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Faculty Mentoring Programs: Reenvisioning Rather Than Reinventing the Wheel

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In this review, the authors trace the evolution of mentoring programs in the United States in business and academe, provide insight on the challenges associated with the study of mentoring, and identify the limited research-based studies of faculty mentoring programs that currently inform our understanding of this professional development practice in American higher education. The findings indicate that the sophistication of research has not advanced over the past decade. However, evidence does suggest that academe should be cautious in overgeneralizing the findings of studies conducted in corporate cultures. Although mentoring is recognized to be contextual, only recently have investigators considered the impact of organizational culture on the effectiveness of corporate mentoring programs. More rigorous investigation of this practice in higher education is warranted. As more studies point to the need to foster an employment culture that supports mentoring, understanding faculty mentoring programs within the context of their academic cultures is critical.

KEYWORDS: faculty, mentoring, mentoring programs, professional development, career development, higher education.

In the past decade, many American businesses have formalized their employee mentoring practices in recognition of how organizational context has changed in the three decades since Kanter (1977) identified the benefits of informal mentoring among managers and professionals. Within the business sector, the concept of mentoring has evolved as a tool of professional development in tandem with the diverse human resource needs of contemporary organizations (Hegstad, 1999; Jossi, 1997; Murray, 2001).

The business sector is not alone in its concern for the development and retention of its human assets and sustaining a competitive advantage; academe faces similar challenges. Universities invest significant resources in new faculty members and, particularly in the sciences, compete with industry to persuade their most

stellar prospects to pursue academic careers. Faculties represent intellectual capital (Luecke, 2004; Murray, 2001), and their ranks distinguish an institution's uniqueness more so than any other resource. In contrast to business, which began fostering employee mentoring relationships only within the past 30 years (Gunn, 1995; Jossi, 1997), the academy has historically depended on the incumbent generation of the professoriate to cultivate the development of the next (Bergquist, 1991; Carr, Bickel, & Inui, 2003; Sorcinelli, 2000).

Academe, however, has been slower to formalize its faculty mentoring practices in response to the changing organizational dynamics and demographics of higher education (Carr et al., 2003; Luna & Cullen, 1995). Previous literature reviews of mentoring among university faculty members (Merriam, Thomas, & Zeph, 1987; Perna, Lerner, & Yura, 1995) have focused on informal or naturally occurring mentoring relationships because of the paucity of empirical studies of formal or institutionally facilitated faculty mentoring relationships. On the basis of studies of mentoring relationships in the business sector, Ragins and Cotten (1999) found that although informal mentoring has been associated with more positive career outcomes than formal mentoring, marginalized groups experience significant barriers to developing informal workplace mentoring relationships. Ragins and Cotten recommended that organizations use "formal mentoring relationships as a springboard for the development of informal relationships" (p. 546). Boyle and Boice (1998) considered academe's historically "laissez-faire approach to mentoring" (p. 159) to be an obsolete and unrealistic approach to supporting a diverse cadre of faculty members, because "the newcomers least likely to find spontaneous support like mentoring are women and minorities" (p. 159).

Thus, the goals of this critical review are (a) to frame formal mentoring programs within the context of how mentoring has evolved in philosophy and practice in the United States in both business and academe, (b) to provide insight on the challenges associated with the study of mentoring, and (c) to identify effective faculty mentoring program models for institutions of higher education seeking to foster academic cultures responsive to the diverse professional development needs of both current and future faculty members. In the mid-1990s, Wunsch (1994) found research on faculty mentoring programs to be "rare and fraught with methodological pitfalls" (p. 32), with the literature dominated by testimonials and evaluative studies rather than research-based studies. An additional intent of this review is to determine the degree to which scholarly discourse on formal faculty mentoring programs in higher education has matured since Wunsch shared her observations over a decade ago.

This review is limited to studies of formal faculty mentoring programs published after 1994 and identified through the following databases: Business Source Premier, the Education Resources Information Center, Medline, and PsycInfo. The search included the following key words or their combinations: *mentor*, *mentoring*, *relationships*, *programs*, *faculty*, *higher education*, *socialization*, *productivity*, *retention*, *career development*, and *professional development*. This article is not intended as a thorough review of the faculty mentoring literature but rather as a critical examination of studies addressing formal faculty mentoring programs conducted over the past 10 years in the United States that used research designs and included descriptions of the mentoring program models. General mentoring literature from business and higher education published prior to 1994 was selectively included in this review to provide an overview of the field of mentoring.

Classical Origins

The character Mentor in Homer's epic poem *The Odyssey* is widely accepted as the namesake of the term *mentor*. Before leaving for the Trojan War, Odysseus entrusted guardianship of his household and his son, Telemachus, to his faithful friend, Mentor. According to Roberts (1999), Homer's Mentor did not naturally exhibit the wise and nurturing behavior historically attributed to him; in fact, he was inept. Rather, it was the goddess Athena, known in Greek mythology for her wisdom and compassion, who took Mentor's form to guide and protect both Odysseus and Telemachus.

Although Homer is credited with creating the original character, Roberts (1999) and others (Murray, 2001; Tenner, 2004) have attributed the proverbial archetype of Mentor as a benevolent sage to François Fénelon in his 15th-century account of Homer's classic tale *Les Adventures de Télémaque*. The addition of *mentor* to the *Oxford English Dictionary* as a common noun, cited as first used in 1750, is assumed to be the result of the popularity of Fénelon's rather than Homer's literary work (Murray, 2001).

Evolution of Studies

In the business sector, Kanter (1977) provided one of the earliest accounts of the importance of a "sponsor" to one's career. On the basis of interviews and observations of organizational behavior, Kanter described sponsors as "mentors and advocates upward in the organization" (p. 181). Sponsors not only trained young people, they provided advocacy, helped circumvent bureaucracy, and empowered those they favored by association. Roche (1979) later quantified the prevalence of mentoring among corporate executives and found that these informal relationships added measurably to their success and satisfaction. In 1978, Levinson, Darrow, Klein, Levinson, and McKee identified the importance of mentors from the perspective of adult developmental theory. Using longitudinal data, Levinson et al. (1978) found that mentors were most influential during one's early adulthood and were typically half a generation older and that mentoring relationships ended when the young adults successfully advanced to middle adulthood.

A major limitation of early studies of mentoring in both business and the social sciences was that data were based primarily on male study participants and therefore were found to have overemphasized career-based competencies and overlooked the acquisition of psychosocial competencies (Kram, 1985). More recent multidisciplinary studies have found that women define themselves differently than men, placing more emphasis on connectedness with others and less on separateness (Babcock & Laschever, 2003; Chesler & Chesler, 2002; Daloz, 1999; Luna & Cullen, 1995). However, subsequent studies have upheld the findings of Levinson et al. (1978) that mentoring is most influential early in one's career or during significant transitions, regardless of gender (Carr et al., 2003; Christman, 2003; Daloz, 1999).

Kram (1985) expanded on earlier organizational studies and was the first to articulate the dual dimensions of mentoring: the career or technical functions and the psychosocial personal functions. According to Kram, career functions involve sponsorship, coaching, protection, challenge, exposure, and visibility. Psychosocial functions include role modeling, counseling, acceptance, confirmation, and friendship. One's external performance is influenced by the career or

technical dimensions of mentoring, whereas the psychosocial dimensions address one's internal values and attitudes, clarify one's identity, and enhance one's feeling of competence.

Kram (1985) further identified four distinct phases of mentoring relationships: initiation, cultivation, separation, and redefinition. Subsequent studies have supported Kram's findings with regard to the career and psychosocial functions of mentoring (Chao, Walz, & Gardner, 1992; Noe, 1988), whereas her four stages of mentoring have been found to be more complex and less predictable (Ragins, 1999; Tillman, 2001).

In 1991, Sands, Parsons, and Duane conducted one of the few studies in academe that addressed the nature and extent of faculty members mentoring other faculty members. Using data from a survey of faculty members at a public research-oriented university in the Midwest, Sands et al. (1991) determined "that mentorship is a complex, multidimensional activity" (p. 189) occurring informally among faculty members. In a factor analysis of the functions of an ideal mentor, four types of mentors were identified: The *friend* socializes, provides advice, and helps with personal problems; the *career guide* promotes the mentee's research and his or her professional visibility; the *information source* provides practical information about promotion and tenure, publication outlets, and committee work; and the *intellectual guide* promotes an equal relationship, collaborates, and provides constructive criticism and feedback.

Over half of the respondents in Sands et al.'s (1991) study reported having mentors when they were graduate students, whereas only a third reported receiving mentoring from colleagues at the university at which the study was conducted. The most significant outcome of this study was that faculty members' gender, college affiliations, tenure status, and past mentoring experiences were found to predict preferences with regard to an ideal mentor. Tenured faculty members preferred the friend model, female faculty members at professional schools favored the career guide, female faculty members at nonprofessional schools chose the information source, and faculty members who reported having mentors in graduate school selected the intellectual guide as their ideal mentor.

Contemporary Definition

Recent literature in business and academe builds on the findings of earlier studies, but rather than assigning a classification to mentoring, as in Sands et al.'s (1991) study, many authors divide the role of mentor into four subsidiary roles—sponsor, coach, role model, and counselor—and attribute the collective functions of these roles to mentoring (Clutterbuck & Lane, 2004; Daloz, 1999; Luecke, 2004; Murray, 2001). Daloz (1999) defined a mentor's role as "engendering trust, issuing a challenge, providing encouragement, and offering a vision for the journey" (p. 31). Reciprocal respect (Alpert, Gardner, & Tiukinhoy, 2003; Carr et al., 2003; Luecke, 2004), predictability, commitment (Alpert et al., 2003; Luna & Cullens, 1995; Luecke, 2004), understanding, and empathy (National Academy of Sciences, 1997) further shape the relationship. From this perspective, mentoring is a reciprocal learning relationship characterized by trust, respect, and commitment, in which a mentor supports the professional and personal development of another by sharing his or her life experiences, influence, and expertise. Figure 1 depicts the complementary and interrelated dimensions, roles, functions, and overlapping assumptions found to be frequently associated with mentoring.

