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Nurs Outlook 000 (2023) 101912

Nursing Outlook

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Characteristics of faculty mentoring in the Robert Wood Johnson Foundation Future of Nursing Scholars Program

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ARTICLE INFO

Article history:
Received 24 May 2022
Received in revised form
2 December 2022
Accepted 28 December 2022

Keywords:
Robert Wood Johnson Foundation Future of Nursing Scholars program
3-year PhD program
Accelerated PhD program
Mentoring
Program evaluation
Faculty workload
Graduate nursing education

ABSTRACT

Background: To address the need for faculty scientists, Robert Wood Johnson Foundation (RWJF) provided support for an accelerated PhD program: Future of Nursing Scholars (FNS).

Purpose: To describe the experience of faculty mentoring PhD students in the RWJF FNS program pursuing a 3-year accelerated PhD degree, including faculty members' support activities for students, time commitment, student productivity in manuscript dissemination, and challenges and opportunities for supporting students.

Methods: Surveys were sent to faculty mentors of FNS to understand mentoring activities, strategies used, and mentee productivity.

Findings: Of 93 faculty mentors, they reported most FNS students (n = 61, 65.6%) completed a manuscript format dissertation. FNS students required academic/dissertation mentoring, with frequent emotional support and positive reinforcement.

Discussion and Conclusion: Mentors reported providing more frequent mentoring and spent more time mentoring FNS students than with other PhD students. Alignment of the student's research to that of the faculty mentor was identified as valuable.

Cite this article: Gillespie, G.L., Vallerand, A.H., & Fairman, J. (2023, xxx). Characteristics of faculty mentoring in the Robert Wood Johnson Foundation Future of Nursing Scholars Program. Nurs Outlook, 00(00), 1–11. https://doi.org/10.1016/j.outlook.2022.101912.

As nurse scientist faculty continue to retire in the U. S. and the nurse faculty shortage persists, there remains a crucial need to fill these positions with new Doctor of Philosophy (PhD) graduates (McSweeney et al., 2020; Redeker, 2021). While the overall number of doctorally prepared nurses continues to rise, this increase is predominantly achieved by graduates from Doctor of Nursing Practice (DNP) programs. DNP graduations were about nine times higher than that of PhD graduates in 2019 (American Association of Colleges of Nursing, 2021). The anticipated faculty shortage and gap between

The research for this project was supported by the Robert Wood Johnson Foundation Future of Nursing Scholars Program (grant # 77418).

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https://doi.org/10.1016/j.outlook.2022.101912

supply and demand for new PhD graduates can have a negative impact on the creation of nursing knowledge by nurse scientists, which is needed to improve the health of the population (Broome & Fairman, 2018). One approach to addressing the anticipated shortage of nurse scientists and nurse faculty is to accelerate students' time to PhD completion and entry into the faculty and/or nurse scientist role. Broome, Villarruel, and Thompson (2021) noted a recent strategy to address this need by reducing the completion time for PhD programs to 3 years, but they also noted the critical need for student mentorship and the potential impact on mentors of accelerated students. The purpose of the paper is to describe the experience of faculty mentoring of students in the 3-year accelerated PhD program sponsored by Robert Wood Johnson Foundation (RWJF) Future of Nursing Scholars (FNS) program, including types of faculty members' support for students, time commitment, student productivity in manuscript dissemination, and challenges and opportunities of supporting students.

Background

Several opportunities and challenges in PhD education stimulated the development of accelerated PhD programs. Completion times are notably shorter for nurses in DNP programs as compared to those in PhD programs. The costs for PhD programs and lack of financial support are additional barriers for many students (McSweeney et al., 2020; Redeker, 2021; Vance et al., 2020). To increase the number of nurses entering and graduating from PhD programs and pursuing faculty and/or research careers, innovative approaches to address funding support, mentoring, and decreasing time to graduation are needed.

