A D V A N C E

MENTORING
ANNOTATED BIBLIOGRAPHY

Allen, T. D., & Eby, L. T. (2004). Factors related to mentor reports of mentoring functions provided: Gender and relational characteristics. *Sex Roles, 50*(1-2), 129-139.

> In this study we examined the relationship between mentor gender, protégé gender, mentorship characteristics (e.g., mentorship type, mentorship duration, mentor experience), and mentoring functions provided as reported by mentors. Drawing on research regarding diversified mentorships and interpersonal relationships, we proposed that mentoring effectiveness would vary as a function of the gender of the mentorship participants and the characteristics of the relationship. As hypothesized, several interesting gender differences emerged from the data. Male mentors reported providing more career mentoring to their protégés, whereas female mentors reported providing more psychosocial mentoring. Contrary to expectations, mentors in informal mentorship did not report providing more mentoring than did mentors in formal mentorship. The findings demonstrate the importance of examining mentoring from the perspective of the mentor. [Abstract from authors]

Allen, T.D. & Eby, L. T. (2007). *The blackwell handbook of mentoring: A multiple perspectives approach.* Oxford: Blackwell Publishing.

> This book covers a variety of mentoring forms from industry, academia, and community in seven parts: introduction, theoretical approaches and methodological issues, naturally occurring mentoring relationships, benefits of mentoring, diversity and mentoring, best practices for formal mentoring programs, and integrating multiple mentoring perspectives. The authors distinguish mentoring from other similar relationships, such as role modeling, teaching, supervising, and advising, and define it as a unique, dynamic, and reciprocal learning partnership between two people that involves emotional/psychosocial and instrumental/career-related support. While this definition is somewhat narrower than that used in other mentoring research and the section on academic mentoring focuses on faculty-student mentoring relationships, findings in the text are still useful and can be extended to other forms of mentoring. This text is available as an e-book through the University of Arizona Library.

Allen, T.D. & Eby, L. T., O'Brien, K.E., & Lentz, E. (2008). The state of mentoring research: A qualitative review of current research methods and future research implications. *Journal of Vocational Behavior, 73*(3)*, 343-357.

> Research regarding mentoring relationships has flourished during the past 20 years. This article reviews the methodology and content of 200 published mentoring articles. Some of the major

concerns raised in this review include over reliance on cross-sectional designs and self-report data, a failure to differentiate between different forms of mentoring (e.g., formal versus informal), and a lack of experimental research. Implications and suggestions for future research are offered. [Abstract from authors].

Allen, T., Eby, L., Poteet, M., Lentz, E., & Lima, L. (2004). Career benefits associated with mentoring for protégés: A meta-analysis. *Journal of Applied Psychology, 89*(1), 127-136.

Meta-analysis was used to review and synthesize existing empirical research concerning the career benefits associated with mentoring for the protégé. Both objective (e.g., compensation) and subjective (e.g., career satisfaction) career outcomes were examined. Comparisons of mentored versus nonmentored groups were included, along with relationships between mentoring provided and outcomes. The findings were generally supportive of the benefits associated with mentoring, but effect sizes associated with objective outcomes were small. There was also some indication that the outcomes studied differed in the magnitude of their relationship with the type of mentoring provided (i.e... career or psychosocial). [Abstract from PsycINFO Database Record, 2007, APA]

Alvarez, A. N., Blume, A. W., Cervantes, J. M., & Thomas, L. R. (2009). Tapping the wisdom tradition: Essential elements to mentoring students of color. *Professional Psychology: Research andPractice, 40*(2), 181-188.

The relevance of race, ethnicity, and culture in the mentor–mentee relationship is the essence of this article. The authors argue that diversity education for those mentoring students of color merits an additional level of required expertise in the following key areas: culture and academia, shared/assumed existential posture, racial discrimination, race and ethnic self-awareness, and relationship and process.

With support from APA publications, the authors highlight specific academic and professional concerns for students of color, to work toward effective mentoring of culturally diverse students. For prospective mentors of students of color, the authors make recommendations related to engagement, instruction, and integration of personal and professional identity. Further, the authors make recommendations for the management of experiences with discrimination and the recognition of racial identity and racial awareness in the mentor–mentee relationship. [Abstract from authors].

American College of Clinical Pharmacy. (2009). Essential components of a faculty development program for pharmacy practice faculty. *Pharmacotherapy, 29*(1), 1-127.

Prospective, ongoing faculty development programs are important in the initial orientation and short- and long-term development of faculty in higher education. Pharmacy practice faculty are likely to benefit from a comprehensive faculty development program due to the complex nature of their positions, incomplete training in select areas, and multiple demands on their time. The need for faculty development programs is supported by the increased need for pharmacy practice faculty due to the increased number of colleges and schools of pharmacy, expanding enrollment in existing colleges and schools, and loss of existing senior faculty to retirement or other opportunities within or outside the academy. This White Paper describes a comprehensive faculty development program that is designed to enhance the satisfaction, retention, and productivity of new and existing pharmacy practice faculty. A comprehensive faculty development program will facilitate growth throughout a faculty member's career in pertinent areas. The structure of such a program includes an orientation program to provide an overview of responsibilities and abilities, a mentoring program to provide one-on-one guidance from a mentor, and a sustained faculty development program to provide targeted development based on individual and career needs. The content areas to be covered in each component include the institution (e.g., culture, structure, roles, responsibilities), student-related activities, teaching abilities, scholarship and research abilities, practice abilities and the practice site, and professional abilities (e.g., leadership, career planning, balancing responsibilities). A general framework for a comprehensive pharmacy practice faculty development program is provided to guide each college, school, department, and division in the design and delivery of a program that meets the needs and desires of the institution and its faculty. [Abstract from authors]

Athey, S., Avery, C., & Zemsky, P. (2000). Mentoring and diversity. *American Economic Review*, *90*, 765-786.

We study how diversity evolves at a firm with entry-level and upper-level employees who vary in ability and "type" (gender or ethnicity). The ability of entry-level employees is increased by mentoring. An employee receives more mentoring when more upper-level employees have the same type. Optimal promotions are biased by type, and this bias may favor either the minority or the majority. We characterize possible steady states, including a "glass ceiling," where the upper level remains less diverse than the entry level. A firm may have multiple steady states, whereby temporary affirmative-action policies have a long-run impact. [Abstract from authors]

Bagchi-Sen, S., Rao, H.R., Upadhyaya, S., Chai, S. (2010). Women in cybersecurity: A study of career advancement. *IT Professional,12*(1), 24-31.

Although cybersecurity is considered a critical area of information technology, women continue to be underrepresented among its ranks. This study, which is the first of female cybersecurity professionals, examines the skills women need to succeed in the industry, as well as the nature of the barriers and challenges they face at all points in their careers. Using face-to-face interviews and paper-based questionnaires, the study explored the views of high-ranking female

cybersecurity officers and gained insights into how the needs of women might better be addressed, whether they're starting out in the educational system or advancing to the board rooms of major corporations. As cybersecurity provides an increasing number of IT jobs and becomes central to managerial operations within companies, women's advancement to executive and managerial positions will be important both for gender equity and to meet the needs of the market. [Abstract from authors]

Bahniuk, M. H, Dobos, J., & Hill, S. K. (1990). The impact of mentoring, collegial support, and information adequacy on career success: A replication. *Journal of Social Behavior & Personality*, *5*(4), 431-452.

Replicated a study by S. E. Hill et al (1989) of the relationship between mentoring and career success. 215 male and 43 female managers were surveyed concerning mentoring support, perceived success, and demographics. Four dimensions of informal support emerged: collegial/task, mentor/protégé, collegial/social, and teacher/coach support. Results support those of Hill et al, showing the importance of a mentor for career success. Men had higher success scores on managerial rank and income than women, and both men and women with mentors scored higher on informal and formal communication variables than did those without mentors.

Bartunek, J.M., Kram, K.E., Coffey, R., Lenn, D. J., Moch, M. K., & O'Neill, H. (1997). A group mentoring journey into the department chair role. *Journal of Management Inquiry, 6*(4), 270-279.

Discusses the role of group and peer mentoring as new department heads learn how to manage departments. One result of the project was in thinking about departmental issues as commons dilemmas problems where one must weigh the good of the group against the good for the individual. The most significant and recurring outcomes included surfacing of tacit assumptions, reframing the issues, and helping the group develop a greater awareness of action alternatives.

Benz, E. J., Jr., Clayton, C. P., & Costa, S. T. (1998). Increasing academic internal medicine's investment in female faculty. *American Journal of Medicine*, 105, 459-463.

The continued underrepresentation of female faculty in departments of internal medicine poses many challenges. Problems ranging from microinequities—a term that describes a continuum of discriminatory behaviors of increasing severity from unconscious slights to exploitation —to inappropriate distribution of resources can be addressed through careful evaluation, systematic planning, and effective program implementation. As with concerns about the future of clinician-scientists or teaching professionalism in medical education, departments of internal medicine should make addressing gender-based issues a high priority for their future success. With a knowledge of how to approach these issues, departments can foster the academic success of

THE UNIVERSITY OF ARIZONA.

female faculty and the emergence of a strong and expanded cadre of female leaders in academic internal medicine. Provides recommendations at local and national levels.