Dimensions	Roles	Functions	Assumptions
Career or Technical	Sponsor	Guides, protects, opens doors, and makes introductions	Engenders Trust Reciprocates Respect Demonstrates Commitment Issues Challenges Provides Support Offers Vision
	Coach	Teaches, challenges, and provides feedback	
Psychosocial or Personal	Role Model	Demonstrates behaviors, attitudes, and values	
	Counselor	Provides support, advice, and coping strategies	

FIGURE 1. *Interrelated attributes of mentoring relationships.*

This is not to imply that a consensus exists with regard to the definition of mentoring. In Kram's (1985) interviews with managers in a corporate setting, she recognized that *mentor* had a wide variety of connotations and therefore framed her inquiry in terms of workplace "developmental relationships" (p. 4) rather than using the more subjective terminology of mentoring. In fact, the lack of consistency in mentoring vernacular among industries, across academic disciplines, and in the popular press continues to be one of the major challenges underlying the study of mentoring. How does one systematically study that which is not consistently defined? One dramatic example of such inconsistency is the use of *mentor* as a verb. Luecke (2004) unabashedly admitted, "The business world has no shame in changing perfectly good nouns into verbs" (p. 76). Nevertheless, most literature emphasizes that *mentor* describes a role one assumes, not something one does (Daloz, 1999; Murray, 2001). The frequent misuse of *mentor* as a verb confuses the term with the interventions or activities involved in the mentoring process.

Sands et al. (1991), in their study of mentoring practices among faculty members, noted the difficulty in generalizing the results from one mentoring study to another: "The term 'mentor' has been subject to so many interpretations that it is not known how university faculty members view the concept" (p. 175). Clutterbuck and Lane (2004) noted that much of mentoring literature is invalidated because it is not clear what kinds of relationships are being measured or whether the expectations of the individuals participating in the relationships are similar.

Studies of multiple developmental relationships have situated mentoring experiences on a continuum (Cawyer, Simonds, & Davis, 2002; Angelique, Kyle, & Taylor, 2002). Relationships described as casual, convenient, social, technical, supervisory, and developmental span this spectrum and differ in context and intensity. Other authors consider developmental roles such as coach and role model to

be constructs distinct from that of a mentor (Luecke, 2004; McCauley & Van Velsor, 2004). According to Clutterbuck and Lane (2004),

> to some extent, definitions do not matter greatly, if those in the role of mentor and mentee have a clear and mutual understanding of what is expected of them and what they should in turn expect of their mentoring partner. (p. xvi)

To the contrary, the definition of mentoring is of the utmost concern to investigators attempting to examine the phenomenon. Yet, Clutterbuck and Lane (2004) cautioned against trying to reduce our understanding of mentoring to "the mechanical or lowest common denominator" (p. xx), because these relationships are situational. To understand mentoring, one must view these relationships within the organizational or cultural contexts in which they occur. According to Daloz (1999), the concept of mentoring is the most "slippery" in education. In the business world,

> occasionally the mentor helps the protégé develop the skills necessary to navigate an especially difficult turn in the road, but by and large the mentor concentrates on providing a map and fixing the road rather than on developing the traveler. (p. xi)

Modern organizations in the business sector define themselves as learning organizations (Kreitner & Kinicki, 2004), but higher education is a community of learners (Daloz, 1999), and as such, the development of the organization is secondary to the intellectual and personal growth of community members. Thus, the goals of mentoring in academe will differ from those in business accordingly. Borrowing from Clutterbuck and Lane's analogy, Figure 1 is designed to provide a schema of the largest common denominators of mentoring to illustrate the broadest parameters cited in professional and academic literature.

Benefits

Early and present-day mentoring literature indicates that protégés, mentors, and organizations benefit from these learning relationships. In both business and academe, organizational benefits include increased productivity and organizational stability (Carr et al., 2003; Murray, 2001), increased socialization and communication (Kreitner & Kinicki, 2004; Murray, 2001), the retention of valued employees (Carr et al., 2003; Kreitner & Kinicki, 2004; Luecke, 2004; Murray, 2001), the preservation of intellectual capital and institutional memory (Luecke, 2004; Murray, 2001), the support of cultural diversity (Carr et al., 2003; Gunn, 1995; Jossi, 1997; Murray, 2001), improved leadership capacity and succession planning (Carr et al., 2003; Jossi, 1997; Murray, 2001), and cost-effectiveness (Jossi, 1997; Luecke, 2004; Murray, 2001). Studies on the organizational benefits of mentoring stress that optimal effectiveness is achieved when mentoring practices are integrated within an institution's larger human resource management strategy and are linked to other personnel practices, such as professional development training programs, performance appraisals, and systems of rewards and recognition (Hegstad, 1999; McCauley & Van Velsor, 2004; Tillman, 2001).

Promulgating responsible conduct in research is an organizational benefit that is not limited to academe, but this issue garners much attention within education because of the public investment in science and research institutions. For example, before misconduct allegations in stem cell research headlined in the popular press

(Weiss, 2005) and captured national attention, agencies such as the U.S. Department of Health and Human Services Office of Research Integrity recognized mentoring as a key institutional strategy for fostering responsible conduct among future generations of scientists (Steneck, 2004). The Institute of Medicine of the National Academies (2002) has also identified mentoring as an effective approach for institutions to instill integrity among its scientific community and promote responsible conduct in research.

Benefits to protégés in both business and academe include rapid assimilation to the organizational culture (Luna & Cullen, 1995; Murray, 2001), higher career satisfaction (Carr et al., 2003; Luna & Cullen, 1995; Luecke, 2004; Murray, 2001), increased probability of success (Luna & Cullen, 1995; Johnson-Bailey & Cervero, 2004; Murray, 2001), a higher rate of promotion (Carr et al., 2003; Daloz, 1999), higher earnings (Luecke, 2004; Johnson-Bailey & Cervero, 2004; Murray, 2001), accelerated leadership development (Murray, 2001), and increased motivation to mentor others (Luna & Cullen, 1995; Luecke, 2004; Murray, 2001).

Aside from those benefits in common with business, studies particular to academe indicate that "faculty with mentors feel more confident than their peers, are more likely to have a productive research career, feel greater support for their research, and report higher career satisfaction" (Carr et al., 2003, p. 34). Mentoring has also been found to enhance the teaching effectiveness of new faculty members, ease their adjustment to the academic environment (Luna & Cullen, 1995), and relieve the feelings of isolation and alienation that many new faculty members experience (Carr et al., 2003; Christman, 2003; National Academy of Sciences, 1997).

With regard to mentors, many of the benefits associated with mentoring relationships are intrinsic: In academe, mentors report a sense of contribution (Murray, 2001; National Academy of Sciences, 1997) and accomplishment (Fogg, 2003) in addition to achieving personal satisfaction (Johnson-Bailey & Cervero, 2004; National Academy of Sciences, 1997). Mentoring has also been found to provide tangible benefits to a mentor's career by revitalizing his or her interest in work (Jossi, 1997; Murray, 2001; National Academy of Sciences, 1997) and contributing to professional and personal development through exposure to fresh ideas (Alpert et al., 2003; Beans, 1999) and new perspectives (Johnson-Bailey & Cervero, 2004; Murray, 2001).

Challenges

A significant concern with regard to mentoring is its historical grounding in what Touchton (2003) referred to as the "hierarchical power model" (p. 1). Power within organizations is derived from social networks or connections, and mentoring provides an entranceway to these informal social systems (Kanter, 1977). But women and minorities in the United States do not have the same access to informal mentoring as their White male counterparts (Carr et al., 2003; Luna & Cullen, 1995; Luecke, 2004; McCauley & Van Velsor, 2004; National Academy of Sciences, 1997). The U.S. Department of Labor (1991) found that the lack of access to mentoring perpetuated the "glass ceiling" for women and minorities.

One reason for this inequity in access to mentoring across industries is the paucity of women and minorities with enough organizational influence to advance others. Mentors are more inclined to select or make themselves available to those with whom they identify (Kanter, 1977; Luecke, 2004; McCauley & Van Velsor,

2004). Johnson-Bailey and Cervero (2004) referred to this phenomenon as the "theory of homogeneity" (p. 19). In academe, Johnson (2007) referred to the "cloning phenomenon" (p. 28), whereby faculty members are naturally attracted to junior colleagues who conjure images of themselves. Protégés are sought out who show interest in the senior members' career trajectories, who have similar interests, and who are most apt to become accomplished like-minded researchers, thereby furthering the senior faculty members' academic lineages. As a result, White men, who occupy the majority of positions of authority in business and academe, are more inclined to mentor other White men. Women and minorities in positions of authority are in short supply in the workforce and thus are unable to meet the demand for same-culture mentoring. Ragins (1997) cautioned against overgeneralizing or oversimplifying the mentoring experiences of women, minorities, and other marginalized populations in the business sector but identified "restricted power" (p. 91) as a common organizational phenomenon among marginalized groups.

In academe, the lack of diversity in leadership and among senior faculty members is equally problematic, but it is especially acute in the sciences. Holmgren and Basch (2005) reported that even though women have been earning more than one quarter of the doctorates in science for the past 30 years, according to the National Academy of Sciences, fewer than 10% of today's full professors in the sciences are women. On the basis of 2000 and 2001 data across academic disciplines, Christman (2003) found that women are tenured at much lower rates than men and that those with tenure are disproportionately appointed as associate professors rather than full professors. A recent faculty gender equity report from the American Association of University Professors (West & Curtis, 2006) contends that although women are obtaining doctoral degrees at record rates, their representation as tenured faculty members remains below expectations, particularly at research universities. Citing the *Digest of Education Statistics 2005*, West and Curtis (2006) found that women occupied only 24% of all full professor positions at 4-year colleges and universities in 2003.