In addition to the RWJF program, other recent examples include the Jonas Scholars Program (https://jonasphilanthropies.org/jonas-scholars/), Hillman Scholars in Nursing Innovation Program (https://hillmanscholars.org/), and Johnson & Johnson and American Association of Colleges of Nursing Minority Nurse Faculty Scholars Program (https://www.aacnnursing.org/Students/Financial-Aid-Scholarships/Minority-Nurse-Faculty-Scholarship). Since its inception in 2008, over 1,000 doctoral students have been supported by the 2-year Jonas Scholars Program (Carter et al., 2020). Jonas Scholars receive tuition scholarships, which are matched by their host institutions, obtain leadership training, and attend a single Jonas Scholars Conference. While the program provides financial and leadership support, it does not reduce the time to graduation (i.e., 3-year accelerated PhD program). The Hillman Scholars in Nursing Innovation Program, initiated in 2012, facilitates students to begin their PhD program while completing their baccalaureate nursing degree (Hodgson et al., 2021; Rita and Alex Hillman Foundation, 2023 n.d.). This program encourages Hillman Scholars to complete their PhD program in 3 years. An innovative aspect of this program are the 6-month clinical immersion experiences. However, this program is limited to students attending three specific schools of nursing (i.e., University of Pennsylvania, Duke University, and University of Michigan). From 2008 to 2018, the Minority Nurse Faculty Scholars Program provided scholarships to six PhD students per year (AACN, 2021). Program participation spanned 2 years and participants attend a leadership development program during AACN's annual Faculty Development Conference. Similar to the Jonas Scholars program, an accelerated PhD was not a program component. In addition, none of these programs provided training or support for faculty mentors.

While each of these initiatives included faculty mentoring for students, the lengths of the supports were limited (i.e., providing support for only 2 of 3 years for an accelerated PhD program, limited in capacity [e.g., only six scholars per cohort], low level of funding for each student, and limited to the three universities chosen to receive support). Redeker (2021) noted the importance of effective mentoring to prepare PhD students for positions in academia, government, and industry after graduation. The RWJF FNS program, initiated in 2014, included 3 years of supports for a 3-year accelerated PhD program with student funding support, leadership development, and intensive faculty mentoring for all 3 years.

Overview of RWJF FNS Mentoring

When the FNS program was first developed in 2013 (with the fifth and last cohort finishing in 2021), the program developers knew from their search of the literature and from experience with the RWJF New Jersey Nursing Initiative that students on an accelerated completion schedule would need intensive mentoring support on both a professional and personal basis. They incorporated a three-fold program for mentor support: selection of a program champion (typically the PhD or graduate program director) in each school, support for mentors through their own regular outreach to scholars, and an annual summer institute for both scholars and mentors. The program champions in the schools (the schools were chosen by the program National Advisory Committee each year) were charged with (a) selecting scholars who could successfully complete a rigorous accelerated PhD program and (b) facilitating the accelerated program completion timeline within the school.

Diversity of scholar candidates was strongly encouraged and several of the program collaborative funders (the program had a total of 11 funders in its Funders Collaborative, see "Leveraging a Funding Collaborative to Develop More PhD Prepared Nurse Scientists and Leaders" in this issue) required selection of diverse candidates. The program champions could then

effectively match scholars to the interests of potential funders and mentors as well as provide support for both mentors and scholars. Mentor and scholar pairs were from the same school of nursing.

The champions also participated in mentorship and support of the scholars, monitored scholar progression, and identified scholar-mentor relationship challenges. The FNS program directors and staff provided additional scholar and mentor support through regular calls to check on progress or address scholar issues with mentors. The program also provided regular updates to the mentors on the webinars and calls offered by the program and mentors were invited to attend, and many did so. A Passport was developed for each cohort. Scholars were required to attend (in real-time or asynchronously) monthly webinars focused on areas that complimented school-based offerings, such as leadership skills, grant writing, and illustration of different types of postdoctoral opportunities (see "The Robert Wood Johnson Foundation Future of Nursing Scholars Program: An Overview" in this issue).

In the boot camp before scholars began their programs, the FNS program provided content that addressed scholar expectations of their mentor and how they should prepare for their mentorship meetings. Additionally, all mentors were asked to attend the Summer Institutes (two for each scholar cohort) with their scholars, providing support for their mentees as well as input into the projects of other scholars during research presentations. Mentors also were invited to attend all institute offerings and team-building programs. The program directors met with the mentors separately during each summer institute to seek the mentors' expertise and identify issues that should be addressed. Some mentors were invited to be institute plenary speakers, depending on the topic.

