

How Mentoring Relationships Evolve: A Longitudinal Study of Academic Pediatricians in a Physician Educator Faculty Development Program

DORENE BALMER, PHD; DONNA D'ALESSANDRO, MD; WANESSA RISKO, MD, DSc; MARYELLEN E. GUSIC, MD

Introduction: Mentoring is increasingly recognized as central to career development. Less attention has been paid, however, to how mentoring relationships evolve over time. To provide a more complete picture of these complex relationships, the authors explored mentoring from a mentee's perspective within the context of a three-year faculty development program in which the mentor provided specific expertise to assist the mentee in completing a scholarly educational project.

Methods: Using an evolving focus group design, the authors interviewed mentee groups in 2007–2009 inclusive. Transcripts were coded inductively; codes were revised as data patterns became more apparent. Preliminary assertions about the answers to guiding questions were made; the trustworthiness of the assertions was assessed via member check.

Results: Mentees offered a variety of reasons for choosing their project mentor, including proximity, familiarity, and mentor expertise. There was a dyadic relationship with the project mentor in year 1, a broader collaboration with multiple senior mentors in year 2, and mentoring among program peers in year 3. Mentees benefitted from mentors' supportive behaviors and, to a lesser extent, mentors' challenging behaviors.

Conclusion: Mentoring relationships, in the context of this faculty development program, tended not to be an exclusive dyadic connection but rather a constellation of relationships that evolved over time and included peer mentoring. The complex reality of these relationships challenges the application of traditional mentoring models and suggests unique considerations in developing mentoring programs designed to meet the needs of faculty in academic medicine.

Key Words: mentoring, faculty development, pediatrics

Mentoring is increasingly recognized as central to successful career development. A recent review of the literature on mentoring programs in business and education reported that professional networking and collegiality were the most common positive outcomes or benefits of formal mentoring programs.¹ Mentoring programs in academic medicine often focus on faculty in their role as clinical or basic sci-

ence researchers.^{2,3} Compared with other fields, academic medicine programs are frequently not so formal or systematically evaluated;^{4,5} however, positive outcomes have been reported related to career choice, retention, research productivity, and research success.^{4–9}

Mentoring is often defined as a dynamic relationship between a more senior person (mentor) and a junior person (mentee), but various roles and behaviors have been ascribed to role of the mentor.¹⁰ One business literature example centered on the benefit of the mentor in helping form strategic alliances.¹¹ In another example, adult educator Laurent Daloz described the importance of trust and honesty between the mentor and mentee and the need for effective mentors to balance mentee support with challenge (ie, questioning and confrontation).¹² Most descriptive research on mentoring, however, has been cross-sectional and has not provided a picture of how complex mentoring relationships develop over time.

The current study examines the mentoring component of the Academic Pediatric Association's Educational Scholars Program (ESP). The ESP is a three-year, certificate-granting, national faculty development program (FDP) targeting academic pediatric faculty seeking to build their educational

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Dr. Balmer: Assistant Professor of Clinical Education, Pediatrics Center for Education Research and Evaluation, Columbia University Medical Center; *Dr. D'Alessandro:* Professor of Pediatrics, University of Iowa Children's Hospital; *Dr. Risko:* Assistant Professor of Pediatrics, Children's Hospital, Boston Harvard Medical School; *Dr. Gusic:* Professor of Medical Education and Pediatrics, Indiana University School of Medicine.

Correspondence: Donna D'Alessandro, 2617 JCP, 200 Hawkins Dr., Iowa City, IA 52242; e-mail: donna-dalessandro@uiowa.edu.

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scholarship skills.¹³ Participants are required to complete a scholarly educational project (capstone project) that results in a peer-reviewed publication or presentation with the help of a self-identified project mentor. The mentor is expected to assist the scholar (ie, the mentee) in planning, implementing, and evaluating his or her project. Thus, mentoring is intended to be functional, centered on the mentee's project, and limited to the FDP's length.¹⁴ Scholars are also assigned an ESP faculty advisor from the national FDP to assist them in developing their educator portfolio and curriculum vitae and to advise them on career opportunities. From 2006–2010, the program has enrolled 4 scholar cohorts ($n = 78$). It has a 94% retention rate and 81% certification rate in the first 2 cohorts, with some scholars from both cohorts still completing program requirements. The capstone projects are diverse and represent the varied activities of educators.^{15–16}

The ESP offered a unique opportunity to explore, from the mentees' perspective, how mentoring relationships evolve over time. This study's goal was to describe, analyze, and interpret the mentoring relationship between ESP scholars and their self-identified project mentor, focusing on the mentoring process. Three categories of questions guided our inquiry: (1) initiating mentoring relationships in the context of the ESP, (2) the nature of the relationship over time, and (3) the benefits of mentoring as experienced by ESP scholars.