African American representation in academe is even more dismal. Johnson-Bailey and Cervero (2004) noted that only 3% of all college and university faculty members were Black, and the majority were concentrated in the junior ranks and at historically Black institutions; Black women experienced the double impact of sexism and racism and represented fewer than 1% of college faculty members. Tillman (2001) noted that the mentoring of African Americans is often grouped in the category of "women and minorities" because of their similar difficulty in finding mentors and establishing successful mentoring relationships. But the extreme underrepresentation of African Americans in academe and the legacy of American legislated oppression against Blacks makes mentoring even more problematic for African Americans (Johnson-Bailey & Cervero, 2004).

To date, racially related studies have primarily focused on the mentoring experiences of African Americans, who constitute the largest racial minority in the United States. According to 2000 census projections, minority groups will replace Caucasians as the majority population by 2050 (Girves, Zepeda, & Gwathmey, 2005). Thus, a need exists to explore the mentoring experiences of other persons of color (e.g., Hispanics, Native Americans, Pacific Islanders). Ragins (1999) represented diversity as extending beyond gender and race to include a variety of group characteristics, including but not limited to ethnicity, sexual orientation, physical ability and appearance, mental ability, age, class, education, and religion.

However, very little scholarship explores the mentoring experiences of marginalized groups, or those who belong to multiple marginalized groups, aside from those studies specific to women and African Americans.

The current shortage of senior women and minorities to serve as mentors in business and academe necessitates cross-gender and cross-race mentoring, but such pairs can encounter cultural issues that interfere with the quality of the relationship. In cross-gender mentoring, gender stereotyping can create a paternalistic dynamic (Carr et al., 2003; Christman, 2003), male mentors can be uncomfortable with psychosocial functions (McCauley & Van Velsor, 2004), pairs are less likely to engage in social activities outside work (Luecke, 2004), balancing career and family responsibilities often has different meanings, sexual tension or the development of romantic interests may undermine the relationships, and, even in the absence of inappropriate behavior, relationships are subject to rumor or innuendo (Luna & Cullen, 1995; Luecke, 2004). In studies particular to science and engineering, Chesler and Chesler (2002) noted,

> The male socialization metaphor underpinning most traditional mentoring relationships as focusing on challenging the protégé, posing tasks in order to increase the young person's tolerance to stress . . . and stressing independence . . . does not fit the socialization and styles of most women and their orientation to integration rather than separation, interdependence rather than either dependence or independence, and collaborative rather than competitive task engagement. (p. 51)

In her study of women faculty members, Gibson (2004) found five essential themes with regard to how women experienced mentoring: (a) involving someone who cares and acts in one's best interest, (b) a feeling of connection, (c) being affirmed of one's worth, (d) not being alone, and (e) politics is part of one's experience. Although Gibson's study supports the findings of other gender-related studies suggesting that women experience mentoring differently from men (Chesler & Chesler, 2002; Daloz, 1999; Luna & Cullen, 1995), a comparable study of men, or minority women, is needed to determine if these specific themes are able to be generalized to men or minority women.

Cross-race mentoring relationships present additional challenges: Some White mentors may be unable to dismiss negative preconceptions or stereotypes and fully invest in the relationships, persons of color may not be able to set aside feelings of mistrust and be secure in the relationships, and either partner may be uncomfortable discussing racial issues, which may result in less psychosocial support (Johnson-Bailey & Cervero, 2004; McCauley & Van Velsor, 2004). Additionally, cross-race mentoring relationships are prone to "protective hesitation" (Thomas, 2001, p. 105), whereby both partners avoid discussing sensitive issues, such as concerns or difficulties that may have racial undertones. The tendency for cross-race pairs to "refrain from raising touchy issues" (p. 105) detracts from the formation of open and honest relationships.

Tillman (2001) examined the mentoring experiences of African American faculty members at two predominantly White institutions and found that race had an impact on the types of functions that mentors performed. Protégés in this study made a distinction between the career and psychosocial functions their mentors performed on the basis of the race of the mentors; same-race relationships were

reported to provide more psychosocial functions than cross-race relationships. In cross-race pairings, secondary same-race mentors were sought out to meet psychosocial and emotional needs.

Although Tillman's (2001) study did not report a difference in the amount of career functions provided by same- and cross-race mentors, Dreher and Chargois (1998) found that a mentor's gender and race contributed to salary attainment in the business sector among MBA graduates of a historically Black university. Black employees with White male mentors were found to have income advantages over Black employees with Black mentors. No gender-based differentials were observed among the employees; income advantages were associated with White male mentors. The results of this study are notable on two levels: that salary differentials favor men over women in major-culture studies (Dreher & Cox, 1996) and that members of minorities are inclined to prefer same-culture mentoring relationships (Tillman, 2001; Thomas, 2001). Thus, White men appear to continue to hold the keys to the doors that need to be opened for women and non-White men to financially advance. These findings illuminate the influence of power as a critical factor in the development and outcomes of mentoring relationships, especially those involving minority members, and the importance for marginalized groups to have access to White male mentors. Consequently, advocates of mentoring in academe recommend enhancing the cultural competency of senior White male faculty members so that they can better mentor across differences and expedite the professorial promotion of women and minorities (Carr et al., 2003; Johnson-Bailey & Cervero, 2004).

Although the literature on mentoring relationships is predominantly positive, as with any human interaction, there are pitfalls. Tenner (2004) questioned the trend toward overvaluing mentors, citing examples in which academicians have been successful without mentors and in some cases have achieved success in spite of poor mentors. Alpert et al. (2003) referred to "tor-mentors" (p. 12) as senior faculty members who exploit or sabotage the careers of junior colleagues under the guise of mentoring.

Eby and Allen (2002) noted that all relationships involve both positive and negative experiences and asserted that the literature's almost exclusive focus on the positive aspects of mentoring relationships grossly oversimplifies the complexity of these relationships: "The negative aspects of relationships seem aberrant and pathological, rather than a natural and common aspect of relational experiences" (p. 458). On the basis of the experiences of women belonging to a professional accounting organization and mixed-gender members of a professional engineering organization, Eby and Allen found that negative mentoring experiences, although infrequent, can be clustered into two distinct categories that correlate with relational theory: distancing and manipulative behavior and poor dyadic fit. Distancing and manipulative behavior reflect unethical behavior on the part of a mentor (e.g., deceptiveness, neglect, abuse of power), whereas poor dyadic fit represents incompatibility between pairs on an interpersonal or professional level. Eby and Allen's study did not examine gender or racial differences.

Darwin (2000) considered the limitations of mentoring to be more than relational. Rather, she framed mentoring as an outdated, autocratic mechanism for handing down knowledge, bestowing power, maintaining the dominant culture, and protecting the status quo. Concern regarding the Eurocentric epistemology associated with the term *mentor* compelled Tillman (2005) to use *jegna* rather than

mentor to describe the culturally sensitive relationship she developed with a graduate student and junior faculty member while leading the American Educational Research Association's Commission on Research in Black Education Evaluation Group. *Jegna* is an Ethiopian word that describes individuals who have "demonstrated determination and courage in the protection of their people, land, and culture . . . and dedicate themselves to the defense, nurturing, and development of their young by advancing their people, place, and culture" (p. 314).

McCormick (1997) agreed that traditional mentoring relationships present specific pitfalls to non-White men and women: (a) the promotion of competition, elitism, and exclusion; (b) the scarcity of appropriate senior-level mentors; (c) the maintenance of the status quo; (d) the organizational barriers to cross-culture relationships; and (e) the promotion of dependency and subordination. McCormick acknowledged the dark side of mentoring but did not advocate abandoning mentoring within universities dominated by White men. She did, however, call for "a process of cultural synergism" (p. 195) in which the culture is transformed to embrace the strengths of collective values (male–female, minority–majority) and mentoring is reenvisioned beyond "the white male club" (p. 195) mentality to become functional for all members of an academic community.

An additional shortcoming of mentoring for both majority and minority members of an organization is its association with remediation. That is, having a mentor implies that one needs help, thus creating a social stigma for mentees (Beans, 1999; Gunn, 1995; Murray, 2001). Within academic cultures that value competitiveness, independence, and autonomy, exposing one's professional deficiencies or weaknesses in the context of a mentoring relationship could derail rather than develop an early-career faculty member (Boice, 2000). Junior faculty members are especially vulnerable to being stigmatized in academic settings in which mentoring is not embraced as a cultural value or accepted as a core academic responsibility.

Mentoring Format

The traditional school of thought views mentoring as a spontaneous human phenomenon in which any effort to formally manage the process negates the chemistry or magic believed to be inherent to these relationships. Daloz (1999) discredited the mystique associated with mentors and mentoring relationships: "What makes the difference is [the mentor's] willingness to care" (p. 20). In academe, Carr et al. (2003) echoed Daloz's position and emphasized the role mentoring serves in fostering a caring and collegial community. Murray (2001) indicated that those who cling to the traditional view of mentoring are few in number and noted that these intensely close, informal relationships are actually rare in contemporary society.

Opinions continue to differ, however, about how best to level the playing field for those traditionally excluded from informal systems of mentoring. The first wave of formal mentoring programs in the 1970s and 1980s has been attributed to organizations' (Gunn, 1995; Murray, 2001) and academic institutions' (Davidson, Vance, & Niemeier, 2001; Tenner, 2004; Touchton, 2003) attempting to improve cultural diversity within their ranks; specialized programs were designed exclusively for women and/or minorities to foster their equitable treatment, promotion, and retention.