Mentors were a critical part of the success of the program. In addition to providing their time and expertise to their individual scholar, they played a critical role in the success of all the scholars as well as modeling the mentor role to newer mentors or those from less research-intensive schools. By the time the fifth cohort completed their dissertations in fall 2021, more than 200 scholars (from 48 PhD nursing programs) completed the program.

Methods

A program evaluation design was used for this study. Prior to study procedures, the project was determined to be non-human subjects research by the University of Pennsylvania Institutional Review Board. The sample consisted of 196 primary nursing mentors for the FNS program participants. Some mentors provided mentorship to more than one student during the program.

The study instrument was developed by the project team. The instrument was reviewed by several FNS faculty mentors for face validity. The instrument then was revised to increase the clarity and completeness of items. Section 1 of the tool asked respondents to report the frequency they performed 11 different supportive activities. Responses were coded with numeric values based on an estimate of the annual frequency for that activity: 0 = not used, 1 = once per academic year, 2 = once per semester, 8 = once per month, 16 = twice per month, and 32 = once per week. Section 2 of the tool asked for type of dissertation (i.e., traditional format, manuscript format, both if more than one mentee) and program (i.e., post masters, BSN to PhD, both if more than one mentee) completed by their mentees. A final item asked about their mentee's productivity in manuscript dissemination in comparison to other PhD students (i.e., more productive, about the same, less productive). Cronbach's alpha of the tool was 0.747 indicating acceptable internal consistency reliability.

To add context to the survey findings, a follow-up survey (with the same face validity process) with eight open-ended items was sent to the faculty mentors; 51 (26%) faculty mentors responded. Open-ended items queried about strategies used, messaging and types of support provided, and difficulties experienced with mentorship. Mentors also were asked to comment on any changes they needed to provide in their mentorship, what they would do differently, if there were differences seen between BSN to PhD and post masters PhD students, and what benefit they may have perceived serving as a FNS scholar mentor.

Descriptive statistics were used to analyze the respondent survey data. Mean scores were calculated based on number of times the support activity was provided to a student during the academic year, as well as support activity based on program type, dissertation type, and productivity in manuscript dissemination. Chi-square analyses were computed to compare the association between productivity in manuscript dissemination in relation to dissertation type (i.e., traditional format, manuscript format) and program type (i.e., post masters, BSN to PhD). Alpha was set at 0.05. Conventional content analysis was used to identify representative statements to further explain survey findings. No attempt was made to generate theory based on the qualitative responses.

Findings

Of 196 mentors sent the survey via Qualtrics, 96 (49%) mentors opened the survey collector, and 93 (47%) mentors provided responses to the survey items; however, not all items received a response. The respondents indicated that most FNS were matriculating in a post masters PhD program (n = 61, 65.6%) and completing a manuscript format dissertation (n = 61, 65.6%). About a third (n = 32, 34.4%) of respondents reported the FNS were more productive in manuscript

Table 1 – Description of Dissertation Format, Program Type, and Productivity in Manuscript Dissemination of Future of Nursing Scholars Being Mentored by Nursing Faculty Members

	N	%
Dissertation format		
Traditional	28	30.1
Manuscript	61	65.6
Both*	4	4.3
Program type		
Post masters	67	72.0
BSN to PhD	20	21.5
Both†	6	6.5
Productivity in manuscript dissemination		
More productive	32	34.4
About the same	48	51.6
Less productive	13	14.0

* Four respondents mentored at least one student who completed a traditional dissertation format and at least one student who completed a manuscript format dissertation.

† Six respondents mentored at least one student who matriculated as a post masters PhD student and at least one student who matriculated as a BSN to PhD student.

dissemination compared to other PhD students in their school (see Table 1). A crosstab analysis was conducted to assess productivity in manuscript dissemination in comparison to other PhD students in the same school (see Table 2). When comparing productivity in manuscript dissemination based on dissertation format (traditional vs. manuscript) and program type (post masters PhD vs. BSN to PhD), the associations between the groups were not statistically significant (χ^2 [2] = 2.150, p = .341; and χ^2 [2] = 1.751, p = .417, respectively). Additional information on student productivity can be found in "The Impact of the Robert Wood Johnson Foundation Future of Nursing Scholars Program on Scholars, Schools and Nursing Science" in this issue.