Berk, R. A., Berg, J., Mortimer, R., Walton-Moss, B., Yeo, T. (2005). Measuring the effectiveness offaculty mentoring relationships. *Academic Medicine*, *80*(1), 66-71.

"Mentor" is a term widely used in academic medicine but for which there is no consensus on an operational definition. Further, criteria are rarely reported for evaluating the effectiveness of mentoring. This article presents the work of an Ad Hoc Faculty Mentoring Committee whose tasks were to define "mentorship," specify concrete characteristics and responsibilities of mentors that are measurable, and develop new tools to evaluate the effectiveness of the mentoring relationship. The committee developed two tools: the Mentorship Profile Questionnaire, which describes the characteristics and outcome measures of the mentoring relationship from the perspective of the mentee, and the Mentorship Effectiveness Scale, a 12-item six-point agree-disagree-format Likert-type rating scale, which evaluates 12 behavioral characteristics of the mentor. These instruments are explained and copies are provided. Psychometric issues, including the importance of content-related validity evidence, response bias due to acquiescence and halo effects, and limitations on collecting reliability evidence, are examined in the context of the mentor-mentee relationship. Directions for future research are suggested.

Blass, F.R., Brouer, R.L., Perrewé, P.L., & Ferris, G.R. (2007). Politics understanding and networking ability as a function of mentoring. *Journal of Leadership & Organizational Studies*, *14*(2), 93-105.

Some have suggested that mentoring in organizations tends to focus on "learning the ropes," or understanding organizational politics. This process is believed to result in building greater political skill and networking ability. The authors examined the relationships among mentoring, politics understanding, and networking ability. It was proposed that individuals experiencing the mentoring process would report higher levels of knowledge regarding understanding organizational politics, leading to greater networking ability. Specifically, the hypothesis that politics understanding mediated the relationship between mentoring and networking ability was tested with mediation analysis. The results provided strong support for the hypothesized relationship, demonstrating full mediation. Two additional hypotheses proposed a test of the "political skill deficiency" hypothesis, that the mediated relationships between mentoring, politics understanding, and networking ability would be moderated by gender and ethnicity, such that mediation would occur for men and Caucasians but not women and minorities. The results supported these hypotheses. Study implications and directions for future research are discussed. [Abstract from authors]

THE UNIVERSITY OF ARIZONA

Blau, F.D., Currie, J.M., Croson, R.T., & Ginter, D.K. (2010). Can mentoring help female assistant professors? Interim results from a randomized trial. *NBER Working Papers Series, w15707,* **Retrieved from:** http://www.nber.org/papers/w15707**.**

While much has been written about the potential benefits of mentoring in academia, very little research documents its effectiveness. We present data from a randomized controlled trial of a mentoring program for female economists organized by the Committee for the Status of Women in the Economics Profession and sponsored by the National Science Foundation and the American Economics Association. To our knowledge, this is the first randomized trial of a mentoring program in academia. We evaluate the performance of three cohorts of participants and randomly-assigned controls from 2004, 2006, and 2008. This paper presents an interim assessment of the program's effects. Our results suggest that mentoring works. After five years the 2004 treatment group averaged .4 more NSF or NIH grants and 3 additional publications, and was 25 percentage points more likely to have a top-tier publication. There are significant but smaller effects at three years post-treatment for the 2004 and 2006 cohorts combined. While it is too early to assess the ultimate effects of mentoring on the academic careers of program participants, the results suggest that this type of mentoring may be one way to help women advance in the Economics profession and, by extension, in other male-dominated academic fields [Abstract from authors].

Boice, R. (1992). *The new faculty member: Supporting and fostering professional development.* **San Francisco, CA: Jossey-Bass Inc.**

In this book, Robert Boice offers a range of proven support strategies designed to help new faculty thrive and provides tested solutions for helping them cope. He outlines a structured mentoring program to build collegiality through social support networks. And he presents specific techniques for helping new faculty find time, fluency, and balance as writers, including advice on dealing with editorial evaluations or rejections. The author also details a variety of self-help projects, including exercise and mood management groups run largely by new faculty, as well as faculty handbooks and newsletters. And perhaps most important, he tells how to gain the crucial support of department chairs, deans, and other administrators, secure funds to get programs off the ground, and keep new programs manageable and successful.

Boyle, P. & Boice, B. (1998). Systematic mentoring for new faculty teachers and graduate teaching assistants. *Innovative Higher Education***, 22(3), 157-179.**

This study reports on the development and assessment of two mentoring programs, one for new faculty and one for new graduate teaching assistants. The first program was an externally funded, elaborate program; and it suggested the centrality of factors such as sustained, involving relationships for best outcomes with protégés. The second project, with newcomers to

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graduate study, demonstrated that a simpler program focusing on involvement within the pair and group meetings produces promising results. From both these projects, we developed a replicable model of systematic mentoring; and we obtained a clear picture of the styles and skills of exemplary mentors. [Abstract from author]

Bozeman, B. & Feeney, M. K. (2007). Toward a useful theory of mentoring: A conceptual analysis and critique. *Administration & Society, 39*(6), 719-739.

In this review and critique of mentoring theory and research, the authors identify persistent problems in the development of mentoring theory. Their conceptual analysis highlights these problems with a "thought experiment" illustrating the inability of mentoring theory and research to resolve certain fundamental issues, the resolution of which is a prerequisite for the advancement of explanatory theory. They conclude with ideas about demarcating "mentoring" from the sometimes confounding concepts "training" or "socialization." Absent an ability to distinguish mentoring from related activities, progress in explanatory theory will remain impeded. [Abstract from authors]

Chesler, N.C., & Chesler, M.A. (2002). Gender-informed mentoring strategies for women engineering scholars: On establishing a caring community. *Journal of Engineering Education, 91*(9), 49-55.

Improved mentoring of women graduate students and young faculty is one strategy for increasing the presence, retention and advancement of women scholars in engineering. We explore the sociological literature on interpersonally- and institutionally- generated gender roles and dynamics that make the construction and maintenance of mentoring relationships especially difficult for women in male-dominated fields. In addition, we review nontraditional strategies including peer-, multiple- and collective mentorships that are likely to be more successful for most women (and many men). Finally, organizational change strategies designed to provide a more egalitarian and cooperative atmosphere in engineering programs and departments are presented. These ideas represent a social contract for a caring community more supportive of all members' personal and professional growth and success.

Cleveland, J.N., Stockdale, M., & Murphy, K.R. (Eds). (2000). *Women and men in organizations: Gender issues at work.* Mahwah, NJ: Lawrence Erlbaum Associates.

For both men and women, mentoring is related to organizational advancement, career development, and career satisfaction. Mentoring programs help to break barriers to integrating a diverse workforce into the social networks of the organization. Mentoring can be beneficial at many career stages, although different kinds of mentoring may be needed at different stages. Finding and becoming a mentor can be difficult for women for several reasons. First, women tend to have fewer opportunities to establish contact with potential mentors because of a lack

7 | P a g e

THE UNIVERSITY OF ARIZONA

This work is supported by the National Science Foundation ADVANCE Grant No. SBE-0548130

of access to informal information networks. Second, tokenism also influences women's ability to obtain mentors, particularly in workplaces with affirmative action policies that are misunderstood by their employees. Tokenism can cause people, including women themselves, to believe that women earn positions and promotions not because of their abilities and achievements but because of a quota system. Third, negative stereotypes and attitudes about women, particularly about women as managers and leaders, can influence how mentors view women as protégés. Fourth, peer perceptions about cross-gender mentor relationships and their potential to become sexual can discourage men from mentoring women and women from seeking male mentors. Fifth, women are socialized to downplay their successes, which may discourage successful coworkers from taking them on as a protégé.

Darwin, A., Palmer, E. (2009). Mentoring circles in higher education. *Higher Education Research and Development, 28*(2), 125-136.

Traditionally, mentoring in higher education institutions has either occurred informally or as a planned program where junior staff members are matched with experienced staff members in a formal one-to-one program. While such programs have reported benefits to participants, many miss out on the opportunity. Further, mentoring dyads do little to enhance a more collaborative atmosphere in higher education settings. Alternative mentoring methods do exist and can provide advantages to the traditional approach. Mentoring circles are an innovative example of these alternative methods. The mentoring activity and subsequent evaluation described in this paper sought to explore the perceived benefits of a group mentoring model for academic staff. [Abstract from authors]

Daughtry, D., Gibson, J., & Abels, A. (2009). Mentoring students and professionals with disabilities. *Professional Psychology: Research and Practice, 40*(2), 201-205.

Mentoring can have a significant positive impact on the lives of individuals. People with disabilities seeking to locate mentors face a variety of potential challenges and benefits. This article addresses mentoring-related issues faced by professionals with disabilities. The article presents a model of mentoring and discusses the difficulties faced by individuals with disabilities in locating mentors. It describes the negative impact of the lack of available mentors upon the educational and vocational development of people with disabilities. It offers effective strategies aimed at enhancing mentoring relationships with people with disabilities, including macrofocused strategies capable of enhancing the effectiveness of disability-related mentoring programs, such as determining and making necessary accommodations so that the mentoring program is accessible, and microfocused strategies useful in developing quality mentoring relationships, such as maintaining a critical awareness of the role disability prejudice, unconscious bias, and internalized stereotypes can play in the mentoring relationship.

