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original research

Promising and Established Investigators' Experiences Participating in the National Athletic Trainers' Association Foundation Research Mentor Program[a]

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Context: Mentorship is a helpful resource for individuals who transition from doctoral student to tenure-track faculty member. The National Athletic Trainers' Association (NATA) Research & Education Foundation offers a Research Mentor Program to provide mentorship to promising investigators, particularly as they work to establish independent lines of research.

Objective: To gain the perspectives of promising and established investigators on their participation in the NATA Foundation Research Mentor Program.

Design: Qualitative, phenomenological research.

Setting: Higher education institutions.

Patients or Other Participants: Seven promising investigators (5 women, 2 men) and 7 established investigators (2 women, 5 men), all of whom had completed the NATA Foundation Research Mentor Program.

Data Collection and Analysis: We developed and piloted interview guides designed to gain participants' perspectives on their experiences participating in the NATA Foundation Research Mentor Program. Semistructured telephone interviews were completed with each individual and transcribed verbatim. Data were analyzed using a phenomenological approach, and saturation was obtained. Trustworthiness was established with the use of member checking, multiple-analyst triangulation, and data-source triangulation.

Results: Three themes emerged from the interviews: (1) motivation, (2) collaboration, and (3) resources. Participants were motivated to become involved because they saw the value of mentorship, and mentees desired guidance in their research. Participants believed that collaboration on a project contributed to a positive relationship, and they also desired additional program and professional resources to support novice faculty.

Conclusions: Promising and established investigators should be encouraged to engage in mentoring relationships to facilitate mentees' research agendas and professional development. The NATA Foundation and athletic training profession may consider providing additional resources for novice faculty, such as training on effective mentoring; grant writing and other research-related tasks; and support for broader faculty responsibilities, such as teaching, service, and work-life balance.

Key Words: socialization, higher education, formal mentoring

Key Points

- Promising and established investigators valued professional mentoring relationships.
- Collaboration facilitated successful mentoring relationships between faculty members.
- Faculty members desired structured mentoring programs and more professional development opportunities specific to the areas of faculty and research development.

Mentoring is a relationship in which an experienced person (mentor) provides support, guidance, and feedback to a less experienced person (mentee).[1] Mentorship is an important resource for individuals who are considered novice, or inexperienced, in a position.[2] Mentorship is particularly helpful as a person transitions to a new role or environment.[3,4] Specifically in athletic training, mentorship supports students as they learn the knowledge, skills, and behaviors required to become an athletic trainer.[5,6] Similarly, novice clinicians and preceptors seek more experienced individuals to provide guidance as they transition to their roles as independent clinicians and educators.[3,4,7]

Mentorship has also been found to help doctoral students[8] and novice faculty[9,10] learn the responsibilities and expectations of the professoriate. Faculty mentors support prospective faculty members as they learn the knowledge required to be an academic, in addition to being socialized into the higher education environment.[8] Doctoral students appreciate supportive mentors who guide them but also allow independent decision making.[8] The support and guidance provided by experienced faculty members also extend beyond doctoral preparation into the pre-tenure years, when novice faculty

[a] At the time of the study and drafting of the manuscript, the title of the program was the Research Mentor Program. The name of the program has now been changed to the Faculty Mentor Program to better reflect the more diverse nature of faculty mentoring relationships. The authors (S.L.N., S.M.M.) currently serve as co-chairs of the Faculty Mentor Program but were not associated with the Research Mentor Program while the study was conducted.

Table 1. Participant Demographics

Pseudonyms	Sex	Age, y	Doctoral Degree	Years of Experience		
				Certified AT	AT Educator	AT Researcher
Promising investigators						
Arthur	M	31	PhD	9	4	9
Donald	M	35	Unspecified	12	10	10
Kathy	F	37	PhD	15	3	3
Reba	F	32	EdD	9	7	6
Robin	F	39	PhD	16	11	9
Sarah	F	34	PhD	12	3	7
Stacy	F	31	PhD	1	8	9
Established investigators						
Allie	F	41	PhD	19	15	15
Jack	M	36	PhD	14	10	11
Jeff	M	44	PhD	22	18	18
Jerry	M	44	PhD	20	15	15
Josh	M	45	PhD	20	7	19
Joslyn	F	51	EdD	29	26	10
Tammy	F	37	PhD	16	13	15

Abbreviations: AT, athletic trainer; F, female; M, male.