Mean scores calculated based on frequency of support activity provided to a student during the academic year were ordered by rank. The most frequent support activities provided by faculty mentors were dissertation development (mean = 18.9); emotional support (mean = 18.7); impromptu meetings (mean = 14.7); promoting a work-life-school balance (mean = 14.5); critiquing manuscripts, presentations, and grant submissions (mean = 12.2); and discussing timeline for outcomes (mean = 7.3) (see Table 3). Common strategies used by faculty mentors were scheduling regular meetings coupled with agendas. For example, one faculty mentor wrote: "The first year we scheduled monthly meetings." Mentors reported dissertation development as the leading mentoring activity, which is not surprising given that the primary outcome for successful completion of a PhD program is a dissertation. The frequency of meetings for dissertation development varied and became increasingly more frequent after the FNS passed their dissertation proposal defense.

Support activities used infrequently, if at all, were benchmarking progress to other FNS at their school or in their FNS cohort (mean = 2.2), conducting a performance evaluation (mean = 3.4), and use of an individual development plan (IDP; mean = 5.1). Representative statements from the qualitative data reflected a focus on emotional support (see Table 4). For example, one faculty mentor wrote: "I provided much emotional support. . ." Emotional support was needed recurrently when FNS struggled with self-confidence, perceived they were lagging behind other PhD students, had financial and/or healthcare issues, or were not able to meet established deadlines and/or programmatic benchmarks.

Means for support activities were compared based on program type, dissertation format, and productivity in manuscript dissemination compared to other PhD students. Students matriculating in the BSN to PhD program tended to receive more frequent support activities compared to students in the post masters PhD program. For example, BSN to PhD students compared to post masters PhD students received team mentoring (could include interdisciplinary mentors, program champions, or other mentors) about twice per month (mean = 15.2 vs. 10.9), critique of their documents (e.g., drafts of manuscripts or grant proposals) about twice per month (mean = 15.2 vs. 11.7), emotional support about 2-3 times per month (mean = 22.8 vs. 18.3), and about work-life-school balance about twice per month (mean = 18.4 vs. 13.8). Faculty (n = 7) commented in the open-ended items that BSN to PhD students had less clinical experience (n = 5) and maturity (n = 5), which could account for the need for

Table 2 – A Comparison of Faculty Mentors' Perceptions of Future of Nursing Scholars' Productivity in Manuscript Dissemination Compared to Other (Non-Future Of Nursing Scholars) PhD Students Based on Dissertation Format and Program Type

	Productivity in Manuscript Dissemination				
	More Productive	About the Same	Less Productive	χ^2	p-value
Dissertation format				2.150	.341
Traditional	25.0%	57.1%	17.9%		
Manuscript	41.0%	45.9%	13.1%		
Program type				1.751	.417
Post masters PhD	29.9%	55.2%	14.9%		
BSN to PhD	45.0%	40.0%	15.0%		

Table 3 – Use of Activities During the Academic Year by Nursing Faculty Mentors (N = 93) When Providing Mentoring to Future of Nursing Scholars

Activity	Mean §	Frequency Distribution					
		Once per Week	Twice per Month	Once per Month	Once per Semester	Once per Academic Year	Not Used
Dissertation development*	18.9	37	15	34	3	0	1
Emotional support*	18.7	39	12	29	5	2	3
Impromptu meetings†	14.7	23	17	34	8	0	6
Work-life-school balance*	14.5	24	16	32	11	3	4
Critiquing manuscripts, presentations, and grant submissions†	12.2	15	14	42	16	1	0
Team mentoring*	11.8	21	13	19	14	4	19
Discuss timeline for outcomes (e.g., qualifying exams, dissertation)*	7.3	3	9	45	32	1	0
Career planning‡	5.8	2	11	23	40	11	2
Individual development plan*	5.1	6	3	15	43	14	9
Performance evaluation‡	3.4	3	5	4	39	17	21
Benchmarking progress to other Future of Nursing Scholars‖	2.2	2	2	7	15	14	49

* Data missing for 3 cases.
† data missing for 5 cases.
‡ data missing for 4 cases.
§ Means were calculated based on number of times the support activity was provided to a student during the academic year.

greater mentoring support (see Table 4). For example, one mentor wrote: "BSN to PhD mentees who enter the program immediately or within 1 year of BSN graduation lack the clinical background in nursing and have more difficulty developing meaningful research questions."