Davidson, M. N. & Foster-Johnson, L. (2001). Mentoring in the preparation of graduate researchers of color. *Review of Educational Research*, *71*, 549-574.

Schools of graduate education in the United States continue to be challenged to attract and retain students of color. We argue that effective mentoring within a department can improve multicultural students' graduate school experience and better position them for success in their postdoctoral careers. To be an effective mentor, a faculty member must cultivate understanding of the experience of students from various cultural backgrounds. This task is especially challenging for White faculty members because of societal dynamics involving race and ethnicity. We propose actions to help faculty members enhance their multicultural competence in mentoring.

Dean, D.J. (2009). *Getting the most out of your mentoring relationships.* **Springer: New York.**

The number of women and under-represented minorities in science, technology, engineering, and mathematics (STEM) disciplines have greatly improved over the past several decades, but institutional efforts to recruit, train, retain, and promote their participation in these fields are still inadequate. Being successfully mentored is particularly important for these groups. Individuals and institutions must step forward to take a leadership role in the advancement of diversity in the STEM disciplines. To include persons of color in the scientific workplace is a moral imperative, as it will increase the variety of perspectives, life experiences, and approaches, in turn, serving to enhance science. Mentoring is of particular importance to the individual person of color in parallel with institutional efforts. [Abstract from author]

de Janasz, S. C. & Sullivan, S. E. (2004). Multiple mentoring in academe: Developing the professorial network. *Journal of Vocational Behavior*, **64(2), 263-283.**

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

THE UNIVERSITY OF ARIZONA.

competencies (Jones, 2002) in developing the professorial network, offering managerial implications in developing mentoring programs, and discussing avenues for future research.

De Luca, B.M., Twale, D.J. (2010). Mediating in the academic bully culture: The chair's responsibility to faculty and graduate students. *The Department Chair: A Resource for Academic Administrators,* **20(3), 1-3.**

Although chairs can be involved in bullying as the bully, as the one bullied, or as the mediator in a departmental bullying situation, this article focuses on the chair as a mediator between faculty members. This job responsibility often creates consternation in department chairs. At the same time they are trying to build camaraderie among faculty, they are also facilitators who are responsible for carrying out the institution's mission, liaising between the department faculty and higher administration, and making merit and promotion and tenure recommendations. These tasks can often be in conflict with one another; strategies for dealing with these competing commands are offered. [Abstract from authors, edited by ADVANCE staff].

Diggs, G.A., Garrison-Wade, D.F., Estrada, D., Galindo, R. (2009). Smiling faces and colored spaces. *The Urban Review, 41***(4), 312-333.**

Through a comprehensive literature review, this article identifies and discusses barriers to recruitment and retention of faculty of color. Marginalization, racism and sexism manifested as unintended barriers are presented as a few of the barriers faculty of color face in successfully navigating the tenure process. Informed by this literature review, we conducted a self-study that presents the experiences of four faculty of color navigating the tenure process in a predominately white Research Institution. The purpose of this study was to share the experiences of three junior faculty of color as they navigate the tenure process, and one tenured faculty of color who is informally mentoring them through the process. This article highlights the findings of one component of a broader study: focus group discussions about how diversity efforts and activities are subsequently evidenced in teaching, research agendas and service. Four themes are presented: Academic Identity; Confronting Diversity, Mentoring, and Safe Spaces. A discussion of the consequences of these findings on faculty of color retention and recruitment is included. Recommendations are made to other predominately white institutions on how to address issues facing faculty of color. [Abstract from authors]

Driscoll, L., Parkes, K.A., Tilley-Lubbs, G.A., Brill, J.M., Pitts Bannister, V.R. (2009). Navigating the lonely sea: Peer mentoring and collaboration among aspiring women scholars. *Mentoring and Tutoring: Partnership in Learning, 17***(1), 5-21.**

A group of pre-tenured female faculty members is shown to advance from professionally isolated individuals to a collaborative group of writers through the peer mentoring process. The autoethnographically based approach to the analysis of self-narratives exploring this transformation revealed experiential, emotional and developmental commonalities that guided

the women's navigation of the tenure track at a large public research university via understanding of self, others and the environment. In contrast, the women's prior experiences with the traditional dyadic approach to mentoring resulted in feelings of isolation, professional self-doubt and questioning of purpose. The researchers suggest that peer mentoring among female faculty in a higher education context offers an effective mentoring approach toward supporting women in forging scholarly identity. [Abstract from authors]

Eby, L.T., McManus, S.E, Simon, S.A., & Russell, J.E. (2000). The protégé's perspective regarding negative mentoring experiences: the development of a taxonomy. J*ournal of Educational Behavior, 57*, 1-21.

A taxonomy of negative mentoring experiences was developed using descriptive accounts of negative mentoring experiences from the protégé's perspective. Content analysis revealed 15 types of negative mentoring experiences, nested within five broad metathemes: Match within the Dyad, Distancing Behavior, Manipulative Behavior, Lack of Mentor Expertise, and General Dysfunctionality. Quantitative analyses indicated that protégés were more likely to report that their mentor had dissimilar attitudes, values, and beliefs when describing their most negative mentoring relationship compared to their most positive mentoring relationship. Implications for theory-building, future research, and applied practice are discussed.

Eby, L. T. & Allen, T. D. (2002). Further investigation of protégés' negative mentoring experiences. *Group & Organization Management, 27*, 456-479.

Negative mentoring experiences encountered by 242 protégés across their career histories were examined. Negative mentoring experiences clustered into 2 factors: Distancing/Manipulative Behavior and Poor Dyadic Fit. Protégés reports of the impact that these experiences had on them further suggested that several types of negative mentoring experiences were related to job satisfaction, turnover intentions, and stress. Finally, protégés in formally initiated mentoring relationships reported the most negative experience as having more of an effect on turnover intentions and stress than protégés in informal relationships. The results are discussed in the context of broadening the focus of mentoring research and implications for applied practice.

Ensher, E. A., Grant-Vallone, E. J., & Marelich, W. D. (2002). Effects of perceived attitudinal and demographic similarity on protégés' support and satisfaction gained from their mentoring relationships. *Journal of Applied Social Psychology, 32*(7), 1407-1430.

The purpose of this study was to examine how perceived attitudinal similarity (measured as similarity in general outlook, values, and problem-solving approach) and demographic similarity operationalized as similarity in race and gender, affected protégés' support and satisfaction from their informal mentoring relationships. Scandura and Katerberg's (1988) 3-factor scale of

mentor functions was used to measure vocational, psychosocial, and role-modeling support. Participants were 144 protégés from diverse backgrounds (54% female; 54% non-White). Perceived attitudinal similarity was a better predictor of protégés' satisfaction with and support received from their mentors than was demographic similarity.

Elliott, B.A., Dorscher, J., Wirta, A., Hill, D.L. (2010). Staying connected: Native American women faculty members on experiencing success. *Academic Medicine, 85*(4), 675-679.

The study's purpose was to document how medical school faculty who are Native American women describe their sense of personal and professional success, so that mentoring can be better informed and diversity increased. This qualitative study was designed using snowball sampling methodology. Open-ended questions were developed with the authors' expertise and asked of five Native American women physician faculty participants until saturation was achieved. Transcripts were coded, organized, and interpreted to generate tentative themes and working hypotheses. The study was completed in 2006 and 2007. Results showed that Native American women defined their place in the world through their primary culture. From analysis of the transcripts, three themes emerged as important in participants' sense of professional success: (1) Maintaining Native American values of belonging, connectedness, and giving back was essential, (2) success was perceived and experienced to have changed over time, and (3) mentoring relationships made success possible. [Abstract from authors, edited by ADVANCE staff]

Erickson, K. A. (2010). Diversity now, conformity later: Faculty mentoring, institutional conformity, and the practices of privilege. Paper presented at the annual meeting of *The Law and Society Association***, Renaissance Chicago Hotel, Chicago, IL. Retrieved on 2010-11-09 from:** http://www.allacademic.com/meta/p406374_index.html

Trained in American Studies as a feminist ethnographer of work, in this paper, Erickson identifies normative practices deployed in faculty mentoring at a small, liberal arts college. Combining feminist critical race theory and occupational analysis, Erickson scrutinizes faculty mentoring practices at two critical moments in early career faculty's careers: hiring, and the first formal review. What emerges are two distinct logics of institutional diversification. During recruitment and hiring, contributions to scholarly, pedagogical and representational diversity are valued, if not coveted. The preliminary stages of the career emerge as a sort of "diversification honeymoon" in which candidates-turned-colleagues are welcomed, embraced, and, in the words of one faculty member, encouraged to "do their thing." This embrace of new ideas and approaches halts and is replaced by a contradictory logic during the first full review of faculty members. The logic at the review stage emphasizes "fit" and institutional conformity, privileging the comfort and security of dominant social actors who already have tenure. Using these two

professionally defining moments, Erickson explains how some faculty become trapped by the juncture of these two logics, while others navigate the institutional contradictions. The perpetuation of these two logics is facilitated by mentoring and remains largely undocumented. Erickson builds on close examination of one case to consider the potential perils of practices of privilege disguised as mentoring with particular attention to how race, ethnicity, nationhood, sexuality, class and gender are treated as resources at the hiring stage and liabilities throughout the promotion process.

