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Faculty Mentoring Faculty in a Public University

In the past two decades “mentoring” has become a “buzzword” in higher education. Whether one is a student, a beginning faculty member or an administrator, one is advised to seek a mentor. The message has resonated loudly among minority group members and women, who tend to be excluded from informal, interpersonal means of career development [3, 12]. In order to promote the advancement of disadvantaged groups, a variety of mentoring programs have been implemented [15, 19].

Mentoring relationships usually consist of individuals of senior and junior rank or status. One partner is a seasoned member of the organization; the other is a newcomer or trainee. In a university setting, the relationship typically consists of an accomplished faculty member and a graduate student. When a faculty member mentors another faculty member, however, the situation is different. Faculty members are peers on the departmental level. Yet those who are mentored by colleagues put themselves in an unequal and vulnerable position in relation to persons who, some time in the future, may be making decisions about their tenure and promotion. In view of the sensitive issues that are the backdrop of a faculty-faculty mentorship, those relationships that do de-

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velop may be different from those formed between a faculty member and a student.

Not much is known about mentoring between faculty members. It is not known how prevalent the practice is or whether the relationships that develop are actively sought by junior faculty members, fostered by mature scholars, evolve naturally, or are the products of policies promoted by some departments. The term “mentor” has been subject to so many interpretations that it is not known how university faculty members view the concept.

The research described in this article looks at how faculty at a public, research-oriented university in the midwest envision and practice mentoring among themselves. This report derives from a larger study that focused on affirmative action issues in relation to mentoring and other forms of career support and elicited attitudes toward and suggestions about a mentoring program. In this study “mentor” was defined as a person who serves as a guide or sponsor, that is, a person who looks after, advises, protects, and takes a special interest in another’s development. The research questions included the following:

1. What are the past and current experiences of faculty with respect to mentoring?
2. What is the nature of mentoring between faculty members in this academic setting?
Who mentors whom? How often? Under what conditions?
3. What are ideal types of faculty mentors? Which populations prefer which types?

Definitions of Mentor

The term “mentor” has its origins in Greek mythology. Odysseus’ son Telemakhos was entrusted to the fatherly Mentor who looked after Telemakhos when Odysseus was at war. Curiously Athena, goddess of wisdom, sometimes appeared in the guise of Mentor. Mentor gave Telemakhos advice, cared for him, and protected him [18]. The wise counsel, parental protection, and caring that characterized this relationship are evident in later interpretations of the term.

Levinson and associates [20] are credited with the development of current thinking about the mentor-protégé relationship. In a study of 40 mid-life men (academic biologists, novelists, executives, and hourly workers), the researchers identified the mentor as a developmentally significant transitional figure for men in the novice phase of early adulthood (ages seventeen to thirty-three). The mentor is usually eight

to fifteen years older than the protégé, is situated in the same work setting, and generally serves for two or three years as a mixture of parent and peer. The functions of the mentor include teacher, sponsor, host and guide, exemplar, and counselor.

Scholars provide varied interpretations and emphases in their definitions of a mentor or mentoring relationship. Merriam [22] describes mentoring as “a powerful emotional interaction between an older and younger person, a relationship in which the older member is trusted, loving, and experienced in the guidance of the younger. The mentor helps shape the growth and development of the protégé” (p. 162). Moore and Salimbene [23] use the term “mentor” “to identify an intense, lasting, and professionally centered relationship between two individuals in which the more experienced and powerful individual, the mentor, guides, advises, and assists in any number of ways the career of the less experienced, often younger, upwardly mobile protégé” (p. 52). Darling [9] views mentoring as “a process by which you are guided, taught, and influenced in your life’s work in important ways” and a mentor as “a person who leads, guides, and advises a person more junior in experience” (p. 42). A number of writers view mentors as role models [24, 28]. Nevertheless, others [29] warn that these relationships are “restrictive” and come “with strings attached” (p. 58).

The term “mentor” has been used in conjunction with related terms that are sometimes used synonymously with “mentor” and at other times in specific ways. Speizer [29] uses the terms “sponsor” and “mentor” interchangeably to describe individuals who provide career guidance to younger professionals. Bolton [4] sees a “role model” as someone who demonstrates how a job is to be performed and a “mentor” as a “personalized” role model who acts “as a guide, a tutor or coach, and a confidant” (p. 198). In a discussion of social support systems in academia, Reohr [25] distinguishes between the mentor and the “colleague.” The mentor has a greater social and intellectual status than the protégé(e) whereas the colleague provides a relationship based on equality.