PhD students completing a manuscript format dissertation received greater frequency of support activities compared to students completing a traditional format dissertation except for emotional support and work-life-school balance. Students in general with greater productivity in manuscript dissemination were noted to have more frequent team mentoring (mean = 13.9, approximately twice per month), critique of manuscripts, presentations, and grant submissions (mean = 14.1, approximately twice per month), and feedback on dissertation development (mean = 21.2, approximately twice per month). Students in general with less productivity in manuscript dissemination received the most frequent emotional support (mean = 21.1, approximately twice per month).

From the qualitative analysis, the faculty mentors reported providing messages assuring the FNS they were "on the right track" and setting "expectations for success" (see Table 4). Mentoring of FNS was perceived by 15 faculty mentors to be more frequent and expedient than the mentoring provided to non-FNS PhD students. For example, a faculty mentor wrote: "Other PhD students had to wait a couple of weeks for chapter feedback," whereas the FNS received expedited feedback.

Faculty mentors (n = 13) experienced difficulties in mentorship of FNS that were similarly experienced by their other PhD students. Examples of these difficulties related to FNS' need for emotional support and their inability to understand their evolving role as a nurse scientist. Their focus on tasks (while valid, especially during an accelerated program) sometimes seemed to re-direct the FNS from the larger objective of becoming a nurse scientist. Some of the strategies faculty mentors recommended included having clear expectations for mentees (n = 7) and selecting mentee-mentor matches based on similar research interests (n = 2). A strategy mentioned in 13 responses was conducting a secondary analysis of mentor's data. One mentor responded to what could be done differently is to "make sure they are doing a secondary analysis" to assure that they can complete the program within 3 years. However, not all mentors responded positively to students conducting a secondary analysis: "We have to also be honest with them about the gaps in research experience they inevitably have as the result of doing a secondary analysis for their dissertations."

Finally, although 17 faculty mentors reported that providing FNS mentorship could be burdensome (e.g., time and effort required), faculty mentors also reported personal benefits by serving as a FNS faculty mentor. For example, during the summer institutes faculty mentors (n = 7) increased their network with other nurse scientists across the country and learned mentoring strategies to use with other students. One

Table 4 – Representative Statements Provided by Faculty Mentors About Their Experiences With Mentoring Future of Nursing Scholars

Question Category	Representative Statements
Strategies used	The first year we scheduled monthly meetings. Then as the mentee approached her preliminary exams and developing her dissertation proposal, we would have weekly meetings. The mentee was in charge of setting the agenda—I would add to it as needed.
	We have a plan for the entire 3 years, with timeline, that is guided by expected benchmarks in our program (i.e., pilot study, research practicum, manuscript submission, prelims, etc.) that helps for the mentee to see the whole process and not worry about other students who "are doing more than she is" or that she had to accomplish everything in one semester. Of course, we made adjustments along the way. The proactive meetings and schedule seemed to help move her along.
Messages provided	I repeatedly told my mentee that this was her dissertation and that I wanted her to follow her research passion. I also constantly reminded her that she was on the right track—that things were following her timeline.
	I routinely provided my mentee with encouragement and information about the opportunities for PhD prepared nurses. In retrospect, I should have held my mentee more accountable for commitments. They had a number of personal issues arise during the program and did not contribute much to the research lab.
	Expectations for success, encouragement, confidence in ability to succeed, availability of resources and support. I'm not sure I would have done anything differently—program was very successful.
Support provided	I provided much emotional support and extensive assistance with the dissertations to enable completion of the PhD within 3 years. One student conducted a secondary analysis of my data from an NIH-funded study. My university provided assistance from the Writing Center, library resources, computer resources, statistical consultation, conference support, and many programs relevant to career and research development. Faculty were also very available to meet with [Future of Nursing Scholars'] mentees for assistance with course content and assignments.
	The challenges experienced by this mentee were life challenges and financial. The school provides a clinical psychologist who is fully dedicated to students, and the PhD program supports PhD meet-ups that are well attended and do not include faculty. For financial challenges, I directed her to apply for two sources of funding and assisted with the application preparations; this resulted in $13,000 on top of the RWJF funding. $10,000 was student loan repayment; $3,000 was dissertation research support.
Mentoring differences	It was much more intense and frequent due to the expectation of the mentee finishing in 3 years. I often had to push my own commitments (professional and family) aside to provide feedback on dissertation chapters within days to facilitate dissertation progress. Other PhD students had to wait a couple of weeks for chapter feedback.
	Yes. I think that [Future of Nursing Scholars] actually got more mentoring and more attention from me than my other students. In retrospect, this probably wasn't the right thing or the appropriate thing to do, but I wanted to make sure that my [Future of Nursing Scholars] was successful and met the timeline requirements to finish the PhD.