Yet there is growing concern in business and academe that preferential treatment vis-à-vis segregated mentoring programs can detract from the mainstream acceptance of mentoring as a cultural value (Lindenberger & Zachary, 1999). Fully

inclusive mentoring programs go beyond narrowly drawn affirmative action goals and create an organizational culture that empowers all members to succeed. Thus, access to mentoring is extended to other groups who encounter barriers to mentoring (e.g., persons with disabilities; those with strong ethnic or religious affiliations; gay, bisexual, and transgender individuals).

New Mentoring Paradigms

Although the dimensions and key characteristics of mentoring remain salient (Carr et al., 2003), 21st-century mentoring relationships are no longer framed within a singular and hierarchical apprenticeship model. The new realities of our knowledge-based economy dictate that individuals seek career information and guidance from a variety of sources (Kreitner & Kinicki, 2004). One mentor is no longer adequate to meet the full complement of another's technical and personal needs in the context of modern society. Dynamic organizational change, increased specialization and innovation, and the acceleration of technological advances prescribe a new mentoring paradigm in which mentoring relationships are pluralistic and reciprocal.

The new mentoring paradigm is epitomized by multiple mentoring relationships, which have been described in the literature as constellations (Luna & Cullen, 1995) or mosaics of supportive relationships (Carr et al., 2003). The concept of multiple mentoring encourages individuals to draw support from a diverse set or team of mentors. In essence, a network rather than an individual provides the functions associated with mentoring. In academe, Chesler and Chesler (2002) emphasized "the possibilities of 'distributed mentorship,' which includes as mentors both senior and junior colleagues, people inside as well as outside the academy, and electronic media as well as personal connections" (p. 52).

Within the context of multiple mentoring, reciprocity supplants hierarchy (Darwin, 2000; Gunn, 1995; Murray, 2001). Young adults are more educated, more technologically savvy, and more acquiescent to innovation than previous generations. Hence, mentoring has evolved into a process of partnerships in which individuals engage in the two-way transfer of information and skills, fluidly reversing the roles of mentor and mentee as warranted by the experiences each brings to the relationship.

It is unclear who first introduced the term *mentee* within business literature, but it appears to have emerged to represent an egalitarian rather than a subordinate relationship with a mentor. Luecke (2004) considered *mentee* to be another disdainful example of "business-speak" (p. 78), whereas others appear to prefer its usage over *protégé* (masculine) or *protégée* (feminine) as more representative of a reciprocal rather than a hierarchical relationship with a mentor.

Formal Mentoring Programs

Formal mentoring programs are one approach to providing individuals with a venue to begin to cultivate multiple mentoring relationships. Literature in business and academe emphasizes that formal programs should not be viewed as substitutes for informal mentoring (Carr et al., 2003; Chesler & Chesler, 2002; McCauley & Van Velsor, 2004; Ragins & Cotton, 1999). Rather, formal programs are professional development vehicles through which mentees not only receive support but, more important, become connected to other networks of mentors. This feature of formal mentoring programs is especially relevant to women, minorities, and other

groups in helping overcome barriers that have traditionally inhibited them from developing informal mentoring relationships on their own (Boyle & Boice, 1998; Ragins & Cotton, 1999).

Although Kram (1985) did not examine formal mentoring programs in the context of her seminal work on mentoring relationships in organizational life, she cautioned against engineering mentoring relationships for fear of employees' feeling coerced into unwanted relationships, employees' being anxious and uncertain about expectations, and the lack of commitment between pairs because the relationships were not self-initiated. Noe (1988) conducted one of the first studies to investigate the determinants of successful assigned mentoring relationships. Using an instrument designed to assess career and psychosocial outcomes, he surveyed 139 educators at nine sites across the United States who aspired to advance to administrative positions (e.g., principal, superintendent) and were participating in comprehensive personal and professional development programs. Noe did not find any evidence to support Kram's concerns regarding the perils of formal mentoring programs but did find that mentees in informal relationships reported more career-related support.

Noe (1988) suggested that organizations should not expect the same type of benefits from assigned relationships as they would from informally established relationships, possibly because of less interaction between formal pairs and the shorter duration of formal relationships. He additionally proposed that certain characteristics of formal mentoring programs, such as clarity of program goals and mentor training, may be more important determinants of the success of the relationships than the chemistry of the pair.

Chao et al. (1992) conducted one of the most extensive studies of mentoring relationships, integrating the type of participation (formal, informal, or none), the functions served by mentors (psychosocial and career-related functions), and the outcomes of the mentorships (organizational socialization, job satisfaction, and salary). Data examined were part of a longitudinal study of the career development of alumni from a large midwestern university and a small private institution. Surveys were returned from 212 alumni involved in informal mentoring relationships, 53 in formal mentoring programs, and 284 who did not report having mentors.

Protégés in informal relationships reported more career-related support and higher salaries than protégés in formal mentoring programs. Chao et al. (1992) acknowledged the possibility that interpersonal differences among the three groups may have skewed results. A number of studies have suggested that high performers are afforded more access to informal mentoring than average or low performers (Allen, Poteet, & Russell, 2000; Kram, 1985; Ragins, 1999; Turban & Dougherty, 1994), thus accounting for some of the advantages attributed to the groups involved in informal mentoring relationships.

Chao et al. (1992) concluded that the more that formal mentoring programs mirror informal relationships, the more favorable the outcomes. In contrast, Allen, Eby, and Lentz (2006b) suggested moving beyond simulating informal relationships and incorporating features within mentoring programs that are not typically part of informal relationships, such as an orientation session and ongoing developmental training.

The question of superiority between informal relationships and formal mentoring programs continues to be debated, but that does not appear to be the central concern within the literature. Most researchers concede that contemporary workplaces do not afford all of their members equitable access to informal mentoring relation-

ships; therefore, some type of institutional intervention is deemed as necessary. Establishing a formal mentoring program is one organizational approach.

The most common formal mentoring model is a one-to-one arrangement (Chesler & Chesler, 2002; Daloz, 1999; Luecke, 2004; McCauley & Van Velsor, 2004; Murray, 2001). Either mentees are assigned more senior mentors, or they select mentors from a pool of more senior candidates, on the basis of a range of common characteristics. Reasons cited for assigning mentors are concern that personality differences among mentees may inhibit some from approaching more senior colleagues without being invited to do so (Turban & Dougherty, 1994), or mentees may be unable to determine who would best fit their needs (Boyle & Boice, 1998). Conversely, advocates of mentees' selecting mentors emphasize the importance of mentees' having input in the process, because their developmental agenda will ultimately define the relationships (Allen, Eby, & Lentz, 2006a; Wilson, Valentine, & Pereira, 2002). There is agreement that pairing should be avoided if a mentor has evaluative authority over a mentee. It is possible for someone who serves in a supervisory capacity to be an effective mentor, but in most cases, there is an unavoidable conflict of interest in being an evaluator and a mentor.

Boyle and Boice (1998) indicated that the cross-departmental pairing of new faculty members is less political than interdepartmental assignments because of the nature of promotion and tenure decisions. In contrast, Tillman (2001) found that departmental pairings in cross-race relationships were preferred because they allowed for support directly related to the tenure and promotion process. Both views have merit. Further investigation of this issue in higher education is especially warranted in view of faculty stewardship's resting primarily within academic departments.

Peer mentoring is a mentoring model in which participants are equals or colleagues of comparative status. Peer-to-peer mentoring capitalizes on the empathy that is derived from shared experiences (Chesler, Single, & Mikic, 2003; Luecke, 2004), but this format has drawbacks, because participants are limited in their depth and breadth of experiences (Chesler & Chesler, 2002; McCauley & Van Velsor, 2004). Group or collaborative mentoring is a variation of peer mentoring in which a more senior colleague facilitates interaction among a small group of peers; participants learn from one another as well as from the more senior group member (Carr et al., 2003; Paloli, Knight, Dennis, & Frankel, 2002). Both peer and group mentoring programs are formats that have the potential to provide women, non-White men, and other minorities with access to same-culture mentoring in environments in which White men represent the majority. Collective mentoring, the inverse of group mentoring, is framed within a community orientation and has been cited as well suited to academic cultures:

> Collective mentoring is an evolution of the multiple mentor/single mentee model whereby senior colleagues and the department take responsibility for constructing and maintaining a mentoring team. Thus mentoring becomes neither an individual one-on-one activity, nor one solicited and designed solely by the protégé. Instead, an entire department or organization must establish and ensure the effective mentoring and performance of . . . young professionals. (Chesler & Chesler, 2002, p. 52)

Angelique et al. (2002) cited an innovative mentoring process dubbed "musing" that is best described as a hybrid of the peer and collective mentoring models. The

format was conceptualized by a faculty member at a branch campus of a large public university to promote collegiality and to provide peer support for junior faculty members. This voluntary group, the New Scholars Network, comprised faculty members across ranks and across disciplines and provided members both personal and professional support. The New Scholars Network is not institutionally supported and functions from a "feminist standpoint" (p. 204), although the group is predominantly male.

Mentoring in this context is collaborative, dynamic, and humanistic in theory, which is why the term *musing* was chosen to describe the relationships. The foundations of musing involve the connections of naturally developing relationships, the valuing of interdisciplinary differences as a source of enrichment, the implementation of "shared power" (Angelique et al., 2002, p. 207), and the development of both professional and personal relationships. The authors reported that this program has been successful in promoting achievement and satisfaction in the workplace because it recognizes the subjectivity of faculty members instead of merely trying to socialize new faculty members into an existing situation. This model conceptualizes mentoring as empowering new faculty members rather than assimilating them into the existing hierarchical academic system. Yet no evidence other than anecdotes was provided to qualify the benefits attributed to this very unique and interesting model; such follow-up would contribute to mentoring discourse significantly.

Snelson et al. (2002) described a faculty mentoring program at Kent State University's School of Nursing that similarly frames a program format within the context of an ideology, that is, a caring theoretical model. Caring can be defined as a feeling of concern or interest in a person, place, or thing, and the action of caring can enhance an emotional state (Benner & Wrubel, 1989; Watson, 1988). This program, funded by the Dean's Office of the College of Nursing, paired experienced faculty members with new nursing faculty members, and results drawn from self-reported assessments were positive: This caring theoretical perspective for mentoring assisted new faculty members with assimilation of the culture of the organization by providing valuable interactions with experienced faculty members.