Research studies have used differing definitions of “mentor” [22, 29]. In some, respondents define the word subjectively; in others, the word “mentor” is used interchangeably with role model and sponsor. Studies in which Levinson’s definition was used find mentoring rare, whereas research in which mentor is viewed broadly as a “sponsor” or “helper” finds mentoring more common [22]. As a result of this diverse treatment, the results of one study cannot be compared with results of others.

Mentoring in Academic Settings

Although mentoring has been studied in relation to corporations and business [8, 16, 26], “no distinct line of research can be traced with respect to mentoring in academic settings” [22, p. 169]. The studies that have been undertaken focus on students, administrators, and faculty. Studies of students look primarily at those at the graduate level. In a survey of students who had attended the University of Illinois at Urbana-Champaign 1968–75, Berg and Ferber [1] found different patterns of interaction between men and women students and faculty. Regardless of the field, more men than women students reported that they came to know one or more male faculty members well; differences were statistically significant in the biological, physical, and social sciences, in which fields there was a paucity of women faculty. Another finding was that more men students than women were treated like a junior colleague by at least one male professor, particularly in the physical and biological sciences. Although more women than men got to know women faculty and more women than men were treated like a junior colleague by women faculty, the percentages were less than half of those for men faculty, reflecting the small pool of women faculty. The authors remark that students and faculty seem to relate more “comfortably” with persons of the same sex, but with a small pool of women faculty, women students are at a clear disadvantage in finding mentors.

Another large study of students at a state-supported university in the midwest was reported by Hite [17]. Here a stratified, weighted sample of male and female doctoral students in fields categorized as traditional (historically female-oriented), androgenous (not sex-specific), and non-traditional (historically male-oriented) were compared in relation to role congruence and support from colleagues and peers. Hite found that regardless of the field of study, more men than women experienced role congruence and perceived that they were getting support from faculty. Differences in peer support were not significant. The author observed that women enrolled in doctoral study experience conflict integrating personal and educational roles; and that because of this, women need more support from faculty than men.

Other studies pertain to academic administrators. In a qualitative study of nine women academic administrators, McNeer [21] observed that mentoring of women by women administrators and senior faculty was of significance for women administrators. Moore and Salimbene [23], who interviewed 35 male and female administrators in Pennsylvania colleges and universities who had had mentors during their careers,

presented different composite pictures of male and female administrators' mentoring experiences, described how these relationships evolve, identified what mentors do, discussed pressures that occur, and outlined implications for women. These authors found that the most common mentoring interaction was one of superior/subordinate, with the mentor an administrative superior. Furthermore, women had male and female mentors, whereas men had only male mentors. Mentors provided guidance to protégé(e)s by exposing them to new experiences and evaluating and correcting their performance under these conditions.

The studies on faculty are diverse. In a survey of 250 male and female faculty members from nine universities in Illinois and Michigan, Cameron and Blackburn [6] found support for the hypothesis that a low level of intimacy between a mentor and mentee was related to continued research collaboration. Fowler's [13] study of 30 male and female assistant professors resulted in no significant differences in the number or quality of mentoring relationships between the two groups, although women perceived more sex discrimination at work. Young, MacKenzie and Sherif [33] found that token women (who accepted the norms of the universities and were not identified with feminism) were no more likely to have had sponsors than non-token women or women with mixed orientations. From a study of 147 senior faculty at the University of Minnesota, Clark and Corcoran [7] looked at the subjective experiences of the 12 women in their sample. They concluded that women experience "accumulative disadvantage" from the time they choose a graduate school through career entry and continuance. Blackburn, Chapman, and Cameron [3] studied mentors' perspectives on the mentor-protégé(e) relationship and the characteristics of their most successful protégé(e)s. Mentors overwhelmingly referred to protégé(e)s whose careers were similar to their own, that is, their "clones." In a study of mentoring between junior and senior faculty nurses ($N = 183$, 97.8 percent women), Williams and Blackburn [32] found that mentoring is a multidimensional phenomenon. Using a factor analysis, the authors identified four types of mentorships: role-specific modeling/teaching, encouraging the dream, organizational socialization, and advocate. Only the first of these was predictive of research-oriented productivity among mentees. The authors described this type of mentorship as a "hands-on" collaboration in which the mentor helped the mentee plan a research project, write a proposal, find funding, and conduct research. In this study institutional supports (clerical assistance, professional stimulation, general professional support) were also associated with faculty productivity.