continue to seek mentors to provide guidance on their research, teaching, and navigation of institutional politics and expectations.[9,10] Informal mentoring relationships appear to be prevalent for novice faculty and are initiated by either the novice or the experienced individual.[9,10] Mentees and mentors perceive that these relationships are beneficial to the development of novice faculty and help them succeed in their pursuit of tenure and promotion.[9,10]

In addition to informal mentoring relationships, institutions often provide formal mentoring opportunities for novice faculty as they transition into academia and the specific institution.[9,11] Mentees describe these programs as helpful when navigating institutional expectations.[9,10,12] However, novice faculty also described the benefits of seeking mentors outside of their institutions, particularly to find research mentors and collaborators with similar interests.[9,10,12] The National Athletic Trainers' Association (NATA) Research & Education Foundation offers a formal Research Mentor Program for athletic training faculty members that facilitates this research collaboration. This program pairs "promising investigators with established researchers" to provide guidance in the research and grant-writing processes (natafoundation.org). Although this program has existed since 2012, it has yet to be examined from a research perspective.

Considering that mentorship is an important mechanism of support for novice faculty,[9,10,12] it is important to understand the mentoring relationships that occur within athletic training. Gaining insight into how mentoring relationships are fostered, sustained, and valued can help experienced faculty facilitate effective mentoring of novice faculty. Because a formal mentoring program exists in athletic training, we sought to understand participants' experiences with and perceptions of the NATA Foundation Research Mentor Program.

METHODS

Phenomenology is a research design fit for examining multiple perspectives on a topic that people have experienced.[13] We sought to understand faculty members' experiences with the NATA Foundation Research Mentor Program, and the phenomenological approach provided a framework for gaining mentors' and mentees' different experiences with the program.

Participants and Setting

To provide a detailed understanding of mentoring, including NATA Foundation program mentors (established investigators) and mentees (promising investigators), we sought 2 groups of participants for this study. We chose to recruit participants from the NATA Foundation Research Mentor Program because this is a known structured mentoring program for athletic training faculty members. The program was established in 2012 and has produced 3 cohorts (2012, 2013, 2014) with a total of 42 participants. Therefore, we purposefully recruited this group knowing they had past experiences with mentoring in a faculty member capacity.[13] One investigator in this study had participated in the program as a mentee in 2012; however, no other relationships between the investigators and mentor program existed at the time.

During this study, the framework of the NATA Foundation mentor program was founded by the mentees, who applied for the program, identified their research interests, and were paired with a potential mentor. The Foundation then sought mentors who matched the research interest of each mentee. Solicitation for participation is guided by the established investigator's reputation and scholarly productivity in the area of research interest. At the time this study was completed, there was no open call for potential mentors; mentors volunteered and agreed to participate once they learned more about their potential mentees.

We used the terminology of *established* and *promising* to be consistent with that used by the mentor program at the time of this study. To be eligible for the program, a *promising investigator* was categorized as a pre-tenure faculty member who had completed an academic doctorate degree in the previous 6 years and had published at least 1 article as first author. Promising investigators applied for

Table 2. Interview Guides[a]

Promising Investigators

1. When did you participate in the NATA mentor program?
2. Can you discuss when and how you learned about the NATA mentor program?
3. Can you describe the process whereby you were assigned a mentor within the program?
4. What parameters and information were you given regarding the NATA Research Mentor Program?
5. Has participation in the Research Mentor Program helped in your professional development as a faculty member? Please describe.
   a. What about in the areas of:
      i. Research
      ii. Teaching
      iii. Service
      iv. Navigation of the tenure and promotion process?
6. Did you face any challenges when navigating your relationship development and completion of the NATA Research Mentor Program? If so, please describe.
7. Do you feel as though your expectations and needs were met as part of this program?
   a. If yes, please detail.
   b. If no, why?
   c. Are there any specific improvements you would have liked, if any?
8. What advice would you give future participants of the mentor program, including the NATA, experienced faculty members, and novice faculty members?
9. Do you think that the NATA should take a more active role in the development of, and support of novice faculty members? Please describe.

Established Investigators

1. What led you to participate in the NATA Research Mentor Program?
2. Were you aware of the NATA Research Mentor Program before you were invited to participate?
3. What resources were you given to facilitate your relationship with your NATA research mentee?
4. What are your overall impressions of the NATA Research Mentor Program?
5. Do you feel as though your expectations and needs were met as part of this program?
   a. If yes, please detail.
   b. If no, why?
   c. What improvements would you suggest, if any?
6. What advice would you share with an experienced faculty member who might also decide to participate in the NATA's Research Mentor Program?
   a. Would you participate again? Please explain.
7. Do you think that the NATA should take a more active role in the development of, and support of novice faculty members? Please describe.