Although very descriptive, Snelson et al.'s (2002) study did not involve a research design; it was an evaluative study rather than interpretive. According to Mertens (2005), evaluation is most commonly associated with the need for data to inform decision making in a specific setting, whereas research is more typically associated with generating new knowledge that can be transferred to other settings. Thus, similar to Angelique et al. (2002), Snelson et al. described an innovative mentoring model but did not provide a level of program analysis to create new knowledge that can be generalized to other settings.

Mentoring Consortia

In recent years, consortia and national mentoring programs have emerged as alternatives to traditional single-institution faculty mentoring models. In these cases, mentoring is cross-institutional rather than institutional. Girves et al. (2005) found that consortia and national collaborations have the advantages of pooling resources and scaling successful intervention programs to affect more individuals than would otherwise be possible by an institution acting alone.

The American Psychological Association's Society for the Teaching of Psychology offers an electronic mentoring service that provides an example of a professional organization attempting to meet the mentoring needs of new or junior faculty members. Faculty members are matched with more senior colleagues with similar interests from other institutions, which provides a safe outlet for junior faculty members to discuss concerns outside the political milieus of their home institutions. Although it is open to both men and women, the majority of faculty members taking advantage of this service are women in tenure-track positions seeking assistance with career planning, looking for advice on teaching, or wanting to be introduced to other minority colleagues (Beans, 1999).

The Committee on the Advancement of Women Chemists (COACh) is a national organization whose goals are to increase the number of female chemists entering academic chemistry, support their advancement, and increase their representation in positions of leadership (Sylwester, 2005). With support from the Camille and Henry Dreyfuss Foundation, the National Science Foundation (NSF), and the U.S. Department of Energy, COACh conducts studies to identify factors that are contributing to the small number of women in the field, provides training and networking forums to help academic female chemists achieve their professional goals, and sponsors programs that can be used across all science (Richmond, 2002). Workshops address topics such as successful negotiation, handling difficult situations, advancement in academe, and leadership skills. Although the focus of COACh is the advancement of women in academic chemistry, membership is open to men and women. In a study of women participating in COACh workshops, 95% reported returning to their institutions and providing mentoring to other women on the basis of the new skills they had acquired.

ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers is a program sponsored by the NSF (2005) that provides funding to promote institutional transformation in science and engineering fields by increasing the participation, success, and leadership of female faculty members. Since 2001, the NSF has awarded up to $3 million to over 30 universities in the form of institutional transformation awards, leadership awards, and partnership for adaptation, implementation, and dissemination awards. The NSF seeks creative strategies from institutions and individuals to achieve the goals of the ADVANCE program. Among other things, many of those institutions receiving funding provide female faculty members in science and engineering with the opportunity to network, receive mentoring from other female colleagues, and participate in professional development workshops. Other features of ADVANCE programs have included individual grants for female faculty members in science and engineering to support their research and academic career advancement.

The Women in Engineering Leadership Institute (WELI) is a grassroots effort formed in 2001 to provide professional development, mentoring, and networking opportunities for female faculty members in engineering. WELI was established as an outcome of the 2000 NSF Women in Engineering Leadership Conference to encourage female doctoral candidates to consider academic careers, to enhance leadership skills among female faculty members, and to serve as a clearinghouse for information supporting the advancement of women in academic engineering (Davidson et al., 2001). Serving as an umbrella organization, WELI coordinates

and facilitates activities across a number of academic institutions in the United States and Canada (Rover & Vance, 2003).

Three of the four examples of consortia mentoring models cited in this review were established to support the academic careers of women in science or engineering. These approaches are counter to earlier referenced concerns that segregated programs detract from mentoring being accepted as a cultural value. The availability of these mentoring resources would imply that the need for national intervention in disciplines in which women are underrepresented supersedes any potential local social stigma. The same logic could be applied to minorities who are also underrepresented in science and engineering; however, examples of such were not identified during this review.

Alternatives to Mentoring

The limitations and challenges associated with mentoring programs have led the private sector to explore structured alternatives. A career management and assessment system (CMAS) is one alternative approach to mentoring that may provide more equitable career opportunity across an organization (Dreher & Dougherty, 1997). Citing the roles of opportunity, ability, and motivation in career success, Dreher and Dougherty (1997) proposed that a high-quality CMAS systematically replicates those career functions associated with mentoring that increase an employee's likelihood of advancement: sponsorship, exposure, visibility, coaching, protection, and challenging assignments. Strategic programs, activities, measurement, and feedback processes afford uniform opportunity to all members.

Framed within a progressive, employee-oriented human resource management strategy, this centralized corporate approach would be difficult to implement uniformly within an academic culture, in which more autonomy and authority are delegated to the disciplines rather than to central administration (Bergquist, 1991). One could further argue that such a system is one dimensional and overlooks the psychosocial value of mentoring. Dreher and Dougherty (1997) did not address psychosocial concerns within the workplace or provide any evidence as to the outcomes associated with a CMAS.

Review of Faculty Mentoring Program Studies

The general discourse on mentoring continues to expand both in business and academe, but has systematic inquiry of formal faculty mentoring programs improved in the 14 years since Wunsch (1994) underscored the paucity of research on this topic? A thorough review of academic literature reveals that studies of formal faculty mentoring programs that use research designs and include descriptions of the mentoring program models continue to be rare. Two cross-institutional studies were identified in which subjects were members of professional organizations who self-identified as either having participated in formal or informal mentoring relationships or not having any mentoring relationships, but neither met the criteria of this review. Wilson et al. (2002) surveyed new social work faculty members identified through the Council on Social Work Education to determine perceived benefits of mentoring relationships. Although the study did not describe the models of the formal mentoring programs in which the faculty members participated, thus not meeting the criteria of this review, data generated through interviews did suggest that formal mentoring program factors such as being able to select one's mentor

rather than being assigned, having similar professional interests, the frequency of meetings, and organizational support contributed to perceptions of success.

Schrodt, Cawyer, and Sanders (2003) conducted a similar study surveying faculty members who were members of the National Communication Association. A statistical analysis of the survey results indicated that faculty members who self-reported participating in mentoring relationships indicated greater satisfaction with their socialization to their new environment. However, it was not possible to differentiate between those who participated in formal versus informal relationships because of the small number of participants involved in formal programs. These two studies underscore the limitations of mentoring scholarship with regard to formal cross-institutional faculty mentoring; they were based on self-reported data drawn from small samples that focused on perceptions of satisfaction with mentoring relationships, without providing sufficient description of the formal mentoring models.

A third cross-institutional study excluded from this review examined the mentoring experiences of African American faculty members from two predominantly White research institutions located in the Midwest (Tillman, 2001). One university did not have an institutional policy toward mentoring; mentoring was practiced informally among faculty members within the same departments. At the second institution, mentoring was reportedly formalized; each new untenured faculty member was assigned a three-member tenure review committee within his or her department. Tillman determined that same-race mentoring relationships provided more psychosocial support than cross-race relationships, underscoring the need for African Americans to form both organizational and developmental relationships within their institutions.

But no differences were identified between the informally and formally mentored groups, largely as a result of there being no evidence that the practice of assigning a tenure review committee actually constituted a "mentoring program." The requirement for the committees to meet once a year and submit annual reports to the department chairs on the progress of the junior faculty members were the only common experiences among faculty members who were classified as participating in formal mentoring relationships. Tillman (2001) acknowledged that the assignment of a mentor, in and of itself, does not constitute a mentoring program. So consequently, although Tillman's study contributed valuable information to the field of mentoring as it relates to African Americans, unfortunately, it does not contribute substantially to our understanding of formal mentoring programs.

Seven studies of faculty mentoring programs were identified in the literature that had research designs, included sufficient descriptions of the mentoring program models, and were conducted within the past 10 years in the United States. Table 1 identifies the investigators, the organizational sponsors of the mentoring programs, the methodologies, and the conclusions of the studies.

Only one cross-institutional study was identified that met the criteria of this review. Chesler et al. (2003) cited a unique intervention program that provided networking and mentoring opportunities for women within an unconventional forum. The concept for this program grew from the premise that activities that foster peer mentoring and community building may be more likely to meet the needs of female faculty members than traditional relationships (Chesler & Chesler, 2002). Sponsored through the NSF and the Engineering Information Foundation, this

TABLE 1
Faculty mentoring program studies

Study	Organizational Design	Methodology	Conclusions
Benson et al. (2002)	Discipline-based (medicine): Medical College of Pennsylvania and Hahnemann University (NCLAM)	Case study of 33 junior faculty members and 88 senior faculty members with mixed-method analysis of program: participant postassessment surveys and statistical analysis of publication and retention data vs. control group	Self-reported increase in level of satisfaction and productivity, greater retention of junior faculty members, particularly minority faculty members, compared with control
Bower et al. (1998)	Discipline-based (medicine): Medical College of Wisconsin formal faculty mentoring program	Case study of 18 junior faculty members with mixed-method analysis of mentor characteristics: participant postassessment surveys and statistical analysis of survey data/ Daloz model	Characteristics of mentors in relationships highly recommended by mentees correlate with Daloz mentoring model of balancing support/challenge/ vision
Boyle and Boice (1998)	Institutional: large, public, comprehensive university	Case study of 25 junior faculty members with mixed-method analysis of program: MI assigned based on interviews and observed behaviors statistically compared to MI assigned control group	MI of formal mentoring pairs significantly higher than informal control group indicating more involved relationships over longer period of time
Cawyer et al. (2002)	Discipline-based (communication): large midwestern Doctoral 1 research university	Case study of one junior faculty member using field notes and interviews; multiple coders using constant-comparison method of analysis	Five mentoring characteristics were found to affect socialization: bonding, social support, professional advice, history, and accessibility

(continued)

TABLE 1 (continued)

Study	Organizational Design	Methodology	Conclusions
Chesler et al. (2003)	Cross-institutional and discipline-based (engineering): NSF/ Engineering Information Foundation female faculty member outdoor-adventure professional development program	Case study of 14 junior faculty members using reflective self-reports and observations; a deductive coding frame was applied for evidence of informational, psychosocial, and instrumental benefits	Self-reported increase in confidence, improved perspective on personal and professional environments, and increased community and trust
Paloli et al. (2002)	Discipline-based (medicine): East Carolina University, Brody School of Medicine (NCLAM)	Case study of 18 junior faculty members with mixed-method analysis of program: participant pre- and postassessment surveys and statistical analysis of learning objectives data	Self-reported improved professional skills, satisfaction, and retention
Wingard et al. (2004)	Discipline-based (medicine): UCSD (NCLAM)	Case study of 67 junior faculty members with mixed-method analysis of program: participant pre- and postassessment surveys, statistical analysis of retention and return-on-investment data vs. control group	Self-reported improved confidence in skills and roles, improved retention at UCSD, retention in a career in academic medicine, and program cost-effectiveness compared with control

Note. MI = mentoring index; NSF = National Science Foundation; NCLAM = National Center of Leadership in Academic Medicine; UCSD = University of California, San Diego.