Conceptual Framework

In this research, mentoring was viewed as both an individual developmental experience associated with maturation in adulthood and as a reflection of the ecology of the workplace. Accordingly, adult development and ecological theory were utilized. Erikson [11] was one of the first theorists to recognize that adults grapple with different developmental issues as they mature. A major task of adulthood is to resolve the psychosocial conflict of generativity versus stagnation. Generativity refers to providing guidance to the next generation. Although it is epitomized in parenthood, it is also expressed in other activities, for example, in being a mentor. According to Erikson, generativity is a dimension of healthy personality development that, if bypassed, can result in regression and impoverished growth.

Building on Erikson's work, Vaillant [30] identified a stage he called Career Consolidation that occurs between the ages of twenty-five and thirty-five. During this period the Harvard men Vaillant studied worked diligently, became integrated into the systems in which they worked, and devoted themselves to their families. At the same time, the subjects acquired, assimilated, and eventually relinquished mentors and role models. Mentors helped the men progress in their careers. Those men who had mentors only during adolescence or did not acquire mentors until they were in their early forties were relatively unsuccessful.

Levinson and associates [20] viewed both being a protégé and a mentor as developmental issues. The mentor "fosters the young adult's development by believing in him, sharing the youthful Dream and giving it his blessing" (p. 99). During a later stage, "Becoming One's Own Man" (ages thirty-six to forty), the mentoring relationship becomes conflictual, with the protégé breaking away from the mentor. Most of the men in Levinson's study relinquished their mentors by age forty, paving the way to becoming mentors themselves.

According to ecological theory, human relationships are developed in the context of person-environment exchanges [14]. Individuals adapt to their environments over time through reciprocal transactions. The ability of an organism to thrive in an environment is related to the "goodness of fit" between the person and environment, the satisfaction of mutual needs, stressors, the capacity to cope, and supports.

Work environments that promote faculty development provide sources of support, such as mentors, who can promote the growth of novices. Where mentoring exists, the ecology or climate of the organiza-

tion as a whole and within constituent units would be such that giving and receiving guidance are embedded in the values and norms of the organization.

Method

This study was designed to gather quantitative and descriptive information on the nature and extent of mentoring and other forms of career support among faculty at a public university in the midwest. A mailout survey was undertaken.

Sample

Faculty included in this study's population were on the tenure track or tenured and occupied the ranks of either assistant, associate, or full professor during the 1987–88 academic year. Faculty with appointments as administrators with the rank of dean and above, those with adjunct, clinical, or emeritus appointments, and faculty at regional campuses were excluded. The total pool that met these criteria consisted of 2259 individuals.

A random sample stratified by rank and sex was drawn from a list of eligible men and women faculty members of each of the three ranks except for the women full professors, who, because of their small number, constituted the entire population. A sample of 100 subjects for each of six rank-sex cells (except for the population of 57 female full professors) was computer generated. Accordingly, the sample consisted of 557 subjects (300 men, 257 women).

By the time of analysis, 347 questionnaires were returned. The response rate was computed by dividing the number of questionnaires returned by the "reduced sample size" and multiplying this by 100 (Dillman, 1978). The sample was reduced by subtracting from the original sample those respondents whose questionnaires were returned as undeliverable, those who were unreachable (for example, on leave), and/or those who were ineligible to participate (for example, term assistant professor). The overall response rate was 64.5 percent. The rate was higher for women faculty (74.6 percent) than men (56.1 percent). The assistant professors had a higher return rate (70.7 percent) than faculty of the other ranks (60.3 percent for associate professors; 62.1 percent for full professors).

Demographic and academic characteristics of all the respondents are described in table 1. The respondents included somewhat more women than men. The median age was forty-two, and 68 percent were married.