(*continued*)

Table 4 – (*Continued*)

Question Category	Representative Statements
	The main difference was the support and mentoring to prepare the student for the [Future of Nursing Scholars'] meetings. We also reviewed the content from the [Future of Nursing Scholars'] webinars.
Difficulties encountered	My one mentee was emotionally fragile at times, and I tried to be supportive and understanding. However, there were times, that when I provided feedback and encouraged her to enhance the quality of her work, she would personalize this. At one point, she reported that she thought I was angry with her when I was more worried about the pace and quality of the work.
	I found that the [Future of Nursing Scholars] mentee seemed to be more focused on program tasks and less focused on learning skills, getting experiences, and the big pictures.
	Sometimes she wanted to take on too much. So, we reviewed "the plan" and I would ask where that fit and how that would build skills she would use in her post PhD career. After a time, she got very good at figuring out what to pass on and what to take on.
Differences in mentoring BSN to PhD and post masters PhD students	The maturity of the MSN to PhD students makes them more productive and faster learners than the BSN to PhD students. They need a bit less time than the BSN [to PhD] students.
	BSN to PhD mentees who enter the program immediately or within 1 year of BSN graduation lack the clinical background in nursing and have more difficulty developing meaningful research questions.
	The younger BSN to PhD students seem to lack resilience needed to survive the rigors of a quality PhD education—they need extra [tender loving care and] extra attention to let them know that they are doing okay and that any growth is difficult. It's okay to have those imposter feelings early on. They mature very quickly given the right (and safe) environment.
Future changes in mentoring	Establish clear expectations between mentee and mentor about monitoring progress through each term (semester) and from term to term. I would work with the student to develop a plan to monitor academic progress and address academic challenges, beginning in the first term of the program.
	I would definitely find an alignment between PhD students who have a focus coming into the program with a researcher who already has acquired data so they can connect early on a feasible project and plan to have additional research immersion activities during their program, as well as discuss postdoctoral plans to strengthen skills and work toward an independent program of research.
	Honestly, I think 3 years is really too fast. Forces students to do a secondary data analysis or a cross-sectional study.
Returns on investment	My own time management skills improved, because I was on a tight timeline for the students' dissertations. The annual mentor/mentee meetings were beneficial in many ways: the informative content, the opportunity for mentees to receive feedback from other mentors, and the opportunities to share ideas with other mentors.
	The group experiences across the [Future of Nursing Scholars] program were exceptional and supportive. Connected me across the country with colleagues. The individual mentees were outstanding and challenged me to be a better mentor.
	I learned strategies to use with other students.

of the faculty mentors wrote: "The annual mentor/mentee meetings were beneficial in many ways: the informative content, the opportunity for mentees to receive feedback from other mentors, and the opportunities to share ideas with other mentors." Five faculty mentors also increased their publication counts and improved their own time management skills when supporting multiple students. Another faculty mentor addressed both manuscript dissemination and ongoing collaboration with the FNS mentee: "Personal satisfaction; a research team member (even after graduation); publications together; a professional legacy."

Discussion

This study aimed to describe the experience of faculty mentoring in the RWJF Future of Nursing Scholars program, a 3-year accelerated PhD program, including the types of student support, time commitment, student productivity in manuscript vs. traditional format, and challenges and opportunities for supporting students. Three key themes flow from our findings: (a) mentors use several strategies to support their scholars, (b) mentors found both challenges and opportunities related to scholar needs and program offerings, and (c) traditional perspectives on accelerated programs and type of study remain, yielding contemporary controversies (e.g., secondary analysis for dissertation, students aligning research to faculty mentor, accelerated 3-year PhD program).

Mentors Use Several Strategies to Support Their Scholars

The strategies used by FNS mentors appear similar to those used by mentors in other programs. For example, the faculty mentors for the RWJF Nurse Faculty Scholars program reported using formal mentoring sessions, scholar self-analysis, IDPs, research support, networking, and formal institutional support (Campbell et al., 2017). Although Campbell et al.'s (2017) strategies were in the context of early career nurse faculty, the strategies also are relevant for PhD students reflecting the intensity or expectations of scholars in training. But the strategies may need to be leveled based on the student's stage of development.