Abbreviation: NATA, National Athletic Trainers' Association.

[a] Interview guide is presented in its original form.

the program and were paired with established investigators with similar research interests. *Established investigators* were tenured faculty at the associate rank or higher with an ongoing research agenda. The NATA Foundation sought potential mentors based on professional networks and general knowledge of their research areas based on publications and grants. The NATA Foundation provided the names of participants from the previous research mentor cohorts. Participant confidentiality was maintained throughout the process with the use of pseudonyms. Participant demographics are shown in Table 1.

Instrumentation

Consistent with phenomenological research designs, we developed semistructured interview guides for this study (Table 2).[13] Semistructured interviews provide a mechanism for asking participants consistent questions that address the research questions while permitting flexibility in conversation.[13] We developed the interview guides based on the research questions and existing literature on mentoring.[7,8] The interview guides were then piloted with 2 individuals who met the inclusion criteria (1 promising and 1 established investigator). After each pilot interview, participants were asked to provide feedback on the clarity and flow of the interview guide. The interview guides were then revised to improve clarity and add more follow-up questions. Pilot participants were asked to respond to these questions, and their data were included for analysis.

Procedures

After institutional review board approval was obtained, potential participants were recruited through e-mail. One researcher (J.L.B.) conducted telephone interviews with each participant while audio recording the conversation. Interviews included a description of the study, a statement of consent for audio recording, the semistructured interview guide, and demographic questions. Audio files were then transcribed verbatim, and the transcripts were provided to participants, who reviewed them for accuracy and provided additions and clarifications as a form of member checking.[14] Nine participants responded to the member-checking request, with most responses adding detail to their responses or clarifying unclear audio. No substantial changes to the meanings of responses were made during the member-checking process. Data analysis began after either member-checked responses were provided or 1 month passed without a response.

First, the data were independently analyzed by 2 authors (S.L.N., S.M.M.) following a phenomenological approach.[13] To ensure consistency in the coding process, the 2 authors discussed the steps to be followed before they began their analysis. They agreed that each researcher would begin the analysis by reading each transcript and noting key statements and general thoughts. Second, the researchers reread transcripts, looking for significant statements made by each participant.[13] Independent statements were then grouped across participants and labeled as themes. Themes were reexamined for clarity, and a description with supporting quotes was provided for each key finding.[13] After independent analyses were completed, the researchers compared the results and organization of themes. They agreed on the themes and supporting quotes, and then the third investigator reviewed these for clarity and adequate support of the data as a form of peer review.[14] At this time, we agreed that data saturation, or redundancy of findings, had been attained and no further participants needed to be recruited.[13]

We used several strategies to ensure trustworthiness of the data-collection and -analysis processes. We called on multiple researchers to develop the interview guides and analyze the data, triangulating perspectives and improving credibility.[14] We used source triangulation by recruiting 2 groups of participants.[14] Participants member checked their interview transcripts, ensuring that their thoughts were

Figure 1. Motivation to participate in the National Athletic Trainers' Association Foundation Research Mentor Program.

accurately captured in the interview.[14] Lastly, a third researcher peer reviewed the findings, confirming the accuracy of the data-analysis process.[14]

RESULTS

Fourteen participants (7 mentors, 7 mentees) were interviewed for this study, and saturation was deemed to occur with this sample. Five participants were from the 2012 cohort (2 mentees, 3 mentors), 4 participants were from the 2013 cohort (2 mentees, 2 mentors), and 5 participants were from the 2014 cohort (3 mentees, 2 mentors). Three themes emerged from the data: (1) *motivation* to participate in the NATA Foundation program, (2) *collaboration* contributes to perceived success, and (3) desire for more *resources*. Although both mentors and mentees were attracted to participating in the Research Mentor Program, they were motivated to participate for different reasons. The *resources* theme included 2 categories: resources related to the NATA Foundation *program* and general resources for promising investigators within the *profession*. The latter theme speaks to the needs of our participants: specifically, their ability to navigate the relationships developed within the mentor program, whereas the first 2 address the attractors to and outcomes of participation. These themes and categories are described in the sections that follow using supporting quotes.