Etzkowitz, H., Uzzi, B, & Kemelgor, C. (2000). *Athena unbound: The advancement of women in science and technology.* London: Cambridge University Press.

Based on extensive research, this book presents women's experiences at all key career stages – from childhood to retirement – and reveals the hidden barriers, subtle exclusions, and unwritten rules of the scientific workplace, and the effects, both professional and personal, that these have on female scientists. Related to mentoring, this study found that women were less likely to be in interdisciplinary networks and have mentors outside of their home departments, yet these types of social networks are critical for building reputations and gaining access to vital information.

Feldman, M.D., Arean, P.A., Marshall, S.J., Lovett, M., O'Sullivan, P. (2010). Does mentoring matter: Results from a survey of faculty mentees at a large health sciences university. *Medical Education Online.* 15.

To determine the characteristics associated with having a mentor, the association of mentoring with self-efficacy, and the content of mentor–mentee interactions at the University of California, San Francisco (UCSF), researchers conducted a baseline assessment prior to implementing a comprehensive faculty mentoring program, surveying all prospective junior faculty mentees at UCSF. Mentees completed a web-based, 38-item survey including an assessment of self-efficacy and a needs assessment. Researchers used descriptive and inferential statistics to determine the association between having a mentor and gender, ethnicity, faculty series, and self-efficacy. Respondents (n=464, 56%) were 53% female, 62% white, and 7% from underrepresented minority groups. More than half of respondents (n=319) reported having a mentor. There were no differences in having a mentor based on gender or ethnicity ($p \geq 0.05$). Clinician educator faculty with more teaching and patient care responsibilities were statistically significantly less likely to have a mentor compared with faculty in research intensive series ($p < 0.001$). Having a mentor was associated with greater satisfaction with time allocation at work ($p < 0.05$) and with higher academic self-efficacy scores, 6.07 (sd = 1.36) compared with those without a mentor, 5.33 (sd = 1.35, $p < 0.001$). Mentees reported that they most often discussed funding with the mentors, but rated highest requiring mentoring assistance with issues of promotion and tenure.

Findings from the UCSF faculty mentoring program may assist other health science institutions plan similar programs. Mentoring needs for junior faculty with greater teaching and patient care responsibilities must be addressed. [Abstract from authors, edited by ADVANCE staff]

Gersick, C. J., Bartunek, J. M., & Dutton, J. E. (2000). Learning from academia: The importance of relationships in professional life. *Academy of Management Journal*, *43*(6), 1026-1044.

This qualitative study of 37 faculty members (10 senior women, 9 junior women) from six management schools on mentoring relationships found that 55 percent of the senior women and 70 percent of the junior women interviewees told at least one story of harm at some point during their overall interviews; only 33 percent of the junior men and 11 percent of the senior men told at least one such story. Most of the women's harm stories involved discrimination, denial of resources, rejection, and tokenization.

Greene, M.T. & Puetzer, M. (2002). The value of mentoring: a strategic approach to recruitment and retention. *Journal of Nursing Care Quality*, *17*(1), 63-70.

The issues of recruitment, training, and retention of experienced nursing staff remain an ongoing business strategy of nursing service in many health care facilities. The implementation of a structured mentoring program recognizes the need to develop and maintain relationships between the new and the experienced nurses. The terms of mentor and mentee are defined within a structured orientation program, highlighting specific roles and responsibilities of each. The use of other staff as preceptors and resources is discussed as a mechanism to enhance diversity in skill and knowledge development. The value of clinical tracking forms, planning calendars, and feedback mechanisms are stressed to ensure success in monitoring this program in a longitudinal way. Problems associated with the assignment of mentors are addressed as an area for future investigation in different care settings.

Holmes, S.L., Land, L. D., & Hinton-Hudson, V. D. (2007). Race still matters: Considerations for mentoring black women in academe. *Negro Educational Review, 58,* 105-129.

We investigated the experiences of Black women faculty employed by predominantly White institutions. Using extant literature interwoven with narrative data, we provided an analysis of how some Black women experience mentoring and/or the mentor-mentee relationship. Emergent themes suggested two significant career trajectory points for the faculty women in the study; they are mentoring experiences as graduate students, and mentoring experiences as tenure-track faculty. Black women who had and had not participated in a mentoring relationship either during graduate school and/or when they became a tenure-track faculty member were included. We used the women's experiences, suggestions taken from extant literature, as well as strategies we used in our academic careers to present recommendations that assist other

aspiring tenure-track faculty as they navigate the promotion and tenure process. [Abstract from authors] Some key findings/recommendations include: traditional hierarchical mentoring for older students and returning students is likely to be ineffective; effective mentoring focuses on both personal and professional development; new faculty and students should be encouraged to ask for assistance; organizational context and institutional match are important in determining the success and satisfaction of students and faculty in general and in mentoring relationships in particular.

Hu, C., Thomas, K.M., & Lance, C.E. (2008). Intentions to initiate mentoring relationships: Understanding the impact of race, proactivity, feelings of deprivation, and relationship roles. *The Journal of Social Psychology, 148*(6), 727-744.

The authors used a within-subjects experiment to examine the following influences on intentions to initiate informal mentorship: race similarity (RS), proactivity, feelings of race-related fraternal relative deprivation (RD), and roles in the potential mentoring dyads (roles). The authors instructed 126 White participants to assume the roles of upperclassmen or freshmen, provided them with the profiles of 12 potential protégés or mentors, and asked them to indicate their intentions to initiate mentorship. The authors found significant main effects of RS and proactivity, and a significant interaction effect between RS and proactivity. RD moderated the significant main effects. Roles also moderated the significant main effects and the interaction between RS and RD. The findings add to the literature of diversified mentoring and RD. [Abstract from Authors]

Humphrey, H. (Ed.). (2010). *Mentoring in academic medicine*. **American College of Physicians.**

In the third section, "Mentoring Special Populations," the contributors consider mentoring women in academic internal medicine, mentoring underrepresented minority faculty, foreign medical graduates, and general issues in academic medicine which mentors can help address. [Abstract from UA ADVANCE Staff].

Jackson, J. (2004). The story is not in the numbers: Academic socialization and diversifying the faculty. *NWSA Journal, 16*(1), 172-185.

This report is of a descriptive study that explored differences by gender and race/ethnicity on measures of teaching, research, and service productivity of 665 tenured engineering faculty members in 19 research-intensive institutions. Data from a self-report survey were analyzed using inferential and descriptive methods. Comparisons among productivity levels of white male faculty and those of white women, and of Blacks, Hispanics, and Asians, revealed little difference. Qualitative data on social experiences of the participants showed that women and faculty of color were more discouraged, less supported, and perceived the tenure process to be

less fair, than their white male colleagues. I discuss implications of the findings for administrators and suggestions for diversifying the faculty.

Johnson, B.W. (2003). A framework for conceptualizing competence to mentor. *Ethics & Behavior*, *13*(2), 127-151.

Although advertisements for jobs in academe increasingly suggest that mentoring students is a job requirement, and although academic institutions are increasingly prone to consider a faculty member's performance as a mentor at promotion and tenure junctures, there is currently no common approach to conceptualizing or evaluating mentor competence. This article proposes the triangular model of mentor competence as a preliminary framework for conceptualizing specific components of faculty competence in the mentor role. The triangular model includes mentor character virtues and intellectual/emotional abilities, as well as knowledge and skills (competencies) that are seen as expressions of training and experience. The article concludes with discussion of the implications of this model for faculty hiring, training, and evaluation.

Johnson, M.O., Subak, L.L., Brown, J. S., et al. (2010). An innovative program to train health sciences researchers to be effective clinical and translational research mentors. *Academic Medicine, 85*(3): 484-489.

The authors describe an innovative program, the University of California, San Francisco Mentor Development Program (MDP), established in 2006 and designed to train midcareer academic health sciences researchers to be more effective as clinical and translational research mentors. Using a framework for presenting innovations in academic research, they present the rationale, design, implementation, and mechanisms being used to evaluate and sustain the MDP. Specific details of the objectives and content of the MDP sessions are provided as well as evaluation criteria and a link to specific curriculum materials. [Abstract from authors].

Kalbfleisch, P.J. (2000). Similarity and attraction in business and academic environments: Same and cross-sex mentoring relationships. *Review of Business*. *21*(1-2), 58.