TABLE 1
Demographic and Academic Characteristics of Total Respondents (N = 347)

Sex	Female	(181)	52.2%
	Male	(166)	47.8%
Age	Mean		43.7
	Median		42
	Mode		36
	Range		28-67
Marital status	Married	(237)	68.3%
	Not married	(110)	31.7%
Racial/ethnic Group	Asian	(22)	6.4%
	Black, non-Hispanic	(6)	1.7%
	Caucasian	(307)	89.0%
	Hispanic	(6)	1.7%
	Native American/Other	(4)	1.2%
	No response	(2)	
Rank	Assistant Professor	(136)	39.2%
	Associate Professor	(117)	33.7%
	Full Professor	(94)	27.1%
Tenure status	Tenured	(225)	64.8%
	Untenured	(122)	35.2%
College	Arts and Sciences	(115)	33.7%
	Professional Schools	(175)	51.3%
	Others	(51)	15.0%
	No response	(6)	
Terminal degree	Doctorate	(283)	81.6%
	Medical degree	(17)	4.9%
	Law degree	(8)	2.3%
	Master's degree	(30)	8.6%
	Combination/other	(9)	2.6%

Although the sample was stratified by rank, more than a third of the respondents were assistant professors and less than a third were full professors. The categorization of colleges in Table 1 was as follows. Arts and Sciences included arts, the biological sciences, humanities, mathematics and physical sciences, and social and behavioral sciences. Professional Schools included allied medical professions, business, dentistry, education, engineering, law, medicine, nursing, optometry, pharmacy, social work, and veterinary medicine; and Other encompassed agriculture, home economics, and unspecified. The sample consisted largely of Caucasian, tenured, middle-aged faculty with doctorates.

Instrument

The questionnaire was developed by the research team. Several questions were adapted from instruments utilized in other studies [23, 28, 31]. Some questions were generated by the investigators; others came from a qualitative study of junior faculty [5] and the literature on men-

toring. The instrument was reviewed by 18 individuals who had expertise in research methods and/or faculty development. Many useful suggestions on the format, wording, length, and scales were made.

A pilot study, in which 16 individuals were asked to complete the questionnaire, was conducted on and off campus. Results from the nine faculty members who returned this survey supported the ability of this questionnaire to address the issue of mentoring and its sensitivity to the concerns of women and minority groups. As a consequence of the pilot study, wording was changed, sequencing directions were made clearer, and the length of the questionnaire was reduced.

The instrument had sections on demographic information, mentoring experiences, other career supports, career impediments, and the need for a mentoring program. The sections relevant to the results reported here are: (1) *Demographic and Academic Information*: sex, age, rank, tenure, status, minority status, college, parental/familial/household responsibilities; and (2) *Mentoring Experiences*: individual definition of mentor; experiences as mentor and/or mentee; mentoring functions; gender/minority match; reasons for becoming a mentor; reasons for not having a mentor; how relationships begin; responsibility for mentoring; obstacles, problems, and barriers. Many of the variables included pertained to the focus on affirmative action issues in the larger study.

Participation in this study was voluntary. Confidentiality was insured by assigning code numbers to the questionnaires after they were returned. The design, questionnaire, and cover letter to participants were approved by the Human Subjects Review Committee of the university where the survey was conducted.

Procedure

Procedures recommended by Dillman [10] for mailed surveys were used with some modifications. Subjects were sent a questionnaire along with accompanying material by campus mail. The packet included a cover letter explaining the study, a comment sheet containing statements of support by a cross-section of prominent faculty, a response sheet, and a return envelope for the questionnaire. In order to maintain confidentiality, the response sheet was to be returned under separate cover to a different coprincipal investigator. The names of those who returned response sheets were recorded weekly on a data management file so that those respondents would not be sent further correspondence.

Two weeks later, all subjects for whom no letter of response was received were sent a one-page letter reminding them to respond. Three weeks later, all subjects who still had not returned the response sheet

were sent a new packet containing a reminder letter, another questionnaire, a response sheet, and an envelope.

Non-respondents

Two months after the second mailing, those faculty who had not returned their response sheets were sent a one-page letter in which they were asked to indicate whether they intended to respond, why they had not responded, and their opinions on the need for a mentoring program. This survey was returned by 64 individuals, 33.5 percent of the 191 nonrespondents.