Motivation to Participate in the NATA Foundation Program

Promising investigator participants in the NATA Foundation program described networking and research collaboration as the 2 main attractors to the program. Sarah stated simply: "I think for me it [my interest in participating] was mostly the collaborative opportunity and networking opportunity."

Arthur described how this networking and research support related to his tenure and promotion process:

> I was really looking for someone outside the university that can actually provide me some outside perspective on building my scholarship even further. And that was the primary thing I was looking for… someone else to kind of give me some feedback on my scholarship, because how I'm viewed from people outside the university is really important for getting tenure/promotion here.

Donald, like Arthur, realized the value of external collaborators to his success with his research and scholarship. He described his interest in the program:

> I had a couple of mentors here in my institution saying it might be a good opportunity for me to meet some new researchers and increase networking opportunities. Being able to meet not only established instructors but also other researchers or faculty members who are kind of in my same position. You know you are a faculty member trying to navigate academia and being able to network with some of your peers.

Mentees were attracted to the NATA Foundation mentor program as a means to gain an outside perspective and support in their early development.

Mentors also described what motivated them to participate in the program, although their pathway to participation was different than that of the mentees. Mentors were motivated to participate in the program because they perceived mentoring as helpful for promising investigators and because participation was a way for them to give back to the profession. Tammy described her motivation as follows:

> I feel like I've benefited a lot from really strong mentors starting when I was a student, and I feel like those mentors really helped me get to where I am and a lot easier because, like I said, I didn't have a whole lot of moments of feeling lost or completely helpless, and I think that comes back to having good mentors. And so I wanted to be able to give back to some of that.

Similar to Tammy, other mentors recalled positive mentoring relationships in which their mentors had helped them. Joslyn described her reasons as follows:

> I felt that I was in a position to try and help somebody else out who was just starting in those areas, so I volunteered. And then I'm not sure how they matched people up, but I ended up getting matched up with somebody who wanted to participate in the program. So primarily I was interested in helping out and sharing what I learned through several years of hard work with somebody else so that hopefully they didn't have to deal with all of the hits and misses that came along the road, give them a step up hopefully.

Joslyn thought she could help a promising investigator by mentoring. Similarly, Jerry said, "I've been helped [by mentors] in many ways," and perceived participation as a way to help others and give back to the profession. Jack participated "as a way to get back to the NATA." Jeff said, "I saw it as an opportunity to contribute to the profession in a way that I thought I could."

Although promising and established investigators identified different pathways to participation in the NATA Foundation mentor program, they all had a desire and willingness to participate (Figure 1).

Collaboration Contributes to Perceived Success

Both mentors and mentees in the NATA program described the value of a concrete collaboration on a