Methods

All scholars in the first two cohorts ($n = 37$) were invited to participate in the study by electronic mail and asked to complete a baseline demographic survey. An evolving focus group design method, described by Morgan et al, was used, which provided a forum for participants to interact, exchange stories, and think out loud with others with similar experiences.¹⁷ Focus groups were repeated annually over 3 years, which allowed us to clarify existing questions and generate new questions based upon data gathered from the previous year. We conducted focus groups at the Pediatric Academic Societies' annual meetings in 2007, 2008, and 2009. Scholars were required to attend the meetings as part of the ESP, and study participation was voluntary. Each year, the interview guide consisted of open-ended questions about the establishment and nature of the mentoring relationship and the benefit scholars experienced from the relationship. Focus group interviews lasted approximately 60 minutes. One of the authors (DB) moderated, recorded, and transcribed the interviews, removing all personal descriptors, including gender, during transcription. Transcripts were entered into and managed by ATLAS.ti (Scientific Software Development GmbH, Berlin) a qualitative data analysis software program.

We conducted the analysis in three phases. In the first pass, DB reviewed the 2007 data to inductively create a preliminary code list. Coding involved the application of descriptive labels to data segments (ie, comments focusing on one idea plus any idea elaboration).¹⁸ In the second pass, the other investigators independently coded transcripts from 2007, 2008,

and 2009 and compared their coding with DB's. The coding was revised as patterns became more apparent with incorporation of subsequent data from each year's focus groups. Discrepancies were resolved by group discussion. In the third pass, we made assertions about answers to our guiding questions. We sought to validate our assertions with scholars who dropped out of the study via member check, and in so doing, to guard against overinterpreting the comments from scholars who participated in all three focus groups. Six participants who took part in the focus groups in 2007 and 2008 but not 2009 were randomly selected for the member check. They were asked about the alignment of our assertions with their own experience. Our assertions "made sense" to these scholars, helping to ensure trustworthiness by substantiating the dependability of our data. Trustworthiness was also ensured by independent coding, the capacity to build detailed evidence via the evolving focus group design, and skillful interviewing technique.¹⁹

The Pennsylvania State University College of Medicine's Institutional Review Board approved the study. Each participant gave verbal consent at the beginning of each focus group.

Results

Of the 37 scholars in the first 2 cohorts, 30 (81%) participated in 2007 (in 1 of 4 focus groups), 19 (51%) in 2008 (in 1 of 3 groups), and 9 (24%) in 2009 (in 1 of 2 groups). Seven scholars participated in all 3 focus groups. Themes that emerged from the data were representative of focus group participants as a whole and were not from a few vocal ones. For example, 23 different scholars over the 3 years made comments pertinent to the relationship benefits, with an average of 3.4 comments per scholar. The majority of ESP scholars were female, general pediatricians, and employed in academic settings (see TABLE 1.) Results are presented with reference to guiding questions. Illustrative examples (ie, verbatim quotes) supporting the data are given below.

Initiating Mentoring Relationships in the Context of ESP

Scholars offered a variety of reasons for choosing a project mentor. Of the 30 scholars who participated in the first round of focus groups, 15 (50%) chose a mentor for their ESP project from their own institution. Some extended an existing relationship with a senior person:

She had already been a mentor of mine throughout my career. Her office is right next to mine and she shared an interest in my project, so that works out really well.

Two (7%) said they sought out someone who was relatively unknown to them to help them navigate their home institution. Three others (10%) said they chose someone with whom they were friends, but later questioned this decision:

It may be more difficult to work with someone you have a relationship with, especially a friendly relationship with.

How Mentoring Relationships Evolve

TABLE 1. Demographic Characteristics of ESP Scholars and Their Initial Senior Mentors

Mentee Characteristics	N (%)
Total ESP scholars competing survey	36
Gender (female)	29 (81)
Age (in their 30s)	29 (81)
Race	
Asian	3 (8)
Black	1 (3)
Two or more races	2 (6)
White	30 (83)
Type of Institution (35 responses)	
Academic	30 (86)
Community	5 (14)
Specialty	
Generalist, Pediatrics	28 (77)
Specialist, Pediatrics	6 (17)
Both	2 (6)
Self Described Position/Training	
Fellowship trained	15 (42)
Clinician educators	30 (86)
Non-tenure track	18 (50)
Assistant Professor	21 (58)
Mentor Characteristics	N (%)
Total ESP scholars describing an ESP mentor	30
Mentor described as	
>45 years	19 (63)
Professor rank	17 (57)
Same gender as mentee	12 (40)
Same race as mentee	23 (77)
Same institution as mentee	21 (70)
Same department as mentee	13 (47)
Having a previous work relationship with mentee	15 (50)
Having a previous mentor relationship with mentee	19 (63)

Sometimes it's more helpful to have a more objective approach to answering your questions, but there are advantages and disadvantages.