The similarity and attraction paradigm proposes that people are attracted to those they perceive to be similar to themselves. Using this paradigm as a guide, it would make sense that mentors would prefer protégés with similar attributes and interests. Likewise protégés would look to the mentor whom they most closely see as a model of professional and personal success. Perhaps the most clear personal attribute when looking at a potential mentor or protégé is that person's sex, be it male or female. With little other information, a mentor or protégé can quickly make basic assumptions regarding similarity and differences of a potential partner. And if sex similarity in protégé and mentor selection are in effect, then in professions where males dominate and hold power positions, male protégés would be at a definite advantage over

female protégés. Therefore, the issue of sex similarities and differences should be re-examined in today's professional world. [Abstract from author]

Kalev, A. (2006). Cracking the glass cages? Job segregation, the restructuring of work, and managerial diversity. Unpublished manuscript, University of California-Berkeley. Retrieved March 28 2008 from http://www.gsb.stanford.edu/facseminars/pdfs/Kalev_Cracking_the_Glass.pdf

Since job segregation blocks career opportunities for women and minorities, work structures that expand opportunities for women and minorities to network and demonstrate their capabilities may increase their share in higher ranking jobs. The reorganization of work over the last two decades provides a test case. I examine whether the adoption of programs that counteract segregation, namely self-directed work teams and cross-job training, is followed by higher managerial diversity. I analyze longitudinal data on workforce composition and the organization of work from a national sample of over 800 American work establishments between 1980 and 2002. The results show that teams and training programs that do not transcend job boundaries, such as problem solving teams or job training, do not lead to increased managerial diversity. In contrast, when employers adopt programs that increase workers' exposure to other people and jobs, such as self-directed teams or cross-job training, the proportion of white women and black women and men among managers increases. The analysis controls for a wide range of other organizational structures that may affect managerial diversity. These unintended consequences buttress structural theories of inequality at work and suggest a new way for remedying it.

Kanuka, H. & Marini, A. (2004). Empowering untenured faculty through mosaic mentoring. *Canadian Journal of University Continuing Education, 30*(2), 11-38.

Focus group of faculty and semi-structured survey of administrators. Gives insight into current beliefs. Authors then propose mosaic mentoring as a solution to all ills. Does not include data as to effectiveness or why this would be beneficial. Good paper for mosaic mentoring references. Says in intro that private industry favors developmental relationships and advancement, while universities support independence, so it is not helpful to look at private industry examples. Discusses the mentoring triad: benefits to new faculty, senior faculty and institution. (Katz & Coleman, 2001). Main results of surveys: 1) mentoring is needed 2) a reward system to recognize mentors is important 3) time barriers are perceived barrier 4) resource barriers need to be overcome – especially dealing with a small mentor pool 5) structure of mentoring program needs to be loosely structured and initiated through the departments.

Kahn, J., Des Jarlais, C.D, et.al. (2006). Mentoring the next generation of HIV prevention researchers: A model mentoring program at the University of California San Francisco and Gladstone Institute of

Immunology and Virology Center for AIDS Research. *Journal of Acquired Immune Deficiency Syndromes.*

Purpose: Mentoring is critical to develop and nurture early career investigators, helping them to succeed in building networks of colleagues, and is especially important for investigators focused on HIV research. We piloted a multidiscipline mentoring program targeting postdoctoral scholars and early career faculty concentrating on HIV/AIDS research. Method: The pilot mentoring program was conducted at the Center for AIDS Research (CFAR) at the University of California San Francisco and the Gladstone Institute of Virology and Immunology. Mentees were self-referred postdoctoral scholars and early career faculty. Mentors were drawn from the senior faculty. Early career mentees were matched with senior investigators for individual meetings, a monthly workshop on topics directed by the mentees, and single-day mentoring seminars. Results: More than 30 mentees and 20 mentors have participated in the pilot project. Most mentees reported that the 1-on-1 mentoring was a satisfying experience. The most highly valued activities were those that facilitated networking among mentees, networking between mentors and mentees, and workshops that focused on grant applications and first academic appointments and promotions. Conclusions: A multidisciplinary mentoring program for postdoctoral scholars and early career faculty focused on HIV/AIDS research is valuable. Umbrella organizations, such as the CFAR, are well suited to create and provide highly valued mentoring experiences.

Karukstis, K.K., Gourley, B.L., Wright, L.L., Rossi, M. (2010). Mentoring strategies to recruit and advance women in science and engineering. *Journal of Chemical Education, 87(4), 355-356.*

Supporting faculty with professional development resources at all career stages is vital to the success of faculty members, their students, and academic institutions. In science and engineering fields where women are underrepresented, practices that promote career advancement, such as formal and informal mentoring programs, can be effective in both increasing the visibility and numbers of senior women and also encouraging female students to pursue technical majors and careers. A symposium at the March 2010 National Meeting of the American Chemical Society will feature an array of successful mechanisms for enhancing the leadership, visibility, and recognition of women faculty members using various mentoring strategies. [Abstract from authors]

Kidd, J. M., Jackson, C., & Hirsh, W. (2003). The outcomes of effective career discussion at work. *Journal of Vocational Behavior, 62, 119-133.*

This article examines the outcomes that resulted from career discussions experienced by 104 employees. Employees appeared to benefit from discussions about their careers with individuals in a wide range of roles. Many effective career discussions produced multiple outcomes, and

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some of these were long-lasting. The most common types of outcomes experienced were a clearer view of future direction, self-insight, awareness of opportunities, and feeling reassured or better about self or work. The findings highlight the need for future research into the effectiveness of career interventions to take more account of multiple outcomes and how these evolve over time. Also, organizations need to encourage informal career discussions and informal mentoring.

Kiefer, J.C. (2010). Tips for success: Fostering a good mentor relationship. *Developmental Dynamics*, *239*(7), 2136-2139.

A mentor can mean the difference between a mentoree's failure and success. Yet mentoring is more than an altruistic venture. A good mentor will be more likely to recruit and retain strong student and postdoctoral candidates, and cultivate productive personnel. Despite these advantages, faculty often receive little, if any, mentoring training. Here, three panelists, Marianne Bronner-Fraser, Ph.D., Kathy Iovine, Ph.D., and Carl Thummel, Ph.D., share their mentoring tips. Their mentorees also articulate how these accomplished mentors helped them to grow professionally and personally. Together, their insights outline ways to achieve a productive mentoring relationship, a topic of interest to mentors and mentees alike. [Abstract from author]

Kram, K. E. (1985). *Mentoring at work*: *Development relationships in organizational life.* **Glenview, IL: Scott, Foresman.**

This foundational piece on mentoring dispels several myths about mentoring: that the primary beneficiary is the protégé, that mentoring is always a positive experience, that all mentoring relationships look the same, that mentoring is the sole key to career success, and that it is readily available for those who want it. The book began as a study of mentoring relationships between junior and senior corporate managers and grew into research on nature, benefits, and limitations of different relationships between coworkers. Kram details two types of functions of mentoring relationships: career functions - sponsorship, visibility, coaching, buffering, and challenging assignments – and psychosocial functions – role modeling, acceptance and confirmation, counseling, and friendship. The sample size focuses mainly on men, but much research following this book has investigated gender differences in mentoring processes. The book suggests that developing mentoring relationships with more than one person and with peers as well as superiors.

McCormack, C. & West, D. (2006). Facilitated group mentoring develops key career competencies for university women: a case study. *Mentoring and Tutoring*, *14*(4), 409-431.

Gives information on how participants achieve competency in knowing "why, how and when" for career advancement. Focus on general and academic staff women. See fig 4. Has references in intro for why 1:1 mentoring reinforces male career progression and current ways of doing things in the university. Project was "women's group mentoring program" – 5 yrs of activity. Data collected from surveys, focus groups, interviews. Aims: 1) foster development of professional knowledge/skills [a) knowledge of university, b) work-related skills] 2) Foster development of greater professional autonomy and confidence [a) sense of belonging/connection, b) increased confidence and self-efficacy] 3) Develop professional networks within and between general and academic staff across the university [a) enhanced networks and relationships b) group process benefits] 4) provide women at all levels with career development to facilitate advancement .

McLaughlin, C. (2010). Mentoring: What is it, how do we do it, and how do we get more of it? *Health Services Research*, *45*(*3*), 871-884.

Author reviews the difficulties of finding consensus on the meaning of mentoring, and offers broad philosophical comments on the nature of this activity in the academy, and in Health Sciences specifically. Originally written as a tribute to a retiring director of Health Policy Studies at University of California, San Francisco.

Milem, J. F. (2003). The educational benefits of diversity: Evidence from multiple sectors. *Compelling Interest: Examining the Evidence on Racial Dynamics in Colleges and Universities.* **Stanford University Press, 126-169.**

In his review of empirical research on diversity, affirmative action, and climate, Milem (2003) explains that positive interaction among diverse people can lead to learning experiences, creative insights in research and teaching, and can improve departmental and institutional climate. He argues that a positive climate and positive interaction encourages faculty and students to remain at the university and can even increase productivity.

Milo, R. & Schuldiner, M. (2009). Weizmann Young PI forum: The power of peer support. *Molecular Cell, 36,* 913-915.

The academic path is a challenging journey full of hurdles and without a clear roadmap. As young faculty, we searched for support in steering through the complexities of our new roles. Here we describe our experience in forming a peer support group and share the lessons learnt along the way.[Abstract from authors].

Mullen, C. A. (2000). Constructing co-mentoring partnerships: Walkways we must travel. *Theory into Practice, 39*(1), pp. 4–11.

"In this article, I offer a theory of collaborative mentorship as a powerful force for professional development and change in institutional settings. I describe a co-mentoring project in which difference professional across a school-university setting come together to form a new culture of learning. I include voices of participants to show how teachers, administrators, and professors can learn from synergistic relations with one another" (Mullen, 2000, p. 4).

Nemiro, J.E., Hacker, B., Ferrel, M.L, Guthrie, R. (2009). Using appreciative inquiry as a tool to instigate transformational change in recruiting and developing women faculty in STEM disciplines. *International Journal of Gender, Science, and Technology, 1*(1), 1-31.