The major reasons nonrespondents gave for not participating were that they were too busy and the questionnaire was too long. Responses to the other questions indicated that they had somewhat less positive attitudes toward mentoring programs than the respondents.

Coding, Data Entry, and Data Analysis

A graduate research assistant coded quantitative data according to a codebook developed by the principal investigators who later coded a random sample of 10 percent of the questionnaires. The rate of agreement between the graduate assistant and the investigators was 98 percent. Another graduate student entered the coded responses into the computer. Analysis consisted of descriptive, parametric and nonparametric statistics. The SPSS-2X package of computer programs was used. Responses to open-ended questions were entered into a data management file in which demographic information was also maintained. The results of this analysis will be reported elsewhere.

Findings

The Prevalence of Mentoring

In response to the question, "Have you ever had a mentor?," 72 percent of the faculty responded affirmatively. Those respondents who said that they had had a mentor were then asked to indicate their position at the time they were mentored. As table 2 shows, the largest percentage of faculty were mentored when they were graduate students. Only about a third of those responding to this question reported that they were mentored by a colleague at the university in which the study was conducted. (In a separate analysis, the same proportion held for assistant professors.) About 20 percent were mentored as undergraduate students. Chi-square tests revealed that there were no significant differences between male and female faculty in the frequency of any of their mentoring experiences.

TABLE 2

Percentages of Respondents with History of Being Mentored Who Were Mentored When They Were in Various Positions ($N = 250$)

Position at Time	Female		Male	
Undergraduate student	(35)	19.3%	(34)	20.5%
Graduate student	(100)	55.2%	(79)	47.6%
Post-doctoral appointment	(13)	7.2%	(16)	9.6%
Faculty member at another university	(24)	13.3%	(23)	13.9%
Faculty member at this university	(65)	35.9%	(54)	32.5%
Faculty member with administrative appointment elsewhere	(6)	3.3%	(3)	1.8%
Faculty member with administrative appointment at this university	(7)	3.9%	(4)	2.4%
Employee (nonacademic setting)	(11)	6.1%	(6)	3.6%
Other	(7)	3.9%	(3)	1.8%

Nature of Mentoring

Faculty who were mentored by other faculty on campus and those who served as mentors were asked similar questions about the initiation of the relationship, the ranks of participants, and the amount of time involved. Regardless of the role of the respondent (mentor or "mentee") or the sex, the relationships were primarily mutually negotiated. The next most frequent pattern was initiation by the mentor, with departmental assignment a relatively rare alternative. Although the largest proportion of mentors described by male and female mentees were full professors, many mentors for women were associate professors. Mentees were predominantly assistant professors.

Faculty who were mentored were also asked whether their mentors were of the same sex. Male and female mentees were more likely to be mentored by men than women to a highly significant degree (chi square = 33.96, $df = 1$, $p < 0.0001$, $\phi = 0.58$). Nevertheless, contrasting results were found among faculty who reported that they served as mentors. More female than male mentors reported that they mentored women (chi square = 6.58, $df = 1$, $p = 0.01$, $\phi = 0.27$) and more male mentors said that they mentored men (chi square = 10.79, $df = 1$, $p = 0.001$, $\phi = 0.34$).

Faculty mentors and mentees were also asked about the amount of time per academic quarter that is spent with their mentoring partner. On the average, 10–30 hours per quarter (1–3 hours per week) was spent in this undertaking, although for seven respondents, 98 hours or more per quarter were utilized in this way.

Types of Mentors

The questionnaire contained a list of 29 activities or functions associated with mentoring in the literature. All respondents were asked to assess each of these functions with respect to “ideal” faculty-faculty mentoring. Respondents rated the functions according to a Likert scale ranging from 1 (not at all important) to 5 (very important).

Responses to this question were subjected to a factor analysis. A principal components analysis with a varimax rotation to simple structure initially produced six factors with eigenvalues over 1.0. On the basis of a Skree test, a four-factor model was adopted. These factors accounted for 47 percent of the variance (see table 3).