Although familiarity and close proximity were common reasons for initially choosing a project mentor, 8 scholars (26%) mentioned the mentor's content expertise.

I picked my mentor because I had a big qualitative piece and she is the one in my department who knows qualitative research.

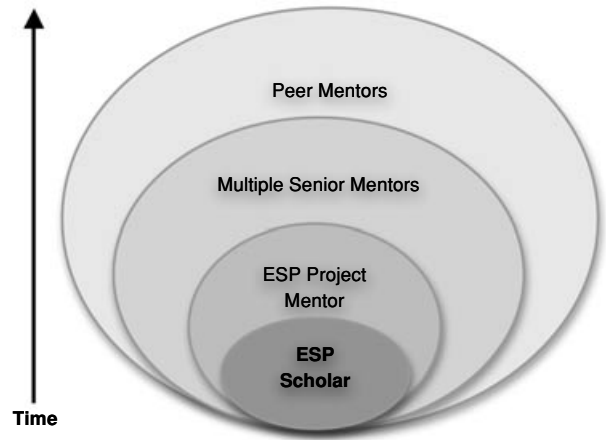


FIGURE 1. The Nature of the ESP Mentoring Relationships Over Time

Although scholars did not take the mentor selection process lightly, 9 participants (30%) attributed finding a good mentor to “luck” or said it was “just the way it worked out.”

Like a lot of things in life, things happen only when certain conditions are present. Starting a mentoring relationship is like that. You almost can't control that.

The Nature of the Relationship Over Time

FIGURE 1 depicts the general pattern of change in mentoring relationships experienced by ESP scholars (ie, asymmetric concentric circles surrounding the mentee). Scholars reached out to one senior project mentor initially, forming a dyadic relationship. By year two, scholars had typically formed a network with other senior mentors, and by year three, many scholars also included ESP peers in their mentoring network.

You need this close, proximal oversight when you start out. And then you need another concentric circle around that which is the faculty-supervisor or someone like that. Then there seems to be this critical element of like peer networking—they're separate ingredients.

The mentoring relationship expansion often was related to the scholars' evolving area of professional inquiry and need to seek additional senior mentors locally or outside the scholars' institution. Scholars often said that changes in initial mentoring relationships were due to changes in their capstone project.

It's important to be open to the relationship changing and seeking out mentors for other aspects of the project and letting that happen.

As capstone projects matured, so did scholars' ability to identify their changing needs. Scholars' resource-seeking behavior enabled them to recruit multiple senior mentors by locating useful resources and engaging these resources over

time. For example, one scholar illustrated his/her network expansion in this way:

Choosing the right person is optimal, but if that doesn't turn out to be the right person, don't be afraid to admit that. Sometimes you go blindly, or your project changes so much that your needs evolve to be very different, and that is OK. Add another mentor. It doesn't mean you have to get rid of the other one. You can have many mentors.

Scholars, though not directly asked, rarely reported terminating the initial project mentor relationship. Rather, they created space for additional senior mentors to meet their changing needs. Scholars explicitly acknowledged the importance of seeking a variety of individuals over time.

I have multiple mentors at this point and my first mentor is still my mentor—but as [my] project progressed and took on a life of its own, there were multiple things that evolved. I needed to branch out and get someone with more expertise or different expertise.

Recognizing ESP peers as mentors tended to occur later, after a senior mentor network was established. In 2009, one scholar described peer mentoring as an informal support system:

Getting together with other scholars wasn't meant to be mentoring, but it turned out to be mentoring, and at that point in our projects, at least for me, it turned out to be just what I needed. That was the mentoring I needed—for all of us to sit there and say, "Look what you have! You have something. You just don't see it right now."

The value of the peer mentoring transformed some scholars' perceptions of the academic environment from pure competition to collaboration.

I always thought that in academics all these people were going to be, not enemies, but people you compete against. If I tell them what I am doing maybe they will steal my idea. But I am learning that these people can be mentors.

While FIGURE 1 illustrates a general trend, not all scholars stated that their relationship with their project mentor changed over time. One scholar said:

I don't think my relationship has changed all that much. We had worked together before and we think alike. She is more experienced than I am, so I'm happy to be able to run things past her and she'll be like, "Let's think about this for the next level." But otherwise it hasn't changed.

Benefits Experienced by Scholars

Nearly all scholars experienced support from their project mentors. Supportive mentoring behaviors reported by scholars were listening, advocating, and expressing belief in the scholar's ability to achieve. By listening, mentors created an

environment where scholars were free to talk, and knew they would be heard and respected. One scholar commented, "As busy as my mentor is, when we started he said, 'I will always be available for you if you need me. Do not ever feel like you are impinging on my time by asking me to meet with you.'"