The intent of Cal Poly Pomona's (CPP) NSF ADVANCE program is to create a university-wide system of recruitment and career development that will enable women faculty in STEM disciplines to be successful and advance into leadership positions. To begin the organizational transformation at CPP, eight Appreciative Inquiry focus groups were held with tenure-track and tenured faculty in the Colleges of Science and Engineering, with the goal of ascertaining current strengths in recruitment and career development efforts for new STEM female faculty at CPP. Findings revealed an array of recruitment strategies utilized to solicit good applicant pools, and career development practices that have assisted female faculty during the tenure and promotion process. Focus group participants also designed useful actions for further improvement of the recruiting and career development efforts for women STEM faculty at CPP. Out of the focus group findings, a variety of best practices for recruiting and developing women faculty in STEM disciplines are suggested. [Abstract from authors]

Otto, M. L. (1994). Mentoring: An adult developmental perspective. *New Directions for Teaching & Learning, 57*, 15-24.

This article offers a discussion of the impact of mentoring relationships in higher education with focus on the changing needs of adult mentors and protégés as they mature chronologically and professionally.

Payton, F.C. (2004). Making STEM careers more accessible. *Black Issues in Higher Education*, *21*(2), 90.

At the undergraduate, master's and doctoral levels of education, mentoring programs for underrepresented minorities have shown some rates of success in upping the numbers. The central focus of initiatives such as The PhD Project, Florida Education Fund, Southern Regional Education Board and National Society of Black Engineers is mentoring. (In)formal mentoring is, without question, a significant element for those striving to attain and successfully earn doctoral degrees and move into the academic world of publish or perish. But even after earning the doctoral degree, STEM underrepresented faculty need supportive, not token, faculty who can help navigate the playing field. Thus, colleges and university administrators are challenged to

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move from paper frameworks to implementation, in an effort to overcome these barriers. [Source of abstract: ERIC or Author]

Peluchette, J. V. E. & Jeanquart, S. (2000). Professionals' use of different mentor sources at various career stages: Implications for career success. *Journal of Social Psychology, 140*(5), 549-564.

The authors investigated the various sources of mentors used by professionals, how these sources influenced both objective and subjective career success, and whether the participants used different sources of mentors at different stages of their careers. According to data from 430 faculty members at 2 US research institutions, assistant professors with mentors in their professions, associate professors with mentors outside the work place, and professors with mentors within their organizations had the highest levels of objective career success. Assistant professors with multiple sources of mentors yielded significantly higher levels of both objective and subjective career success than did those with single sources or no mentor. If one links professorial rank to career stage, the results suggest that the participants used different sources of mentors at different stages of their careers.

Polander, E.N. (2010). The importance of perceived similarity within faculty-faculty mentoring dyads. Retrieved from OhioLINK ETD: http://etd.ohiolink.edu/view.cgi?acc_num=wright1285002667.

This study investigated the effects of gender similarity, perceived similarity, and relationship type (formal vs. informal) within faculty-faculty mentoring dyads on various mentoring outcomes from the protégé's perspective. Perceived similarity was expected to be a stronger predictor of relationship satisfaction, affective commitment, job satisfaction, and turnover intent than gender similarity. Perceived similarity was also examined as a potential mediator of relationship type and relationship satisfaction. Tenure-track faculty who reported having mentors (N = 45) answered questions regarding their primary career mentor and other workplace attitudes. Results indicated that perceived similarity had a positive, greater effect than gender similarity on relationship satisfaction, affective commitment, and job satisfaction. Perceived similarity did not mediate the relationship of informal mentoring and relationship satisfaction. [Abstract from author].

Raabe, B. & Beehr, T. A. (2003). Formal mentoring versus supervisor and coworker relationship: Differences in perceptions and impact. *Journal of Organizational Behavior, 24*, 271-293.

Formal mentoring programs in two companies were examined regarding 1. the extent to which mentees and mentors agreed on the nature of the mentoring relationships and 2. the extent to which dimensions of mentoring relationships were related to outcomes for the mentees, compared with the extent to which dimensions for supervisory and coworker relationships were related to the same outcomes: job satisfaction, organizational commitment, and turnover

intentions. Mentors were at least two hierarchical levels above the mentee, and both were part of the company's formal mentoring program. Sixty-one pairs of mentors and mentees participated. Overall, there was little agreement between mentees and mentors regarding the nature of the mentoring relationship. Furthermore, the mentoring relationship was not related to mentee outcomes, while supervisory and coworker relationships were. It is suggested that, if one desires to affect job satisfaction, turnover intentions, and organizational commitment, mentoring functions may be best performed by supervisors and coworkers rather than assigned formal mentors from higher up in the organizational hierarchy.

Ragins, B.R. (1999). Gender and mentoring relationships: A review and research agenda for the next decade. In G. Powell (Ed.), *Handbook of Gender and Work* (347-370). Thousand Oaks, CA: Sage Publications, Inc.

Ragins investigates the empirical research on mentoring relationships. Mentoring relationships are critical resources for employees in organizations. Empirical research has shown that protégés receive more promotions, greater compensation, and more career mobility than nonprotégés. Mentoring is related to greater career satisfaction, career commitment, career planning, organizational socialization, self esteem at work, job satisfaction, job involvement, and lower turnover intentions. Individuals with mentors receive more power in organizations and advance at a faster rate than those without mentors. Mentoring relationships are particularly important for women as women have been found to be less likely than men to receive personal support, job-related information, and developmental support from their supervisors. Mentors can help women overcome barriers to advancement, act as buffers for overt and covert discrimination, alter stereotypes by showing support and legitimating protégés' work, and help women create valuable networks. Mentors provide two key functions: career development functions (coaching, sponsoring advancement, protecting protégés from adverse forces, providing challenging assignments, and fostering positive visibility) and psychosocial functions (personal support, friendship, acceptance, counseling, and role modeling). A single mentor may provide some or all of these functions. Research on mentorship behaviors has shown that the more functions provided, the greater the greater the career and organizational benefits received.

Ragins, B. R. & Cotton, J. L. (1999). Mentor functions and outcomes: a comparison of men and women in formal and informal mentoring relationships. *Journal of Applied Psychology*, *84*, 529-550.

Compared to formal mentoring, informal mentoring is spontaneously initiated, lasts for 3-6 years, changes the amount, type, and purpose of contact over time, and may have more motivated and skilled mentors. A survey of 614 protégés in male-, female-, and non-biased occupations compared the effectiveness of formal and informal mentoring. Protégés in informal

mentoring reported more career development functions than did those in formal mentoring relationships; they reported higher levels of compensation. Protégés (both male and female) of male mentors made more money than protégés of female mentors. Male protégés of male mentors made the most money; female protégés of female mentors made the least. Male mentors probably have more organizational power and knowledge than female mentors. Formal protégés made the same amount of money and had the same number of promotions as individuals with no mentors; only informal protégés out-earned and had more promotions than those with no mentors. Formal mentoring programs should mimic informal mentoring as much as possible. Caveat: the effectiveness of informal mentoring may be due to selection factors.

Ragins, B. R., Cotton, J. L., & Miller, J. S. (2000). Marginal mentoring: The effects of type of mentor, quality of relationship, and program design on work and career attitudes. *Academy of Management Journal*, *43*, **1177-1194.**

Employing a national sample of 1,162 employees, we examined the relationship between job and career attitudes and the presence of a mentor, the mentor's type (formal or informal), the quality of the mentoring relationship, and the perceived effectiveness and design of a formal mentoring program. Satisfaction with a mentoring relationship had a stronger impact on attitudes than the presence of a mentor, whether the relationship was formal or informal, or the design of a formal mentoring program.

Ragins, B.R. & Kram, K.E. (2007). The handbook of mentoring at work: Theory, research, and practice. Thousand Oaks, CA: Sage.

The Handbook presents a summary of 30 years of mentoring research and provides a road map for further theorizing and inquiry. The authors offer five sections to discuss the theory, research, and practice of mentoring. Part One focuses on the history and meaning of mentoring and establishes the career, psychosocial, and role-modeling functions of mentoring. Part Two reviews the current mentoring research and covers linkages between mentoring and learning, leadership, and organizational socialization as well as gender and race in mentoring relationships. This section also discusses peer mentoring, e-mentoring, and relational problems in mentoring. Part Three focuses on mentoring theory and places it in conversation with other existing theories including social network theory, positive psychological theory, relational theory, and organizational theory. Part Four outlines how mentoring programs have been effectively implemented in organizations, providing illustrations focused on how to structure successful formal mentoring. Part Five summarizes and integrates the previous sections to provide a holistic picture of how the various aspects of mentoring fit together.

Rayburn, C.A., Denmark, F.L., Reuder, M.E., Austria A.M. (Eds.). (2010). *A handbook for women mentors: Transcending barriers of stereotype, race, and ethnicity.* **Santa Barbara: ABC-CLIO.**

The team of co-editors and contributors show the impact of women helping women via a method that has become a topic worldwide - mentoring. In "A Handbook for Women Mentors: Transcending Barriers of Stereotype, Race, and Ethnicity", the author team - all experienced mentors - provide specific strategies for women mentoring women, showing how mentoring relationships benefit individuals, women as a group, and the economy as a whole. Discussions include ongoing challenges - and potential pitfalls - for women confronting obstacles in their education and professional careers, with special attention to minority women in any walk of life. [Abstract Alibris.com, edited by ADVANCE staff]

Russell, G.M. & Horne, S.G. (2009). Finding equilibrium: Mentoring, sexual orientation, and gender identity. *Professional Psychology: Research and Practice, 40*(2), 194-200.