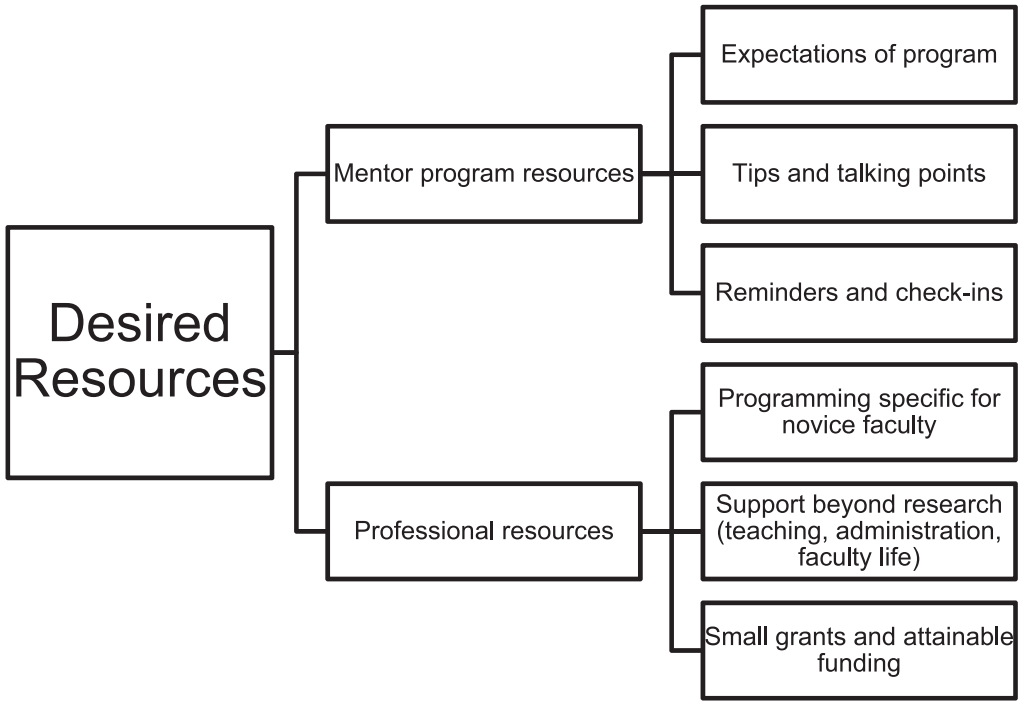

Figure 2. Participants desired more resources for novice faculty.

research study or paper. Collaborating on a research study helped focus their interactions and provided a mechanism for communicating and learning more about each other. Kathy, a mentee, said that working on a research project with her mentor "has been great" and that she learned "a lot from watching her edit my manuscript." She concluded that working on the research project together "was the real, the best part."

Arthur and his mentor also collaborated on several projects: "[S]o far we've operated on 2 or 3 projects. And some of our abstracts are coming out at NATA next year. So we had some productivity coming out from that. We also submitted a grant last year." Jerry described how his collaborative relationship with his mentee developed gradually:

> [My mentee] worked on a grant there at the institution, then I gave him some feedback on [the grant] and it kind of just naturally grew from there, developed from there, so basically the beginning was just give me your ideas and we'll pick one and kind of go forth.

Jack, a mentor, described collaborations that transformed over time:

> I don't know when the relationship is supposed to end, which is an interesting thing. I still keep in contact with my first mentee, and then we still to this day collaborate on projects; we have more collaborative projects going on now than at any point.

Donald reflected on his interactions with his mentor and provided the following advice:

> I think the number one advice is (1) to have a small project and (2) to be in touch regularly, and again, having that small project kind of forces you to have regular communications and again it also provides the opportunity to really get hands-on work with one another.

For these mentors, collaboration provided a mechanism for interacting, learning, and contributing to the success of promising faculty members.

Although 8 participants said that collaboration helped contribute to a positive mentoring relationship, 2 participants did not work on projects with their mentors, including Robin, who mentioned a desire for collaboration: "Unfortunately, it didn't really result in anything in the end, which I think I had hoped that it would have a little more lasting impact."

Sarah, another mentee, mentioned, "I do wish that we could have collaborated more and talked a little bit more regarding potential research endeavors that I've done and/or we could have done together." Several of our mentees benefited from a collaborative relationship with their assigned mentor, and 2 other participants heard of mentoring pairs experiencing beneficial collaborations within the NATA mentor program but did not actually experience them within their own pairings.

Participants Desired More Resources

Participants desired more resources to help make their experience in the mentor program more productive and valuable. They spoke of a desire for resources specific to the mentor program and for the general professional development of promising investigators (Figure 2).

Resources: Mentor Program. Participants commented frequently that few, if any, resources were provided by the NATA Foundation mentor program. Donald, a mentee, said:

> It was very much up to the mentee and the mentor. There wasn't very much guidance. It was more touch base with your mentor, talk about some goals that you may have for the duration of the program, and then kind of let that discussion guide how your mentorship will kind of play out over the course of the year.

Donald's reflections speak to the idea that resources were scarce, including guidance and instructions for navigating the mentor-mentee relationship. This was a common theme among our participants, as Josh, a mentor, stated:

> There really were not resources. I mean I think they put us in touch, they provided a luncheon for us to meet, which was nice, at the NATA meeting. And then we had another luncheon meeting a year later. But other than that there was really no support or no there was nothing else provided from the NATA.

Again, Josh's comments illustrate the lack of guidance regarding the program's expectations and methods for cultivating or supporting the relationship.

Most participants said that they desired more resources for the program. Allie, a mentor, suggested:

> As much as I hate to say this, no one wants Big Brother watching them, but some kind of check in at times with how it's going, some type of reminder every now and then to check in with the mentor. And it doesn't need to be anything big. It could just be like a 3-month, "Hey, everybody, it's time to check in with…"

Stacy, a mentee, commented:

> I think maybe some of the challenge is you don't always know what to talk about or exactly, you know, what the end goal of this is, and so maybe having some guiding questions that mentor[s] can ask mentees.