Project mentors advocated by identifying opportunities such as grant funding or potential collaborations, or, as one scholar said, "Basically, they give us access to their network." Advocacy also took the form of protection: "She has been able to support me even when more senior faculty were not willing to back the specific professional issues that I needed assistance with."

Although project mentors are expected to assist scholars in completing their capstone project, many also took on career mentoring and advising roles, expressing positive expectations and encouraging scholars in their career. While one scholar described her project mentor as a "cheerleader," another spoke of profound support:

I am just mystified by her support. It takes a lot of dedication and a belief in someone, and then, on a career level, acting on that belief becomes not just mentoring them on a project but demonstrating to them, demystifying some of these milestones in a career, like grant applications. Pushing someone to achieve things in their career on a longer horizon and helping to demystify that process, instead of just working on a project.

Scholars reported few overt challenging behaviors, experienced either as positive or negative, by their project mentors, with the exception of mentors verbalizing expectations. Challenge tended to be manifested indirectly as a "push" to help scholars accomplish tasks—or, as one scholar described it, "patience with an underlying structure behind it." The same scholar also noted:

He would remind me, "We said that in April we would have X, Y, and Z. Are you going to make it?" Those kinds of questions worked well for me. . . . And then pushing me too so it wasn't always easy street.

Discussion

Mentoring relationships, in the context of this physician educator faculty development program (FDP), tended not to be exclusive one-to-one connections, but rather constellations of relationships that evolved over time. This longitudinal study captured the expansion from dyadic relationships between scholars and self-identified project mentors, to mentoring networks with multiple senior mentors, to a mentoring network that included peers. Mentees' tendency to draw on several senior advisors for guidance and thus build a network is not uncommon.^{9,20–21} Yet, to our knowledge, this is one of the first descriptions of the process whereby these different types of mentoring networks evolve in a physician educator FDP.

In this FDP, scholars reported positive experiences and general satisfaction with the guidance and expertise they

received. A recent review noted that mentoring is a complex relationship that is inextricably linked to the context in which it unfolds.²² The evolving focus group design did not allow for an overall mentoring process evaluation, but unpublished data from year-end program evaluations provided by 30 scholars in 2007 showed the majority of scholars agreed/strongly agreed that they will work with the mentors on other projects (66%); that their mentors helped them gain new skills/knowledge (86.6%); and that they will use these skills/knowledge when mentoring others in the future (83.3%).

Our findings support the utility of functional mentoring in FDPs. Mentoring relationships that are formed around a specific project meet practical needs but may yield benefits beyond the project itself. Our findings are also consistent with work from other physician educator FDPs that identified informal learning networks as an important program outcome.^{23–24} Compared to senior person–junior person dyads, peer mentoring offers the advantages of mutual and comfortable relationships. Peer mentoring appears to promote research activity and facilitate career development.^{25–27} It may foster collegiality and reduce professional isolation in ways that hierarchical mentoring does not.^{27–29}

We acknowledge several limitations to our study. First, bias may have occurred, as participation was voluntary and only 24% of the original group participated in the last focus groups. It is unclear why fewer scholars chose to participate in subsequent focus groups. To mitigate the impact of the dropout rate, we confirmed our findings with a member check that did validate our findings. While an important limitation, we still are able to explore and learn from our observations. Second, some ESP mentoring relationships were already established at baseline, while others were newly formed. Evaluating only newly formed relationships or established relationships may have led to different results. Third, yearly focus groups may not have been frequent enough to detect subtle fluctuations in the mentoring process. Fourth, although some participants stated that their mentors provided career guidance, scholars' project-focused mentors may differ from career mentors. Hence our findings may not generalize to all mentor types, nor to other relationship types such as clinical research mentoring.

While a balance of support and challenge in the mentoring relationship may be ideal to stimulate growth in skills and professional development,⁹ achieving that balance may be difficult. Mentoring is relational at its core, and seems to go beyond "strategic alliances".¹¹ In our study, scholars reported experiencing benefits of both supportive and challenging mentor behaviors, with a predominance of the former.

Conclusion

Our findings suggest that mentees' needs and expectations change over time. Mentees value a network of mentors that includes peer mentors to support their developing needs as

educators. The complex reality of mentoring relationships challenges the application of traditional mentoring models and suggests unique considerations in developing mentoring programs designed to meet the needs of faculty in academic medicine.

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Lessons for Practice

- Mentees can benefit from having multiple senior mentors with expertise in different areas, and the establishment of multiple mentoring relationships should be encouraged.
- Multiple opportunities to build and maintain mentoring networks with potential mentors and peers appear to enhance a faculty development program.
- While programs and mentors themselves may offer the opportunities to begin the relationships, mentees are likely to play a primary role in actual formation of these relationships.
- Peer mentoring offers promising opportunities for both peer collaboration and ongoing support of mentees. Its benefits may be distinct from other forms of mentor-mentee dyads and deserve clarification in future research.

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