The following is a description of the four factors in which the items with loadings of 0.50 and above are identified:

Factor 1 included seven variables — friendship, emotional support, advice about people, help making difficult career decisions, help with personal problems, participation in social activities, and defense from criticism. The descriptor, *Friend*, is used because of the socio-emotional, personal and interpersonal qualities suggested in the items with high loadings. This factor accounted for 14 percent of the variance.

Factor 2 contained high loadings for collaboration in research or publications, introductions to persons who could further one’s career, involvement in a professional network, promoting professional visibility, and advice about research opportunities, grant proposals, or funding sources. Because of the emphasis on professional advancement and visibility evident here, this factor is called *Career Guide*. Factor 2 explained 12 percent of the variance.

Factor 3 highlighted information about university policies and procedures, information about formal expectations for promotion and tenure, information about informal expectations for promotion and tenure and advice about committee work. These components describe the mentor as an *Information Source* on how to get through the university system, a construct which accounted for 11 percent of the variance.

Factor 4, Intellectual Guide, consisted of intellectual guidance, constructive criticism/feedback, promotion of an equal and collaborative relationship, and review of drafts of papers. The mentor who serves as an *Intellectual Guide* helps another faculty member develop by providing a relationship in which both collaboration and constructive feedback are incorporated. This factor accounted for 10 percent of the variance.

TABLE 3
Principal Components Analysis of Ideal Mentoring Functions

Function	Factor 1	Factor 2	Factor 3	Factor 4
Friendship	0.50	-0.12	-0.11	0.34
Intellectual guidance	0.19	0.08	0.03	0.70
Collaboration on research/publications	-0.05	0.50	-0.19	0.46
Constructive criticism/feedback	-0.01	-0.07	0.35	0.64
Information about university policies and procedures	0.07	0.11	0.78	0.04
Advice about publication outlets	-0.04	0.33	0.48	0.29
Information about formal expectations for promotion and tenure	0.03	0.03	0.70	0.18
Information about informal expectations for promotion and tenure	0.06	0.09	0.74	0.04
Emotional support	0.59	0.05	0.06	0.41
Help obtaining employment	0.48	0.40	-0.08	0.16
Advice about people	0.53	0.40	0.25	-0.02
Introductions to people who can further their career	0.18	0.73	0.06	0.08
Advice about social norms	0.45	0.37	0.38	0.02
Involvement in professional network	0.16	0.71	0.13	0.19
Belief in capabilities	0.38	0.28	-0.01	0.43
Help making difficult career decisions	0.60	0.15	0.10	0.20
Help with personal problems	0.66	0.03	0.07	0.19
Nomination for honors	0.40	0.43	0.16	-0.00
Social activities (recreation, cultural events, eating out)	0.66	0.14	-0.05	-0.00
Defense from criticism	0.56	0.34	0.13	-0.01
Promote equal relationship	0.22	0.39	0.01	0.50
Help with teaching	0.37	0.07	0.39	0.25
Advice about committee work	0.21	0.18	0.64	-0.03
Promote professional visibility	0.16	0.69	0.28	0.12
Encouragement and coaching	0.44	0.14	0.26	0.46
Role model	0.31	0.18	0.21	0.48
Review drafts of papers	0.10	0.27	0.10	0.57
Promote dependent relationship	0.33	-0.04	0.10	0.04
Advice about research opportunities	-0.12	0.55	0.29	0.20
Eigenvalue	4.0	3.4	3.2	3.0
Variance	14%	12%	11%	10%

In order to assess the relationship between these factors and selected variables, items with loadings of 0.50 and above were transformed into four additive scales, each of which became a dependent variable. The independent variables utilized were sex, age, rank, tenure status, marital status, parental status (children under 18 at home), college (arts and sciences; professional schools; others), and having had a mentor in graduate school. A multiple regression analysis was employed to determine the most predictive model for each factor. Table 4 describes the results of these analyses.