The authors explore mentoring relationships in which one or both members are lesbian, gay, bisexual, or transgender (LGBT). They highlight the role of stigma, in its variable presentations, as an important underpinning of these relationships. They argue that explicit attention to stigma, both within the mentoring relationship and beyond, is of value to the mentoring process and outcome. The authors offer a developmental perspective on mentoring needs, and they suggest specific considerations for LGBT and heterosexual mentors of LGBT students.

Scandura, T.A. (1998). Dysfunctional mentoring relationships and outcomes. *Journal of Management, 24*(3), 449-468.

Mentoring has been correlated with career opportunities for protégés. Mentors accommodate various vocational career and psycho-social support to their protégés, including sponsorship, coaching, counseling and friendship. However, a number of relationship dysfunction have been correlated with mentoring relationships at work. Some mentoring relationships end up in anger, hostility or frustration, terminating for functional and dysfunctional reasons. A typological framework can be utilized to analyze possible dysfunction in mentoring relationships. The framework accommodates four psycho-social and vocational factors that influence mentoring, namely negative relations, bullying, sabotage, difficulty, sexual harassment, submissiveness, deception, and spoiling.

Scandura, T. A. & Williams, E. A. (2001). An investigation of the moderating effects of gender on the relationships between mentorship initiation and protégé perceptions of mentoring functions. *Journal of Vocational Behavior*, *59*, 342-363.

Recent research has suggested that the more the mentor is involved in relationship initiation the greater the benefits that the protégé may receive. No research, however, has examined the impact of protégé gender on the relationship between initiation and mentoring received. The

results of this study indicate that male protégés received more mentoring than female protégés in protégé-initiated mentorships. Female protégés, however, reported receiving more mentoring than male protégés if the relationship was mentor-initiated or where both mentor and protégé initiated the relationship. Protégés in informal mentorships reported receiving more mentoring than those in formal organizational programs. The findings of this study also indicate that protégés may benefit more from same-sex relationships than cross-sex relationships with respect to role modeling.

Schuh, J.L. (2010). Reflections on the first three years as a junior faculty member. *American Journal of Pharmaceutical Education*, *74*(4), 67.

The author offers a reflection for new junior faculty members and pharmacy practice administrators to share her journey, highlight challenges, and offer strategies and solutions to address potential obstacles. Specifically, orientation, mentoring, teaching, and evaluations are addressed. Like many other new faculty members, the author received my appointment as an assistant professor of pharmacy practice following completion of a 1-year pharmacy practice residency and a 1-year specialty training program. During the 2 years of residency, the majority of training she received was clinical. She was briefly exposed to academia during 2 months of elective experiences; however, that short period is not sufficient to prepare a person for a full-time faculty position. During residency training little emphasis is given to the expectations placed on a faculty member: teaching, research, and service. Yet, residency graduates are the most likely candidates to fill the vacant positions in pharmacy education. [Abstract from author, edited by ADVANCE staff]

Seibert, S. (1999). The effectiveness of facilitated mentoring: A longitudinal quasiexperiment. *Journal of Vocational Behavior*, *54*, 483-502.

The initiation of formal mentoring has become a widespread practice in public and private organizations. This paper reports results from a one-year longitudinal quasiexperiment which examined the effectiveness of a formal mentoring program at a Fortune 100 corporation. Employees who participated in the program were compared with a control group who reported never having had a mentor. Results showed that subjects with formal mentors reported significantly higher levels of job satisfaction. While a small to medium effect for participation in the mentor program was observed for organizational commitment, this effect failed to reach statistical significance in the current study. Subjects participating in the mentor program did not differ from their nonmentored counterparts in terms of work-role stress or self-esteem at work. These results suggest that a formal mentor program can have positive effects on individual and organizational outcomes, but its effectiveness may not be as extensive as widely assumed.

Selby, J. W. & Calhoun, L. G. (1998). Mentoring programs for new faculty: Unintended consequences? *Teaching of Psychology, 25*(3), 210-211.

Observes that mentoring programs for new faculty have grown in recent years. Argues that such programs, although having laudable goals, may have unintended, undesirable consequences. Discusses several possible problems associated with formal mentoring programs and suggests that emphasis would be better placed on improving the graduate training of future faculty.

Single, P. B. & Single, R. M. (2005). E-mentoring for social equity: review of research to inform program development. *Mentoring and Tutoring, 13*(2), 301-320.

The advent of user-friendly email programs and web browsers created possibilities for widespread use of e-mentoring programs. In this review of the research, we presented the history of e-mentoring programs and defined e-mentoring and structured e-mentoring programs, focusing on large-scale e-mentoring programs that addressed issues of social equity and educational advancement. The literature reviewed spanned from the mid-1990s to the present and included journal articles, reports, and book chapters on implemented e-mentoring programs. The literature indicates that e-mentoring is not a panacea, neither is it an inexpensive alternative to face-to-face mentoring. E-mentoring is an alternative mode that facilitates the expansion of mentoring opportunities. The research we reviewed supported that the benefits associated with e-mentoring mirrored the benefits associated with mentoring: informational, psychosocial, and instrumental. In addition, research supports two additional benefits of e-mentoring: the value of impartiality and inter-organizational connections, which were facilitated by the use of electronic communications. Research conducted on the programmatic features associated with e-mentoring programs identified training, coaching, and group e-mentoring as features that enhanced participant involvement. Our goal in providing a review of the research at this stage in the development of e-mentoring was to facilitate increased understanding of the current research to enhance future research and programs and to advance e-mentoring as a field. [Abstract from authors]

Stanley, C. A., & Lincoln, Y. S. (2005). Cross-race faculty mentoring. *Change, 37*(2), 44-50.

This personal narrative is divided up into the following sections that describe the authors' relationship as mentor/protégé and share the lessons they have learned about how to establish and maintain meaningful cross-race mentoring relationships: Our Mentor/Protégé Journey; Lessons Extracted from the Experience; and Suggested Readings.

Stenken, J.A., Zajicek, A.M. (2010). The importance of asking, mentoring, and building networks for academic career success: A personal and social science perspective. *Analytical and Bioanalytical Chemistry*, 396(*2*), 541-546.

This article aims to provide both personal and scholarly perspectives on how seeking mentoring and cultivating the skills of asking and networking are important habits that all faculty members can use on a day-to-day basis to build a successful academic career. While there are many different pathways that one can follow to achieve success, the examples included here come from the first author's experiences as a faculty member at Rensselaer Polytechnic Institute and the University of Arkansas. The social science perspective for this article focuses on how these practices affect women, because 41% of Association for Women in Science (AWIS) fellows (men and women) state that mentoring of non-tenured ("junior") faculty is still the major institutional policy that must be addressed in order for junior faculty to succeed. [Asbtract from authors]

Stonewater, B. B., Eveslage, S. A., Dingerson, M. R. (1990). Gender differences in career helping relationships. *Career Development Quarterly, 39*(1), 72-85.

Explored differences regarding the way in which 27 male and 27 female faculty members described relationships with those whom they identified as career helpers. Data were obtained through interviews. Qualitative analysis of the interviews indicated gender differences on 2 themes: sense of professional self as related to career helpers and the nature of assistance received from them. The study found that the women faculty were more likely to feel unsure of their own goals until helped by a mentor, have a general sense of inadequacy about their careers and feel as if they have to prove themselves, and attribute their accomplishments to someone else. The men in the study tended to be more certain of themselves and their goals and, while they often acknowledged their mentors, they credited themselves for their achievements. This is in line with many studies which show that women are socialized to downplay their accomplishments and often, particularly within the sciences, feel as if they are impostors in the workplace, while men are socialized to claim full responsibility for their successes.

Subramaniam, B. & Wyer, M. (1998). Assimilating the "culture of no culture" in science: Feminist intervention in (de)mentoring graduate women. *Feminist Teacher*, *12*, 12.

Subramaniam and Wyer (1998) did a year-long qualitative study from 1992-3 with male and female faculty and female graduate students from three southeastern universities and multiple STEM departments as part of an NSF Model Project. All of the men in the study were considered advocates for women in the sciences. Participants were broken into three groups, the faculty group, the student group, and the mediator group (comprised of women faculty and graduate students). The three groups conversed with one another via the researchers and identities of participants in other groups were kept confidential. Discussions took place in a seminar setting with topics and readings determined by the researchers to address the culture of science, historical arguments for excluding women from the sciences, data on the presence of women in

the sciences, stereotypes of scientists, gender norms, and male-male relations. Exercises were created to relay information between the groups, such as describing the unwritten rules of academia, naming and comparing what graduate students versus faculty would like to see changed, and first-person writing. Mentoring and the unwritten rules and unconscious biases that influence it was a major topic of discussion. The authors suggest a less individualized and a more community-based approach to mentoring as an alternative to traditional models.

Thompson, C.Q. (2008). Recruitment, retention, and mentoring faculty of color: The chronicle continues. *New Directions for Higher Education, 143*, 47-54.

