs to be better marketed and already planned efforts to integrate the on-line program into on-site, face-to-face mentoring activities may increase its visibility.[4] Additionally, the use of face-to-face sessions at the AOM conferences could strengthen the bonds of matches and provide them with additional information in managing a relationship that is influenced by technology and physical distance. The original informal matching of mentors to protégés by one AOM faculty member was successful, probably in part due to the matchmaker's knowledge of both parties and the setting of the National AOM meetings that

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permitted the matched mentors/protégés to meet face-to-face to determine if the match was appropriate. Given the increasing size of the AOM, this informal matching process became difficult and the on-line mentoring program seemed to be a possible solution. However, a number of the participants in the on-line program we contacted were unsure how to initiate matches or develop relationships. Most of the individual on-line descriptions listed only basic information such as name, address and research interests, providing little indication of an individual's knowing why, how and whom competencies. The lack of signaling on the part of both mentors and protégés coupled with their lack of experience with the mentoring process may explain why so few matches were made. It may be useful for AOM to provide guidelines similar to those provided on UH's website for how to be a mentor/protégé. More detailed on-line information about the mentors and protégés may also aid in the matching process. Follow-up face-to-face sessions at the AOM meetings may be needed to strengthen the bonds of matched pairs and to provide assistance to those having difficulties finding a match.

Industrial and professional organizations may learn from the AOM model as AOM has integrated face-to-face activities at national meetings that permit opportunities to informally develop mentoring relationships with more formal methods such as the on-line mentoring program and regional networking sessions. AOM's efforts cut across university boundaries while co-existing with naturally occurring mentoring relationships such as those between dissertation advisor and protégé. Moreover, academia may be one of the few fields where we still see mentoring relationships as described by Levinson et al. (1978), whereby the advisor helps the novice scholar realize his/her dream as he/she advances through the career. Professional organizations could learn from this academic model as these relatively rare relationships often last over time and across distances to mature into a working relationship between peers. Further research on the development and maintenance of advisor/student relationships, especially the use of email, is needed. The use of the Internet as a tool in the mentoring process has yet to be fully examined. The Internet may open doors previously closed to those persons traditionally underrepresented in mentoring relationships, such as women and people of color. For those lacking confidence to initiate a relationship with a senior person in their field (e.g., Whiting & de Janasz, in press), or concerned about the potential misconstrual of cross-gender mentoring relationships (Kram, 1985; Ragins, 1989; Ragins & Cotton, 1991; Ragins & McFarlin, 1990), the use of computer-mediated communication in mentoring may reduce problems in developing effective mentoring relationships (Ensher, Heun, & Blanchard, 2003).

Another area for future research includes how mentors become part of a protégé's network and how members of that network interact. Because research on signaling is in its infancy (Jones, 2002), much is still unknown about how signals are used to attract and aid in the matching process. Little is known about the dysfunctional aspects of signaling such as the misinterpretation of signals or how certain interpersonal processes (e.g., impression management), may exaggerate perceived knowing competencies, or whether women—believed to be more intuitive and sensitive to non-verbal cues than men—may be better at reading and interpreting signals.

Another important direction for future research concerns the actual mix of mentors in a protégé's network. With the exception of one study (Baugh & Scandura, 1999), mentoring research has focused on a single or primary relationship or on the cumulative mentoring a protégé has received over time (Higgins & Kram, 2001). Whether due to the relative youth of the mentoring network concept or perceived measurement issues,[5] we have yet to study the effects of a particular configuration or constellation of mentors. Questions regarding the mix of mentors between formal and informal relationships, relationships internal and external to the organization or profession, and the mix of mentoring and peer relationships need to be addressed. Further, how the optimal mix of mentors may vary by occupation, industry, or career life stage needs to be studied. With the exception of our brief discussion of signaling, this article does not provide much explanation for how individuals realize their need for mentoring, seek out various mentors, and manage these multiple developmental relationships. This limits our framework and calls for further development of the conceptualization, greater integration of the signaling and social network literatures, and the collection of data to test the framework's assumptions. Furthermore, while having a cadre of diverse mentors on whom to rely has distinct advantages (Burt, 1992; Eby, 1997; Higgins, 2000; Kram & Isabella, 1985), several potential disadvantages of having multiple mentors must be recognized. Junior faculty may find it difficult to manage multiple mentoring relationships. The time and emotional energy needed to initiate and maintain relationships with different mentors—who may have much different work styles and personalities—could be excessive, especially in light of increasing performance demands. In addition, the law of numbers suggests that the greater the number of mentoring relationships, the greater likelihood that one or more of these could be dysfunctional (Scandura, 1998). However, should this occur, a protégé with multiple mentors has the option of seeking support from another mentor in his/her network. Having multiple mentors who provide support and advice in more than one domain (e.g., work and family issues) may enhance the buffering potential of the protégé's multiple roles (Baruch & Barnett, 1986).

Finally, our framework suffers from a common problem of the mentoring literature—the lack of an agreed upon definition of a mentor. Although survey instruments in some empirical studies specifically define what a mentor is (e.g., Baugh & Scandura, 1999), it appears that lacking a formal, agreed upon definition, both researchers and practitioners have very different ideas of what constitutes a mentor. Many use the term mentor interchangeably with coach, sponsor and colleague, yet these roles may involve very different types of relationships and support. For example, Thomas and Kram (1988) propose that researchers differentiate between true

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[5] While Ibarra and others have conceptualized and measured networks in various aspects of business, this has not yet been applied to mentoring. It may be that more complex longitudinal research designs are needed to measure not only the cumulative effects of multiple mentors, but more importantly, to be able to parcel out the individual and interactive effects of each mentor on protégé outcomes and attitudes over time. For example, one or more of a protégé's mentors may provide benefits while one or more may give rise to problems or additional stress. Capturing only the total effect of a multi-mentor network would fail to show how certain mentors provide value in certain situations while others may not.

mentors—who provide high amounts of career and psychosocial support—and others such as sponsors. Higgins (2000) suggests that the amount and type of help provided (i.e., career, psychosocial) be used to conceptualize mentoring and suggests a continuum of mentors ranging from ally (someone who helps a protégé only if and when help is needed) to friend (someone who provides high amounts of psychosocial support) to sponsor (someone who provides high amounts of career support) to true mentor (someone who provides high amounts of both career and psychosocial support). Until mentoring researchers adopt a consistent definition within both academic and non-academic organizations, our ability to generalize across settings or compare findings across studies is hampered.

In sum, much more research is needed on the complex dynamics of multiple mentoring relationships, including: Is there an optimal number of mentors (or protégés) to have? Is there an optimal mix of mentors who provide assistance with knowing why, how, and whom competencies? Does it matter whether members of this professorial network are within or outside the protégé's organization, or if these relationships developed through formal or informal means? How do multiple faculty mentors and protégés' relationships develop and mature over various projects and over time? This article illuminates important topics that have been neglected and suggests using career competencies as a fresh and different way of examining mentoring. We hope this paper on the need for, and use of, multiple mentors in academe encourages further research and discussion.

Acknowledgments

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