Similarly, another mentee, Sarah, noted:

> It might have been nice if there were maybe some expectations for the program, maybe our obligations, maybe in the sense of, like, maybe if the program said "hey mentors and mentees," or at least maybe some guidelines and maybe some tips on what to talk about. So maybe this month you talk about grants, next month you talk about a teaching aspect, that you sort of engage a little bit of, I guess that is all I can think of, guidelines of what to talk about.

Tammy, a mentor, also felt that programming was necessary to help support the mission of the mentor program. She recommended the following:

> I think it would be nice whether the NATA or the Research & Education Foundation was to give some type of workshop or just something to kind of, I think, help folks for sure better understand. And it could even be for both the mentee and the mentor, so the mentee also knows going in kind of what's expected or what they should get out of it; those [types of things] could be helpful.

Regardless of the resources provided, Arthur offered guidance for the participants starting out in the program: "My advice will be to definitely, early on, set up when you're talking with your mentor, talking to them about what you want to get out of the program and what they're willing to offer as a mentor."

Resources: Professional. Beyond the NATA Foundation mentor program, participants also desired additional professional resources to help promising investigators. Several participants, including Stacy, suggested programming specific to faculty development:

> I think that some of the programming, whether it's at the annual meeting or at another time, should be geared towards the new faculty members. Those people are instructing the future of athletic training. And they need to be successful in their job, not only in teaching but the other requirements for promotions and tenure so that they stay at those institutions, develop their relationships with these students, so that they can continue to have high quality of athletic trainers in the profession.

Jack had a related thought:

> You know the only thing I think I would like to have, like to see, them consider or try to implement would be some sort of, I call it a seminar series, and I don't know if that would be the best way to frame it. Come up with maybe 6 topics that would be fairly universal to all the junior faculty, so call one work-life balance, grants, teaching, navigating departmental politics, things like that. And have either mentors, previous mentors, or just established faculty that maybe that's their area of expertise…You know so do it like a podcast so people can, you know, view it whenever, doing a live seminar so there can be Q&A. But I would have mentee[s] and mentors listening and review that so that may give them something to talk about more one-on-one when they have… the time.

Jeff agreed: "I think that the foundation should consider holding a weekend workshop or conference specifically around faculty development issues." Like Jeff, several established faculty mentioned that these resources should extend beyond research development into general faculty development. Tammy explained, "You have new faculty that are starting positions that didn't have teaching or didn't have a whole lot of teaching experience," so mentorship extends into these additional components of faculty life.

In addition to seminars and workshops, mentees noted additional areas in which they desired more support as developing professionals. Reba said, "I think with other things like research grants and research support, it is a little bit hard to break into it as a promising investigator." She went on:

> There is this gap for like pretty much your pre-tenure years where there are a couple of things out there, but good luck trying to get them. So I think there should be some more smaller pots of money and resources and things like that to really help people get their footing as a junior faculty.

Sarah also described challenges navigating funding, asking: "What grants should we be writing? And what's the difference between a foundation and an agency?" She desired a mechanism for asking experienced faculty questions related to the "educational or professorship aspects" at a conference or workshop. Overall, our participants believed that professional development opportunities focusing on faculty and research in addition to the NATA Foundation Research Mentor Program would be helpful.

DISCUSSION

Formal and informal mentoring has been found to be beneficial for novice faculty, particularly because the transition from doctoral student to full-time faculty member is challenging.[9–12] Mentors support, guide, and provide feedback to mentees across the spectrum of their faculty responsibilities, including research, grant writing, teaching, service, administration, and the tenure and promotion process.[9,10,12] Mentoring helps novice faculty learn their roles and responsibilities, thereby contributing to their success.[15,16] Our participants recognized the benefits of mentorship, which motivated them to become involved in the NATA Foundation Research Mentor Program. As cited in previous research,[10] participants also recognized that encouraging collaboration, setting clear expectations, and providing additional resources and ongoing support for effective mentoring would enhance their mentoring relationships.