TABLE 4
Variables Associated with Ideal Mentor Scales

Independent Variables	Dependent Variables		
	B	Beta	p
Tenured R ² = 0.03	1.78	<i>Friend</i> 0.18	0.0009
Arts and Sciences Female R ² = 0.04	-1.27 0.90	<i>Career Guide</i> -0.16 0.12	0.003 0.02
Female Professional Schools R ² = 0.03	0.79 -0.80	<i>Information Source</i> 0.13 -0.13	0.02 0.02
Mentor in Graduate School R ² = 0.02	0.74	<i>Intellectual Guide</i> 0.13	0.01

In the first analysis, being tenured was the only independent variable predictive of mentor as *Friend*. Neither college, nor age, nor rank, nor sex was relevant. This equation accounted for 3 percent of the variance. In the second equation, being female and not being in colleges described as arts and sciences (that is, being in professional and “other” colleges) were predictors of the ideal mentor as *Career Guide*. These variables explained 4 percent of the variance. In the third analysis, being female and not being in one of the professional colleges were predictive of the mentorship described as *Information Source*. The solution here explained 3 percent of the variance. The fourth equation shows that the experience of having had a mentor in graduate school is associated with the preference for a faculty mentor who is an *Intellectual Guide*. This equation explained 2 percent of the variance.

On the basis of these analyses, it appears that gender, college, tenure status, and past mentoring experiences predict the kind of mentor that is viewed as ideal. Marital status, age, rank, and parental status do not seem to have any bearing on the type of mentor that is perceived as ideal for faculty. It should be noted, however, that the independent variables that were significant in these equations accounted for a small percent of the variance. Other variables that were not employed may be relevant.

Discussion

This study addressed the nature and extent of faculty mentoring of other faculty at a public research-oriented university in the midwest. The sample represented male and female, tenured or tenure-track faculty at the assistant, associate, and full professorial ranks. Although

the participation was greatest for women and assistant professors, the overall response rate of 64.5 percent supports the strength of the findings.

A large percentage (72 percent) of the faculty had had a mentor some time during their educational, academic, or professional career. For the most part, this occurred in graduate school, but some had mentors as undergraduates or in other work settings. Nevertheless, only a third of the respondents, including assistant professors, reported having a mentor at the university in which the study took place. Clearly, having a mentor when one is a faculty member is not normative.

The decline in mentoring from graduate school to employment in an academic setting may reflect expectations of the university professoriate. The Ph.D. is a terminal degree for scholarship. Presumably the scholar conferred with a doctorate is capable of autonomous practice as a university professor. It is assumed that the new university professor does not need the support that was present in graduate school.

Despite affirmative action concerns about exclusionary practices, there were no significant differences in the quantity of mentoring experiences, past and present, of the men and women in this study. Furthermore, the amount of time spent in mentoring relationships by male and female respondents was equivalent. These findings are consistent with those of Fowler [13], whose study of male and female assistant professors revealed no significance in the number or quality of mentoring relationships between male and female faculty. The study described here, however, did not look at the depth or quality of the mentoring relationships that respondents identified.

Another finding was that mentoring between faculty seems to be a voluntary, mutually agreed upon arrangement. The majority of male and female mentors and mentees mutually initiated their relationships. In some cases one or the other parties proposed such a relationship. Departments rarely assigned mentoring relationships.

For men the mentor was usually a full professor and the mentee an assistant professor. Women associate as well as full professors served as mentors for assistant professors. The mentoring by female associate professors may be reflective of the small pool of female full professors and a commitment on the part of women associate professors to provide support to other women.

Sex differences in the matches between mentor and mentee were evident. Men and women mentees were more likely to be mentored by men. This may be an artifact of the large pool of potential male mentors at the rank of full professor. In contrast, faculty who had served as mentors were more likely to mentor faculty of the same sex. This indi-

cates that women faculty mentor women and men mentor men, which is consistent with findings of Berg and Ferber [1], who concluded that faculty and students are more comfortable relating to someone of their own sex. This phenomenon, however, puts women in fields with few senior women faculty at a distinct disadvantage because there are fewer women mentors who are available.

One of the most significant findings of this research was that mentorship is a complex, multidimensional activity. In a factor analysis of functions of an ideal mentor, this study identified four kinds of mentors: The *Friend* interacts with the mentee socially, providing advice about people and helping with personal problems. The second type, *Career Guide*, promotes the development of the mentee's research, inclusion in a network of colleagues, and his/her professional visibility. The *Information Source* provides information about formal and informal expectations for promotion and tenure, publication outlets, and committee work. The *Intellectual Guide* promotes an equal relationship, collaborates with the mentee on research or publications, and provides constructive criticism and feedback. These categories also emerged in the qualitative analysis of respondents' own definitions of a mentor.