As noted by the FNS faculty mentors, they provided extensive emotional support with 43% (n = 39) of faculty mentors providing emotional support at least once per week. When Szen-Ziemiańska (2020) queried doctoral students from psychology, sociology, cultural studies, and law about 19 areas of support they accessed in a mentoring program, emotional support was the leading strategy they requested. Some topics, such as stress and stress management, could be addressed through peer mentoring by other students who have undergone and overcome similar experiences. For example, one school of nursing implemented a Partnership for Development program with PhD students (Lewinski et al., 2017). In this program, clusters of students and faculty met for scheduled mentoring sessions. Peer mentoring was a key aspect and PhD students could discuss any topic they wanted; agendas were not required. Lewinski et al. (2017) also found that students were able to gain information on preparing for preliminary examinations, developing their research focus, study skills and strategies, time-management, and tips for successful grant writing. All of these topics are sources of stress for PhD students, which could be efficiently mitigated by PhD student peers while reducing the burden needed by faculty mentors.

IDPs are a noted activity to promote success of scholars in training (Campbell et al., 2017; Gillespie et al., 2018; Thompson et al., 2020). Campbell et al. (2017) recommended IDPs to formulate specific scholar goals as well as provide a tool to track scholar progress towards attaining goals. FNS faculty mentors reviewed their mentees IDP once a semester. Many of the struggles identified by the faculty mentors (e.g., lack of focus around a single research focus area, scholarly writing, managing multiple timelines, focus on completing tasks vs. learning research skills) may have been ameliorated through the use of an IDP developed collaboratively by the FNS and faculty mentor. Components that can be included in an IDP are trainee skills (e.g., scientific knowledge, research skills, responsible conduct of research, career planning), PhD program goals (e.g., approval of program of study, dissertation committee formation, proposal approval), training program specific goals (i.e., coursework), trainee goals and strategic plan to achieve, plan for responsible conduct of research (e.g., conflict of interest, peer review, responsible authorship), and outcomes/products planned (e.g., grants, manuscripts, presentations) (Thompson et al., 2020). Within the IDP and periodic assessment, the faculty mentor can discuss accountability and timeline for IDP goal completion (Thompson et al., 2020). The greater the specificity in the IDP, the greater the clarity will be for the focus of scholar mentoring (McBride et al., 2017).

Mentors Found Both Challenges and Opportunities Related to Scholar Needs and Program Offerings

One of the challenges noted by FNS mentors was intensive time commitment. Time is an important consideration for mentoring (Anderson et al., 2019). As noted in Table 3, frequent meetings were held between scholar and faculty mentors. Faculty mentors believed it was important to be available for impromptu meetings with the FNS because of the accelerated schedule; however, these meetings require faculty mentor time, which may be constrained by other teaching, scholarship, and service responsibilities. In addition, although not noted in the interview text, providing focused attention to an FNS could potentially have had a deleterious impact to other students (e.g., delayed

feedback). McBride et al. (2017) recommend the use of mentoring teams to divide the workload of mentoring as well as providing scholars another person to seek support from when they are not able to go to their primary mentor.

Time commitment also may be influenced by faculty experience, availability for mentoring, and ability to incorporate FNS into research teams. Similar to Swanson et al. (2017) and Anderson et al. (2019), several FNS faculty mentors recommended careful matching of mentors to mentees by research focus area. When they had the same research focus, the faculty mentor spent less time learning a new body of science. In contrast, some PhD programs intentionally admit and provide mentoring to PhD students even when there is not a match in research focus area (Bova et al., 2018). Bova et al. (2018) acknowledged that this approach requires greater focus on mentoring students on the process for personal inquiry, which admittedly requires faculty mentors to consider the time needed to learn new scientific areas and coordinate the dissertation with external content experts. Integration of FNS students into faculty research teams is another strategy that can reduce the faculty mentoring burden. This strategy requires students to align their dissertation to the faculty mentor's research. Students aligning their research are more likely to graduate in a shorter time than students without alignment (Vance et al., 2020).