3-day program coupled outdoor-adventure education with the development of communication and leadership skills for the purpose of initiating lasting mentoring relationships. Participants were tenure-track female faculty members in engineering from New England selected from a pool of 24 colleges and universities; several distinguished senior faculty women also attended.

Assisted by Outward Bound professionals, the women engaged in a series of physical challenges, including a "high ropes course," hiking, and rock climbing, to practice team building and conflict management skills. Sessions also included personal reflection, discussion with the senior female faculty members on topics ranging from the tenure process to maintaining a balance between academic and home life, and the opportunity to discuss and critique writing samples. On the basis of the qualitative assessment of written reflections and observations by the authors during activities and small group discussions, the authors reported informational, psychosocial, and instrumental benefits. Participants reported increased confidence, improved perspective on their personal and professional environments, and increased community and trust.

One year after the completion of the workshop, many participants still kept in touch with one another, either in person or through e-mail; they maintained both personal and professional correspondence and assisted one another through shared reflection and discussion. Many women also kept in touch with the senior faculty women who had participated in the program, thus sustaining their multiple mentoring relationships. Chesler et al. (2003) claimed that the positive outcomes attributed to this program may contribute to improved retention and advancement and indicated that such would be investigated through a longitudinal study. No mention was made of a control group. Hopefully, the follow-up longitudinal study will include comparison with a control group, which would enhance the significance of the study outcomes.

Only one study of an institutional faculty mentoring program was identified as part of this review. Boyle and Boice (1998) studied 25 pairs of faculty members from across the sciences, social sciences, and humanities at a large, comprehensive university; the faculty pairs volunteered to participate in a systematic mentoring program that was funded by the Federal Fund for Improving Post-Secondary Education. Using a uniquely designed mentoring index, Boyle and Boice assigned criterion-based scores to mentoring pairs on the basis of weekly observations and interviews. The nature and regularity of meetings, the reported quality of interactions and compatibility, and indicators of professional growth and reciprocity were factored into the ratings.

The mentoring index scores of the 25 pairs were found to be significantly higher than those of a control group of new faculty members involved in spontaneously occurring mentoring relationships. The formal mentoring pairs and control pairs were volunteers rather than randomly assigned; therefore, it is unknown whether differences between the two groups contributed to study outcomes.

Boyle and Boice (1998) concluded that well-planned, simply structured, and continuously assessed programs allow mentors and mentees to dedicate more time to mentoring and consequently derive more benefits from these relationships than if they were participating in informal arrangements. These findings are contrary to those of a number of studies conducted in the business sector that posited that informal mentoring relationships provide more significant career outcomes for mentees than formal mentoring programs (Chao et al., 1992; Noe, 1988, Ragins & Cotton, 1999). It is important to note that much that we know about mentoring has been generated from research within corporate cultures. The highly contextual nature of mentoring, combined with the idiosyncrasies of the academic culture, leads one to begin to question if observations made within the business sector are transferable to academic cultures.

The remaining five research studies of faculty mentoring programs identified within the literature were discipline specific: four were in academic medicine and one was in communication. Three of the four studies in academic medicine were from institutions that were selected as National Centers of Leadership in Academic Medicine (NCLAMs) by the Department of Health and Human Services: East Carolina University, Hahnemann University, and the University of California, San Diego (UCSD). One can assume that the concentration of faculty mentoring program research in academic medicine is related to funding provided by the NCLAM program and to federal grant specifications that prescribe the public dissemination of measurable outcomes. Current and projected shortages of women and underrepresented minorities in the sciences have influenced the federal government as well as professional organizations to support initiatives that show promise of attracting and retaining women and minorities in medicine, science, and engineering.

The Brody School of Medicine at East Carolina University was designated an NCLAM and developed a mentoring program to promote the career advancement of junior faculty members in academic medicine (Paloli et al., 2002). A collaborative 8-month peer mentoring program was offered twice from 1999 to 2001. The goals of this program were to create an environment of support and guidance for achieving career satisfaction and advancement, to foster increased awareness of faculty members' career goals, to facilitate planning for faculty members to reach career success, to assist faculty members in developing the required skills for goal achievement, to promote increased awareness of gender and power issues in relation to achievement of career goals, and to facilitate a team-building collegiate approach for faculty members. This program was based on Carl Rogers's theoretical learning principles, which advocate the provision of a safe and supportive learning environment (Lyon & Rogers, 1981), and adult education theory, which suggests that learners need to perceive the relevance of material to learn most effectively (Cross, 1981). The 18 junior faculty members who participated in the program developed "skills related to career planning, scholarly writing, oral presentation, gender and power issues, negotiation, and conflict management" (Paloli et al., 2002, p. 383). The program also promoted faculty members' retention through improved satisfaction in their work and an improved understanding of the nature of academic medicine. Although the lack of a control group limits the utility of this study, the authors suggested that this collaborative approach is superior to the dyadic approach because it was self-empowering, collaborative, and experiential for the adult faculty members.

In contrast to a collaborative approach, Benson, Morahan, Sachdeva, and Richman (2002) described the effects of a two-tiered mentoring strategy at the Medical College of Pennsylvania and Hahnemann University that was implemented after being designated an NCLAM and during the reorganization of an academic medical center. The first tier of the program involved pairing a new faculty member with a more senior person. After a period of time, this initial mentor helped the mentee find other mentors with different strengths within the organization for the second tier of the program. The authors reported that 20% of junior faculty members and 30% of senior faculty members participated, with the majority indicating a high level of satisfaction with the program. Compared with the 80% of the new faculty members who did not accept the investigators' invitation to participate in this program, publication productivity increased, and there was a trend

toward the increased retention of minority faculty members among those who did participate. Because participants were self-identified volunteers and not randomly assigned, it is unknown whether differences between this group and the larger population of new faculty members contributed to study outcomes.

Among all the studies reviewed, Wingard, Garman, and Reznik (2004) described the most highly structured faculty mentoring program. UCSD developed a formal mentoring program for junior faculty members in academic medicine as a result of being chosen as an NCLAM. This 7-month program included weekly half-day workshops for junior faculty members, the completion of a professional development contract, and regular meetings with senior faculty members. In return for this time investment, each participant's department was compensated at the rate of 5% of base salary while in the program. Four outcomes associated with participation in the mentoring program were assessed: improved confidence in skills, retention at UCSD, retention in a career in academic medicine, and cost-effectiveness. After completing the program, the participants reported increased confidence in skills needed for academic success. The cohort of 67 junior faculty members who completed this program between 1999 and 2002 demonstrated higher than average retention rates at both UCSD (85%) and within academic medicine (93%) compared with national faculty retention data obtained from the Association of American Medical Colleges. Therefore, Wingard et al. concluded that the implementation of the faculty mentoring program was cost effective because the improved retention rates led to a significant savings in recruitment costs.

Two of the three studies that pertained to programs that were established as NCLAMs provided evidence of better rates of retention relative to a control group; however, Wingard et al.'s (2004) study was the only one that quantified the return on investment of their mentoring program by comparing mentoring program expenses with the average cost of recruiting a faculty member in academic medicine. This differentiation in methodology resulted in Wingard et al.'s study being included in Sambunjak, Straus, and Marusic's (2006) systematic review of mentoring literature in academic medicine. Sambunjak et al. reported that their review "included all study designs except qualitative studies" (p. 1104), without explanation. "Minimum inclusion criteria were a description of the study population and availability of extractable data" (p. 1104).

This underscores another challenge associated with the study of mentoring: qualitative methods are better suited to exploring the complexity of relationships (Mertens, 2005), but qualitative studies are not universally accepted within the academic community as empirical or evidence based. A lack of agreement also exists with regard to what qualifies as quantitative data. Each of the NCLAM studies used mixed-method designs that included both qualitative and statistical methods; however, Wingard et al.'s (2004) study was the only study of a formal mentoring program in academic medicine that Sambunjak et al. (2006) reported as being able to extract quantitative data. All of the remaining studies included in Sambunjak et al.'s review of mentoring in academic medicine related to informal mentoring relationships.

One additional study was identified that supported the use of structured faculty mentoring programs to socialize new faculty into academic medicine. The Medical College of Wisconsin instituted a formal mentoring program on the basis of the mentoring model of Laurent A. Daloz, who advocated that mentors balance the degree

of support, challenge, and vision provided within mentoring relationships (Bower, Diehr, Morzinski, & Simpson, 1998). Although not designated an NCLAM, the formal mentoring program was partially funded by grants in faculty development in family medicine from the Department of Health and Human Services.