Motivation to Participate

Promising investigators in our study applied to the NATA Foundation Research Mentor Program because they desired support and guidance from an established faculty member with similar research interests. Our participants' attraction to the program aligns with the mission of the program, as it was created to provide new scholars with assistance and support as they develop the necessary knowledge and skills in scholarly writing, including grant writing. Mentorship is becoming a universal tool for professional development of novice students,[5,6] preceptors,[4,7] and clinicians.[3] Novice academic medicine faculty also recognize the value of mentorship and seek guidance from more experienced individuals in the areas of research, teaching, and general professional development.[9,10,17] Although mentees noted that they had mentors within their institutions, many sought an additional professional mentor because they wanted to work with someone who had similar research interests. Straus et al[10] demonstrated a similar finding and indicated that research mentorship is often facilitated outside of a faculty member's institution. This guidance from researchers with similar interests was our participants' primary motivation for applying to the mentor program.

Due to the structure of the mentor program during this study, established investigators' only mechanism to become involved was via invitation from the NATA Foundation. Most mentors stated that they agreed to participate simply because they were asked, which highlights their internal motivation and interest in mentoring, 2 attributes that are necessary for a successful mentoring relationship.[18] In addition to this motivation, mentors were motivated to participate because they recognized the importance of mentorship and viewed their participation as a way to give back to the profession. To be an effective mentor, a person should be willing to engage in the relationship with his or her mentee and see the value of the relationship.[17] Established faculty who have been mentored previously are also more likely to mentor others.[9] Considering the importance of being willing to mentor a novice individual, formal mentorship programs should consider offering an open call for interested mentors. This may help to attract mentors who are committed to engaging in the experience.

A key finding of this study was that both mentees and mentors were motivated to participate in the mentor program because they recognized the importance of mentorship. Willingness to participate in a mentoring relationship is important to its success.[17] Considering the importance of mentorship for novice faculty, mentees should continue to seek mentors and experienced faculty should be open to helping them continue their professional development.

Facilitating Effective Relationships

Promising investigators applying to the Research Mentor Program often did so to obtain guidance from more experienced individuals with similar research interests. Some mentees specifically sought research collaborations, and several mentors and mentees noted that collaborating on a research project or other scholarly activity was an effective way to facilitate their relationship. Doctoral students in athletic training found that having the chance to collaborate with their faculty mentors was a good way to be inducted into the higher education and research expectations[8]; thus, it is reasonable to think that novice faculty members continue to seek a similar structure in postgraduation mentoring relationships. Several faculty members said that having a concrete project focused the relationship and provided a tangible way to give guidance and feedback. Those who did not collaborate as part of their mentoring relationship felt they did not gain as much as they expected, as they appeared to desire a more concrete outcome from the relationship. Formalized mentoring has been reported as more effective than informal mentoring; thus, our findings speak to the importance of having goals, objectives, and projects to work toward.[2] Moreover, mentoring relationships are inherently designed to produce lifelong relationships[1] that are founded on similar personal and professional goals; therefore, collaborations are likely often a contributing factor for entering into the relationship.[2,9,10]

This finding speaks to the need for guidelines and is also a reflection of the NATA mentor program's mission:

> The NATA Foundation provides the opportunity for pairing promising investigators with established researchers who will provide assistance, advice and guidance in both the research and the grant writing processes. Through this relationship, the young investigator builds a solid knowledge base and acquires the understanding necessary to submitting a future grant request and becoming a successful researcher [www.natafoundation.org].

Our findings suggest that participants view research collaboration as a positive outcome of the Research Mentor

Program, which is a mission of the program. However, considering that not all mentees collaborated with their mentors, even though they desired to, future participants may benefit from more detailed suggestions and guidelines that would facilitate these positive relationships. Collaborating on a project may be one suggestion the NATA Foundation can provide to mentors and mentees as they develop their relationships. If mentors and mentees are interested in collaborating on a project as part of their mentoring relationship, they should clearly outline and agree on expectations and a timeline. Regular communication, clear expectations, and motivation to participate are characteristics of effective mentoring relationships that faculty members can apply in this situation.[10] In addition, early in the mentoring relationship, faculty members should agree on such topics as authorship and other intellectual property concerns, as faculty in academic medicine have experienced challenges with these areas.[10]

Some mentors and mentees suggested that future participants of the NATA Foundation mentor program collaborate to facilitate an effective relationship. In addition to that suggestion, participants desired more resources to facilitate their relationships as part of the program. Examples included talking points, prompts for checking in with their mentor or mentee at various time points, and a program evaluation. Participants of mentoring programs in academic medicine have also emphasized the importance of training and support.[10] The NATA Foundation and other structured mentoring programs may consider providing a brief workshop on or written summary of characteristics of effective mentoring to the participants.[10] Furthermore, the program could solicit past participants' opinions and suggestions for facilitating an effective relationship. Suggestions provided by our participants included collaborating on a project, communicating regularly, and committing to giving (mentor) and receiving (mentee) advice. Others have recommended ongoing coaching and progress reports throughout the structured mentoring relationship.[10] Providing these resources may help to promote productive and long-lasting mentoring relationships for program participants.