The items with loadings of 0.50 and above that constitute the four factors result in mentor typologies that are mutually exclusive. Nevertheless, it is possible for an individual mentor to employ a mentoring style consisting of two or more of these types. The exclusive use of one style or the relative weights of different styles may depend on the characteristics of the mentor, the relationship with the mentee, norms within a discipline, or other ecological factors.

The existence of a variety of types of mentors is consistent with the diverse definitions and interpretations of this practice that were found in the literature and in previous research. The *Friend* identified in this research corresponds with the "peer pal" described by Shapiro, Haseltine, and Rowe [27]. The *Career Guide* and *Intellectual Guide* are described by others as "guides" or "role models" [24, 27]. The *Information Source* type of mentor was not described as a distinct category in the literature that was reviewed and may be a special type relevant to academic life. Although Williams and Blackburn [32] also identified four types of mentors in their study of faculty mentors and mentees in nursing schools, all the categories except role-specific modeling/teaching (which resembled Career Guide) were different. Differences may be attributable to the variables that were included and the populations surveyed.

Regression analyses in which the mentor factors, transformed into

scales, were the dependent variables, indicate that tenure status, having had a mentor in graduate school, gender, and school (professional, arts and sciences) are predictive of the identified types of mentor. The *Friend* was the ideal of faculty who were tenured and the *Intellectual Guide* was preferred by those faculty who had a mentor when they were in graduate school. Female respondents viewed the ideal mentor as a *Career Guide* or *Information Source*. Teaching in the professional schools (not teaching in the colleges of arts and sciences) was also predictive of the *Career Guide*, whereas teaching in the colleges of arts and sciences was predictive of the *Information Source*. Although these findings raise stimulating questions about the interests of women faculty and differences in orientation between professional schools and colleges of arts and sciences, the identified variables accounted for such a small percentage of the variance that it is clear that these are not the most salient contributors to the ideal types. Variables such as productivity, which could not be operationalized consistently across disciplines, may have been relevant.

Several items used in the factor analysis did not have loadings of 0.50 or more with respect to any factor. These included advice about publication outlets, help obtaining employment, advice about social norms, belief in capabilities, nominations for honors, help with teaching, promotion of a dependent relationship, encouragement and coaching, and serving as a role model. Although these items may be more relevant to the mentoring of graduate students than colleagues, it should be noted that some of the items came close to 0.50, which is not a fixed standard for establishing relevant items.

Two items included in the factor analysis offered opposite perspectives on the nature of the mentoring relationship. They are the functions "promote equal relationship" and "promote dependent relationship." The former appeared in the *Intellectual Guide*, whereas the latter was not represented on any of the factors. Exclusion of the item "promote dependent relationship" runs contrary to the stream of literature that describes the mentor-protégé(e) relationship as hierarchical. Of the four kinds of mentors identified in this analysis, the *Intellectual Guide* would seem to be least equal. In this respect, Reohr [25] distinguished the "mentor" from the "colleague" by emphasizing the higher social and intellectual status that is associated with the mentor and the equality that characterizes collegial relationships. Yet faculty members believe that a mentor who is an *Intellectual Guide* de-emphasizes differences in knowledge, expertise, accomplishments, and status.

Findings reported here can be generalized to other public research-

oriented universities with undergraduate, graduate, and professional schools. Results indicate that mentoring between faculty members in such universities is not prevalent. Where it occurs, it is mutually negotiated, primarily between persons of the same sex and between assistant and full professors. Because there are few women full professors, women may be mentored more frequently by men or by associate professors.

Following a plethora of literature in which "mentor" was defined in many different ways, this article demonstrated empirically that mentoring is a complex, multidimensional phenomenon. The ideal types that were identified in this study were described as *Friend*, *Career Guide*, *Information Source*, and *Intellectual Guide*. Faculty members who are looking for a mentor should become aware of the type of mentor they are seeking; those faculty who are willing to serve as mentors should acknowledge the kind of help they are willing to provide. Mentoring programs designed to meet the needs of faculty should recognize the diverse character of the phenomenon and the need for sensitive and differential application of the concept.

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