The program consisted of senior departmental faculty members who received mentoring training and then were assigned protégés for 2 years. Although only half of the 18 assistant professors who participated reported that they would recommend their mentors to other junior colleagues, the study found that "the Daloz challenge-support-vision model helps to explain the interactions of effective faculty mentors in academic medicine" (Bower et al., 1998, p. 596). The behaviors of mentors in relationships that were highly recommended to others by their mentees were classified as "high support/high challenge." On the basis of Daloz's model, support was defined as activities that affirm the value of a person, and challenges were behaviors that motivated one to go beyond his or her comfort zone.

A puzzling aspect of this study is why Bower et al. (1998) did not address the marginal mentoring outcomes; that is, why half of the mentees would not recommend their mentors to other colleagues. Did mentors receive sufficient training? Did this model include oversight of mentoring relationships by a third party? The lack of explanation or discussion of this phenomenon, as well as a lack of a control group, detracts from the potential applicability of this study.

Last, Cawyer et al. (2002) described the only discipline-specific study outside of academic medicine: a case study of one new communication faculty member participating in a formal departmental mentoring program. The study explored the relationship between mentoring and faculty socialization. The participant maintained field notes over a 16-week period describing and reflecting on her experiences. To extend the data beyond the field notes, interviews were conducted with the participant, the assigned mentor, and two faculty members with whom the participant had developed informal mentoring relationships. Interviews with two other faculty members who were also in their first semesters of employment were conducted to validate the experiences of the participant. Whether these individuals were randomly selected and the size of the population from which they were selected are not known.

The results suggested that certain aspects of formal and informal mentoring eased the anxiety of organizational adjustment. Although the focus on the experiences of one individual limits any generalizations that may be drawn from this study, Cawyer et al. (2002) stated that the "findings indicate that while formal mentoring may be beneficial for facilitating socialization, it is likely that an attitude of mentoring (i.e., willingness to mentor newcomers) among faculty rather than isolated relationships is the primary advantage of mentoring programs" (p. 236). Gibson's (2004) study of female faculty members similarly found that having a departmental culture committed to the success of faculty members fostered the prevalence of mentoring, and Gibson recommended more in-depth investigation of what constitutes a mentoring culture.

Context or culture is a variable that existing formal mentoring program studies have yet to explore in depth. In corporate settings, Hegstad and Wentling (2005) noted the potential impact of organizational factors on the effectiveness of mentoring programs but acknowledged that the examination of organizational culture has been underdeveloped in empirical mentoring literature.

Discussion

All of the faculty mentoring program studies examined during this review reported varying degrees of positive outcomes; however, Clutterbuck and Lane (2004) recommended caution in oversimplifying the outcomes of mentoring studies. It is difficult to isolate all the individual variables involved in one's professional and personal development. Consequently, even those few studies identified with quasi-experimental designs (Boyle & Boice, 1998; Benson et al., 2002; Wingard et al., 2004) lacked the requisite randomization of subjects and control groups to establish causal relationships between mentoring, productivity, and career success.

On the basis of this review of the literature, it appears that discourse on mentoring continues to garner interest, but the sophistication of research on formal faculty mentoring programs has not significantly improved over the past decade. The same methodological issues identified by Wunsch (1994) continue to afflict mentoring scholarship: the prevalence of evaluative rather than research-based studies, research designs involving small samples or a single case study, the lack of control groups, and the lack of longitudinal studies.

Key Program Variables

Most notable in recent years has been the wide range of experiences that have been described as "formal mentoring programs" in the literature. Variables that have been found in the literature to distinguish mentoring programs include the organizational sponsors, the length of relationships, the mentoring models, the methods of selection and matching, and the degrees of training, structure, and monitoring. Table 2 lists the descriptions or the operational definitions of the formal faculty mentoring programs cited in this review. Very few programmatic similarities existed among the seven studies. In fact, the programs were more different than similar. Attempting to make any comparisons between the formal faculty mentoring studies presented within this review is akin to comparing apple juice, apple sauce, and apple pie.

Allen et al. (2006b) noted that the popularity of formal mentoring programs within the business community has been based more on speculation rather than empirical evidence. As this review demonstrates, formal mentoring program models vary widely among academic institutions, yet little is known in business or academe as to why certain practices are favored or thought to be more effective than others. According to Allen et al., "with practice leading science in this regard, our lack of empirical research regarding formal mentoring programs represents a major gap in the mentoring literature" (p. 126).

Program Success Factors

Although empirical research on existing mentoring programs is limited, there is no shortage of "how to" literature in both business and academe that cites "best practices" or factors associated with the success of formal mentoring programs. Table 3 is a compilation of mentoring program success factors most frequently referenced within descriptive, evaluative, and research-based literature.

Several success factors that had been considered to be widely accepted have been challenged in recent years. For example, Kram (1985) emphasized the importance of voluntary participation in mentoring programs for both mentors and

TABLE 2
Operational definitions of mentoring programs

Study	Mentoring Program Models
Benson et al. (2002)	School-based (medicine); two-tiered; voluntary; one-to-one pairing; junior faculty member assigned a senior faculty mentor in 1st year to orient to new environment; complete personalized agreement; no dictated structure; assist mentee in identifying mentor in 2nd year to support career development through promotion to associate professor; mentee determines frequency of contact and length of second-tier relationship; low degree of monitoring
Bower et al. (1998)	School-based (medicine); 2 years; voluntary; one-to-one pairing; theoretical framework (Daloz); mentors attend 1-hour orientation; no dictated structure; mentee determines frequency of contact; low degree of monitoring
Boyle and Boice (1998)	Institutional; yearlong; voluntary; mentors received small stipend; cross-departmental; one-to-one pairing; highly structured; complete contract; commit to weekly contact; monthly 1-hour sessions; keep journal; closely monitored
Cawyer et al. (2002)	Departmental (communications); first semester of employment (16-week period of unspecified overall period); mandatory for mentee; one-to-one pairing; department automatically assigns new faculty member a senior faculty mentor; unclear if mentors volunteer; no dictated structure; mentee determines contact; low degree of monitoring
Chesler et al. (2003)	Cross-institutional; discipline based (engineering); limited to women; 3-day, live-in intensive experience; application-based; small matching travel funds required from institution (program fee); peer/group mentoring; theoretical framework (Outward Bound Leadership Program for Professional Women); highly structured physical and professional development experiences; closely monitored
Paloli et al. (2002)	School-based (medicine); 8 months, 80 hours; application based; required permission of chair; peer/group mentoring; theoretical framework (Rogers and adult education); 3-day orientation; highly structured; six full-day skill and career development sessions once a month; closely monitored
Wingard et al. (2004)	School-based (medicine); 7 months; voluntary or nominated by chair; department compensated 5% of mentee's base pay; one-to-one pairing; complete contract; highly structured; weekly half-day workshops; closely monitored

mentees to reduce the risk for destructive relationships. However, Allen et al. (2006a) determined that the voluntary nature of mentoring programs may be more important to mentors. No significant difference was determined between mentees who were mandated and those who volunteered to participate in formal mentoring programs within four different organizations in health care, manufacturing, oil, and technology.

Such findings are important because mandated mentoring programs for mentees could counter misconceptions about formal programs being selective or remedial. Understandably, it would be ill advised for a mentor to be an unwilling participant in a mentoring program. Boyle and Boice (1998) offered their faculty mentors a small summer stipend, believing that an incentive was necessary to recruit mentors. Surprisingly, Boyle and Boice found that recruiting mentees proved to be more challenging. Reasons cited by new faculty members for not being interested in the mentoring program included being too busy or not believing that they needed or could benefit from the program. Boyle and Boice's findings provide support for requiring new faculty members to participate in mentoring programs, but admittedly, this appears to be a minority opinion in the literature at this time. In Wingard et al.'s (2004) study, departments were reimbursed 5% of mentees' base pay over the course of the program, thereby purchasing "release time" for the junior faculty members. It is unknown what impact this practice had on mentee participation in Wingard et al.'s study. Departmental-focused incentives may be particular to clinical departments within academic medical centers to counter the negative financial consequences of reduced clinical hours.

Strategies for matching mentoring pairs are another factor that remains unclear within the literature. In fact, evidence can be found in business and academe for both departmental and cross-departmental pairing. Advocates of departmental pairing emphasize professional compatibility in academic settings (Tillman, 2001) and increased opportunity for interaction in business settings (Allen et al., 2006a). However, Boyle and Boice (1998) noted the possible negative consequences on tenure and promotion decisions in academe when mentoring pairs are from the same department. Allen et al. found evidence in the corporate sector that having a voice in the selection process was a more significant predictor of satisfaction for both mentors and mentees than whether the mentor was from the same or a different department. By having a voice in the matching process, mentors and protégés may have greater motivation to maximize the experience and start to invest in the relationship prior to its official beginning. A corresponding study isolating this variable in higher education literature was not found. Comparing outcomes of departmental versus cross-departmental matching in formal faculty mentoring relationships would provide valuable insight on this issue that continues to be vexing in academe.