Professional Support for Promising Investigators

Beyond the Research Mentor Program, participants desired several more professional resources to assist during their years as pre-tenured faculty members, in addition to their ongoing development. Specific to research, participants thought that additional workshops and seminars on grant writing and more accessible funding would help establish themselves as new faculty members and promising investigators.

Participants emphasized that mentorship extended beyond their roles as scholars. Although most were motivated to participate for guidance in research, many noted that the support and guidance they received from their mentor extended to the areas of teaching, work-life balance, professional networking, and service opportunities. The desire for mentorship across the spectrum of faculty responsibilities is well documented in existing research: mentors provide career guidance, help mentees navigate institutional expectations, and provide suggestions for teaching strategies.[9,10,17]

Given participants' suggestions and existing research evidence,[9,10] the athletic training profession may consider offering professional development opportunities targeting novice faculty members and promising investigators. The transition from doctoral student to novice faculty has been identified as stressful and challenging as individuals attempt to learn the responsibilities and expectations of their new positions.[19] Programming on the topics of effective mentorship, grant writing, navigating funding sources, teaching strategies, and achieving work-life balance as a faculty member may help novice faculty members during this transition time. Also, considering that the Foundation mentor program is targeted at research, the NATA may consider offering a faculty mentoring program that is more general and accommodating to those who do not have an extensive research expectation at their institution.

RECOMMENDATIONS

Based on our findings and the existing literature, we provide the following recommendations:

1. Promising investigators should seek mentors external to their current institutions for guidance and support. We believe that developing these relationships will not only support their research pursuits but also help them succeed as they navigate the promotion and tenure process at their respective institutions.
2. Given the importance of mentorship, established investigators should be open to mentoring promising investigators.
3. Although faculty members can continue to benefit from a Research Mentor Program such as the NATA Foundation's, faculty may also benefit from a mentorship program that provides feedback and support on the broader responsibilities of faculty members.
4. When developing formal mentoring programs, leaders should offer guidance and outline expectations and desired outcomes as a means to cultivate effective mentoring experiences for both the mentor and mentee. Specific to the NATA Foundation Research Mentor Program, participants should be encouraged to collaborate, outline expectations, and communicate regularly.

LIMITATIONS

Because we targeted past participants of the NATA Foundation Research Mentor Program, our findings may not be transferable to other types of mentoring relationships or formal mentoring programs beyond athletic training. We asked participants to reflect on their past experiences in the Research Mentor Program, which in some cases began 4 years prior; this time frame may have limited the detail and accuracy of their memories. Researchers should consider examining mentoring relationships as they are occurring to better understand how they develop and change over time. We did not evaluate our data based on pairings; that is, we collected our data from both perspectives but did not link outcomes based on the specific pairings. Lastly, our findings were based on participants' perceptions of their mentoring experiences and did not measure specific outcomes. Future investigators should include specific

outcome measures to determine the effectiveness of mentoring programs.

CONCLUSIONS

The NATA Foundation Research Mentor Program provides a mechanism for connecting promising and established investigators for the purpose of fostering a mentoring relationship. This formal mentoring program has the potential to provide young faculty members with the chance to build long and productive relationships with established faculty who have already demonstrated success in their careers. Participants are motivated to become involved because they perceive that mentoring is helpful for their research productivity, networking, and professional development as faculty members. Promising and established investigators should be encouraged to engage in both formal and informal mentoring programs to continue supporting novice faculty. When engaging in mentoring, especially as related to scholarship, participants should consider focusing their relationship on a concrete project. Collaboration provides a mechanism to combine the mentor's and mentee's interests, provide guidance and feedback, and facilitate regular communication and interaction. In addition to collaboration, the NATA Foundation and other mentorship programs may consider offering more resources to participants, such as tips for effective mentoring, suggestions for topics to discuss, and ongoing support such as e-mail prompts or program evaluations. Lastly, participants in our study communicated a desire for more professional resources for novice faculty to support their transition to academia, such as workshops and programming on such topics as grant writing, responding to manuscript reviewers, professional networking, and teaching and administrative duties.

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