Faculty of color continue to face challenges with recruitment, retention, and mentoring in academe. This article addresses issues that faculty of color in academe often face. It explores recruitment efforts and barriers and addresses issues associated with retention and obstructions to promotion and tenure. The article culminates with an examination of mentoring initiatives and cross-cultural mentoring opportunities [Abstract from author].

Tierney, W. (1992). An anthropological analysis of student participation in college. *The Journal of Higher Education*, *63*(6), 603-618.

This article argues for an alternative conceptualization of college student departure and critiques models of college leave-taking and statements from college administrators to demonstrate how, from an anthropological perspective, a "social integrationist" theory has misinterpreted fundamental terms such as "rite of passage." Issues that should be considered in a cultural analysis of student departure are discussed. More specifically, Tierney critiques models of assimilation which often require students to give up parts of their identities and separate from their cultures and communities.

Townsend, G.C. (2001). People who make a difference: mentors and role models. *ACM SIGCSE Bulletin, 34*(2), 57-61.

Townsend offers a practical guide to recruiting and retaining women in computer science through the use of mentors and role models and explains that women often experience barriers to these critical resources.

Trower, C. A. (2001). *Women Without Tenure*. **March 5 2007.**
    http://www.med.unc.edu/wrkunits/orgs/apwims/trower_xx_tenure_sci.pdf

In this four part series, based in a broad literature review, Cathy Trower explores academic science as a place for women to work. She explains that women scientists leave at higher rates than male scientists in part because of a lack of effective mentoring, role models, encouragement, and confidence.

Ülkü-Steiner, B., Kurtz-Costes, B., & Kinlaw, C. R. (2000). Doctoral student experiences in gender balanced and male-dominated graduate programs. *Journal of Educational Psychology, 92*(2), 296-307.

> Similarities and differences were examined in graduate school experiences of male and female doctoral students in programs containing predominantly male or gender-balanced faculty. Participating students reported their perceptions of mentor support, partner support, peer support, academic self-concept, sensitivity to family issues, stress, and career commitment. In studies, women in male-dominated programs expressed lower academic self-concept, less sensitivity in their departments to family issues, and lower career commitment compared with all other students. Mentor support and academic self-concept predicted the career commitment of all students. Student reports were unrelated to the gender of their mentors. A subset of the students participated at both time points; these students showed significant drops in self-concept and career commitment across the 2 years.

Valian, V. (1998). *Why so slow? The advancement of women*. **Cambridge, MA: MIT Press, Chapter 14.**

> Why do so few women occupy positions of power and prestige? Virginia Valian uses concepts and data from psychology, sociology, economics, and biology to explain the disparity in the professional advancement of men and women. According to Valian, men and women alike have implicit hypotheses about gender differences—gender schemas—that create small sex differences in characteristics, behaviors, perceptions, and evaluations of men and women. Those small imbalances accumulate to advantage men and disadvantage women. The most important consequence of gender schemas for professional life is that men tend to be overrated and women underrated. Valian's goal is to make the invisible factors that retard women's progress visible, so that fair treatment of men and women will be possible. The book makes its case with experimental and observational data from laboratory and field studies of children and adults, and with statistical documentation on men and women in the professions. This chapter summarizes data showing when erroneous judgments are most likely (little time, divided attention, low accountability), what types of reasoning errors are exacerbated when social groups are involved (failure to appreciate covariation, blocking, illusory correlation), how to improve reasoning about others, and how to use the authority of leaders to legitimate other leaders. Women, more often than men, lack information about what is required for career advancement, take on routine responsibilities which will not help their advancement, and get less mentoring from senior faculty.

Vicher, M.V. (2010). Faculty perception of relationship effectiveness and diversity in a mentoring program for new faculty in the applied sciences. Proceedings of the 29th Annual Midwest Research-to-Practice Conference in Adult, Continuing, Community and Extension Education. Retrieved from https://www.msu.edu/~mwr2p/proceedings_2.pdf#page=249.

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This naturalistic research study focused on the perceptions of faculty participants in a formal mentoring program designed to support and assist new tenure track faculty in their enculturation to the university and their progress toward tenure and promotion at a college of applied sciences at a major research university. Six themes identified during in-depth interviews were *Expectations, Altruism, Commonality & Integration, Communication,* and *Diversity.* Issues of mentoring effectiveness and perceptions of diversity in mentoring relationships were explored within mentoring dyads. Mentoring effectiveness was described primarily in terms of progress toward promotion and tenure, while diversity in terms of nationality, gender and age were reported as non-issues, but demonstrated in other ways. [Abstract from author].

Wasburn, M. H. (2007). Mentoring women faculty: an instrumental case study of strategic collaboration. *Mentoring and Tutoring, 15*(1), 57-72.

Study of group mentoring at Purdue University where there were 2 full professors and 4 assistant professors who met once monthly. The group established a contract and completed interpersonal skills training prior at the beginning of the program. The program leads the group through a series of steps including the discovery stage (specific strengths of each person determined), the dream stage (determine how their strengths can be used at university; "brainstorming"), design stage (determine how to leverage their strengths), delivery phase (develop a career development action plan that shows how they can contribute to department or university). Beneficial outcomes: both mentors and protégés stated that their teaching and/or scholarship benefited from the relationship, specific lists of suggestions for different classroom situations were developed, a sense of community was developed. Concerns of the protégés that were brought to light included a lack of one-to-one contact with mentors, not enough meetings, and the abrupt ending of the program. Benefits to mentors were 1) gaining a new perspective and knowledge from other team members (protégés and other mentor) 2) encountering innovative possibilities for interdisciplinary teaching and research. Benefits of strategic collaboration (mosaic mentoring) include 1) entire team acts as support group 2) less reliance on mentor-protégé personality matching, so program open to a diversity of people 3) program is very career focused 4) more people can be mentored at once and by fewer mentors 5) non-hierachical 6) emphasizes strengths of protégés not limitations 7) group setting limits 'gossip' factor 8) mentors leaving program doesn't destroy relationship. Paper also recommends that mentoring other faculty be built into annual evaluations.

Wu, P., Foo, M., & Turban, D. (2008). The role of personality in relationship closeness, developer assistance, and career success. *Journal of Vocational Behavior, 73*(3),440-448.

We investigate the role of relationship closeness, which is adapted from social network theory, in developmental relationships using a sample of 278 full-time working individuals. We theorize

that personality, operationalized with the Five Factor Model, is associated with relationship closeness which is positively related to developer assistance received, which in turn is linked to objective and subjective measures of career success. In general, results supported our hypothesized model, although personality had direct effects on career success beyond the indirect effects through relationship closeness and developer assistance. The theoretical and practical implications are discussed. [Abstract from authors]

Young, A.M., Cady, S., & Foxon, M.J. (2006). Demystifying gender differences in mentoring: Theoretical perspectives and challenges for future research on gender and mentoring. *Human Resource Development Review, 5***(2), 148-175.**

Issues of gender and mentoring are explored through several theoretical lenses—similarity-attraction paradigm, gender stereotype, power dependence, social exchange, biological, and psychological theories—to provide a more comprehensive view of mentoring from a gender-based perspective. Issues related to gender and mentoring presented in past mentoring research and tenets from several theoretical bases are used to develop research propositions. For example, based in similarity-attraction theory, they propose that mentors will be attracted to protégés with similar career interests, work habits, and communication behaviors regardless of the gender of the protégé and vice versa, marital status and parenting responsibilities will have a greater and negative effect on attractiveness of female protégés than on attractiveness of male protégés, and marital status and parenting responsibilities will have a greater and positive effect on attraction to a mentor or protégé in same-gender dyads in which the mentor and protégé hold similar marital status and parenting responsibilities. From gender stereotype theory, they propose that the stronger the gender stereotype held by a mentor or protégé, the less attracted the mentor or protégé will be to a protégé or mentor of the opposite sex and a protégé will be equally attractive to a mentor in terms of risk, payoff, commitment and competence regardless of the protégé's gender in experimental settings while same sex protégés are more attractive in non-experimental settings. The relevance of studying gender issues in mentoring is emphasized and suggestions for conducting research on gender and mentoring are presented.

Zellers, D.F., Howard, V.M., & Barcic, M.A. (2008). Faculty mentoring programs: Reenvisioning rather than reinventing the wheel. *Review of Educational Research, 78***(3), 552-588.**

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. [Abstract from authors]

Zerzan, J.T., Hess, R., Schur, E., Phillips, R.S., & Rigotti, N. (2009). Making the most of mentors: A guide for mentees. *Academic Medicine, 84*, 140-144.

Effective mentorship is likely one of the most important determinants of success in academic medicine and research. Many papers focus on mentoring from the mentor's perspective, but few give guidance to mentees forging these critically important relationships. The authors apply "managing up," a corporate concept, to academic medical settings both to promote effective, successful mentoring and to make a mentor's job easier. Managing up requires the mentee to take responsibility for his or her part in the collaborative alliance and to be the leader of the relationship by guiding and facilitating the mentor's efforts to create a satisfying and productive relationship for both parties. The authors review the initiation and cultivation of a mentoring relationship from the perspective of a mentee at any stage (student through junior faculty), and they propose specific strategies for mentee success. [Abstract from authors].

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