Recent literature is relatively consistent in identifying mentoring program success factors but is less clear in determining how one measures the "success" of a formal mentoring program. Peluchette and Jeanquart (2000) questioned the tendency of mentoring researchers to focus primarily on objective measures of success, such as rates of promotion and salary levels. On the basis of a survey of tenure-track faculty members across ranks and disciplines at two state universities, they found distinct differences in objective and subjective career success for faculty members at early, middle, and late career stages, depending on the source of the mentor. The authors surmised that subjective measures of success are more

TABLE 3
Mentoring program success factors

Factors	References
Visible support of senior administration	Girves et al. (2005), Hegstad and Wentling (2005), Wilson et al. (2002)
Aligned with organizational goals and objectives	Hegstad (1999), Lindenberger and Zachary (1999)
Linked to other personnel practices such as performance appraisals, promotions, and systems of rewards and recognition	Hegstad (1999), McCauley and Van Velsor (2004), Tillman (2001)
Allocated sufficient resources	Luecke (2004), Murray (2001)
Inclusive design that instills mentoring as a cultural value and core institutional responsibility	Gunn (1995), Murray (2001), Lindenberger and Zachary (1999)
Input from mentors and mentees in the development of the format of the program	Allen et al. (2006a), Lindenberger and Zachary (1999)
Voluntary participation of mentors	Allen et al. (2006a), Boyle and Boice (1998)
Strategies for identifying the developmental needs of participants	Lindenberger and Zachary (1999)
Criteria and process for qualifying mentors	Daloz (1999), Luecke (2004)
Strategies for matching pairs on the basis of professional compatibility	Hegstad and Wentling (2005), Tillman (2001), Wilson et al. (2002)
Orientation for both mentors and mentees on the dynamics of mentoring	Allen et al. (2006a), Hedstad (1999), Ragins and Cotton (1999)
Clarity for both mentors and mentees with regard to goals, expectations, and roles	Allen et al. (2006a), Murray (2001), Tillman (2001)
Contingencies for interventions (i.e., no-fault terminations or reassignment of participants)	Boyle and Boice (1998), Murray (2001), Tillman (2001)
Coordination team responsible for program oversight and support	Boyle and Boice (1998), Lindenberger and Zachary (1999)
Formative evaluation for continuous improvement	Boyle and Boice (1998), Girves et al. (2005)
Summative evaluation to determine outcomes	Boyle and Boice (1998), Girves et al. (2005), Tillman (2001)

relevant to early-career faculty members as opposed to middle- or late-career faculty members because of the dual demands of adjusting to their home institutions and their professions. Tillman (2001) also emphasized the importance of objective and subjective measures of success. Among African American faculty members who were considered successful on the basis of objective measures, Tillman found that such success did not necessarily translate into a subjective measure of success, that is, a feeling of belonging or acceptance within an academic institution.

Sustainability

The literature includes ample discussion of mentoring program success factors but little dialogue on sustainability. Several faculty mentoring programs cited in the literature as successful, and a number of mentoring programs referenced on the Internet, were found to no longer be in operation at the time of this review. Girves et al. (2005) made note of the difficulty of institutionalizing and sustaining mentoring programs at an institutional level; however, most current literature overlooks longevity as a factor of concern. What are the commonalities between faculty mentoring programs that are both successful and sustainable? All of the studies cited in this review involved newly established faculty mentoring programs and, with the exception of one, reported short-term results; Wingard et al.'s (2004) study examined data over a 4-year period. A need exists for additional longitudinal studies not only of program outcomes but also of program sustainability.

The importance of visible support from senior administration is addressed within formal mentoring literature in business and academe, but responsibility for funding in higher education is sidestepped in the literature. Corporate mentoring programs cited in the literature were primarily supported by internal resources or professional organizations. With the exception of Cawyer et al. (2002), the faculty mentoring programs cited in this review were supported by external funds, specifically federal grants. Were these mentoring programs sustained after the federal grants expired? Did the sponsoring department, school, or university assume financial responsibility for these programs? Or did the program administrators secure alternative sources of funding?

Lack of Scholarship

Many exceptional faculty mentoring programs are currently in practice; a search of the Web sites of the 62 institutions belonging to the Association of American Universities (AAU) revealed over a dozen descriptions of vibrant faculty mentoring programs. Some examples include the Iowa State University ADVANCE External Mentoring Program; University of Wisconsin–Madison Women Faculty Mentoring Program; the Indiana University, Bloomington, School of Education Faculty Mentoring Program; and the Stanford University School of Medicine Faculty Mentoring Program. However, finding research studies of faculty mentoring programs, especially outside of academic medicine, proved to be very difficult. The conundrum for faculty development practitioners who are considering establishing a faculty mentoring program is not that there is a lack of programs but rather that little scholarship is being generated and/or disseminated about these model programs.

This is not to say that faculty mentoring programs are not being systematically examined. A pilot study of 10 faculty mentoring programs at eight AAU-member institutions (Zellers, Howard, & Barcic, 2005) revealed that some institutions had conducted extensive faculty needs assessments and were systematically collecting data on their faculty mentoring programs, but these institutions were not at liberty to publish their findings. In academe, studies conducted without soliciting approval from one's institutional review board cannot be published in scholarly journals.

The lack of scholarship surrounding mentoring programs can be partially attributed to the *practitioner predicament*: The field is dominated by practitioners who are either professional staff members, academicians with specialties other than faculty development, or faculty members volunteering or dedicating a small portion of their academic effort to the administration of mentoring programs. Such personnel often have limited training, resources, or time to engage in rigorous mentoring-related scholarship.

Organizational Culture

In the pilot study of mentoring programs at AAU institutions (Zellers et al., 2005), none of the program representatives attributed their mentoring models to theoretical or conceptual frameworks, as was the case with several of the programs included in this review (Bower et al., 1998; Chesler et al., 2003; Paloli et al., 2002). Rather, the AAU administrators cited specific precipitating events and cultural attributes as influencing their decision making with regard to adopting their particular mentoring program models. After studying mentoring relationships for nearly 20 years, Kram (2004) acknowledged the importance of understanding the cultural milieus of the sponsoring organizations:

> There are no simple recipes. Perhaps the most important lesson from all of these programmatic efforts is that the most effective strategies for fostering mentoring depend on the context in which they are implemented, the purpose for such initiatives, and the values, skills and attitudes of potential participants. (p. xii)

On the basis of this review of faculty mentoring program literature, it is clear that mentoring is highly contextual and subject to a wide range of interpretations. Each mentoring program exists within its own historical and organizational context and is subject to the influence of its own institutional culture; however, no faculty mentoring program study was identified as part of this review that specifically examined or underscored the culture in which the program existed.

Hegstad (1999) noted a similar void in business literature. She found that "the topic has boomed in corporate popularity" (p. 383), but few mentoring studies were identified linking mentoring with organizational development. Hegstad and Wentling (2005) conducted the first comparative study to examine organizational antecedents and moderators that had an impact on the effectiveness of exemplary formal mentoring programs at *Fortune* 500 companies headquartered in the United States. After reviewing related documents and interviewing mentoring coordinators from 17 companies, Hegstad and Wentling found that senior-level management support is a necessary antecedent of the organizational environment. A team-focused environment, an open work area with opportunity for interaction, and a work ethic

based on cross-functional operation, collaboration, and networking were antecedents that also hastened the success of formal corporate mentoring programs. Open communication processes and effective selection and matching processes were identified as the most instrumental moderators of exemplary formal mentoring programs.

On the basis of Hegstad and Wentling's (2005) observations, one could deem traditional academic cultures to be incompatible with hosting high-quality faculty mentoring programs. Collegial cultures, especially those of major American research universities, place great value on and reward independent, disciplinary-based scholarship and research (Bergquist, 1991). Such environmental conditions are in dire contrast to the corporate milieu in which Hegstad and Wentling found formal mentoring programs to flourish (i.e., team focused, cross-functional, and collaborative). Yet formal faculty mentoring programs are flourishing within a number of major American research universities. However, empirical literature is especially quiet concerning these success stories and relatively silent with regard to the organizational cultures that support model faculty mentoring programs.

Recommendations

Our depth of understanding with regard to formal faculty mentoring programs continues to be relatively shallow. More rigorous examination of such programs is warranted in relation to their impact on women, non-White men, and other marginalized groups within academe. Additionally, what are the differences between institutional and departmental mentoring programs? How do such programs meet the needs of faculty members at different career stages?

Although mentoring theorists emphasize the relevance of culture to mentoring experiences, few studies exists that explore the impact of organizational cultures on mentoring programs. This review has identified evidence that suggests that academe should be cautious in overgeneralizing mentoring experiences within corporate cultures. Few organizational parallels exist between the academy and the business sector, yet many researchers investigating mentoring in higher education build their studies on assumptions drawn from business settings. Thus, the need exists to empirically examine faculty mentoring programs from a cultural perspective, similar to Hegstad and Wentling's (2005) framework, albeit modified to be applicable to academic rather than corporate cultures. By identifying a range of successful faculty mentoring programs among major research institutions in the United States, one could attempt to determine the organizational and contextual factors associated with their effectiveness, as differentiated from those factors that influence employee mentoring programs in business.

The need also exists for more public dissemination of data with regard to existing faculty mentoring programs to provide models for other institutions to consider. Rather than reinventing the wheel, those institutions that have successfully reenvisioned mentoring to meet their organizational needs, and have found the means to sustain their efforts, should be provided incentives to conduct and publish mentoring-related scholarship. But perhaps because of the personal nature and meaning of mentoring, investigators should embrace qualitative research methods. Richer data could be obtained by qualitatively examining the actual experience of mentoring from both mentors' and mentees' perspectives within the context of faculty mentoring programs.

As our investigation has determined, most research on faculty mentoring programs is being generated within institutions that have been able to secure external funding either through governmental agencies and/or professional organizations invested in fostering the career development of emerging academicians. Strategies to compel senior administrators to invest internal resources in more robust studies of their faculty mentoring programs would advance our understanding of both the power and perils of such programs.

Conclusion

In retrospect, the mythological subplot of *The Odyssey* in which Athena, the goddess of wisdom and compassion, works through the character Mentor does not appear to be merely coincidental. Rather, it is an especially appropriate metaphor for the interrelatedness of the dual dimensions of mentoring and the holistic learning that occurs within its context. According to Daloz (1999), the influence of female figures over male characters in classical literary pieces depicts the deeper metaphorical construct of becoming whole developmentally through both masculine and feminine influences. Our challenges today are to identify ways in which to apply this classical construct more systematically and equitably across the ranks of the academy and to share formal mentoring experiences more broadly among the academic community.

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