Faculty mentors described benefits of serving as a FNS faculty mentor. These benefits were similar to those reported by McBride et al. (2017) and Swanson et al. (2017). Specifically, faculty mentors learned from each other during the annual program meetings. They also had the opportunity to learn about new content areas and methods while viewing the presentations of other FNS. From the beginning, the FNS program anticipated mentoring of the mentors through summer institute engagement and participation in program webinars.

Traditional Perspectives On Accelerated Programs and Type of Study Still Remain Yielding Contemporary Controversies

Data analysis also uncovered issues such as de-valuing of the traditional dissertation format, questions about the value of secondary data analysis for PhD students, and skepticism related to the BSN to PhD student's lack of clinical experience affecting choice of research topic. A somewhat controversial topic is whether PhD students should have an option to complete a manuscript format vs. traditional format dissertation. This topic was discussed at the 2021 American Association of Colleges of Nursing's PhD Pre-Conference. While most PhD programs offer a choice on dissertation format (Graves et al., 2018), few programs require the manuscript format dissertation. Some types of research may not benefit from this format (e.g., historical research or ethnography). Although not found in our study, Smaldone et al.'s (2019) retrospective cohort study found that students using a manuscript format dissertation published more articles and in a shorter time frame than students using a traditional format dissertation. One recommendation is to discuss with students the pros and cons of each dissertation type and how well the dissertation type matches the study design or research questions.

Completing an accelerated 3-year PhD program of study requires additional resources including increased faculty time for mentoring. One strategy proposed to facilitate an accelerated timeline is conducting a dissertation using a secondary analysis design. Although many nurse scientists are using secondary data sets (e.g., Medicare data sets, census data sets), their use in PhD education remains controversial with some faculty in schools of nursing. In our findings, some comments implied that secondary analyses are less scholarly than other research designs. However, a study design alone does not denote the study merits; a poorly implemented and underpowered randomized controlled study would have less merits than a well-executed and adequately powered secondary analysis. Examples of studies using secondary analyses making an impact to nursing include publications focused on nursing care quality and adverse events (Lucero et al., 2010), nurse outcomes in Magnet and non-Magnet hospitals (Kelly et al., 2011), shift length and patient safety (Stimpfel & Aiken, 2013), and work environment and patient mortality (Olds et al., 2017). An example of a rigorous secondary analysis performed by a FNS scholar was reported by Anusiewicz et al. (2021) who examined the reliability and validity of the Short Negative Acts Questionnaire with data from the Alabama Hospital Staff Nurse Study. It is important to note that aside from the discussion on the rigor of a secondary analysis design, faculty mentors need to consider the gap in skills that a student may experience. For example, students completing a secondary analysis would not garner experience in securing performance sites, recruiting and enrolling participants, executing the informed consent process with participants, and collecting and entering data into a database. For these students, additional research opportunities as a research assistant may need to be provided prior to graduation.

A third controversy is whether to admit students into the BSN to PhD program without clinical experience. This skepticism expressed by several of our faculty mentors was similarly expressed by a panelist in Xu et al.'s (2018) study: "the takeaway message always seems to be the same: that I cannot know what older nurses with extensive clinical experience know, and therefore my value to nursing science is very limited" (p. 5). Nurse scientists in a PhD roundtable discussed the innovation of the 3-year, accelerated PhD program and the untoward consequence of students without clinical experience having less developed research questions. Students without clinical experience also may have limited career prospects in comparison to those with clinical experience (Mentes & Phillips, 2020; Xu et al., 2018), although data from the FNS program (see "The Robert Wood

Johnson Foundation's Future of Nursing Scholars Program: An Evaluation of Its Impact" in this issue) does not support their findings. Faculty mentors along with formal mentoring programs can have purposeful discussions on career goals with students and how the students can market their research skills to overcome the clinical deficit. Schemas for BSN to PhD programs also may consider adding clinical residency programs and assigning a clinical mentor to the research/dissertation mentoring team (Giordano et al., 2021; Xu et al., 2018).

Limitations

Several survey respondents provided input based on their experiences with multiple scholars, thus we do not know how their data affected the quantitative responses. For example, faculty mentors may have provided a response that incorporated the average experience for all scholars mentored or the single scholar that was most memorable at the time of survey completion. Some faculty mentors may have responded based on a single student from an early cohort, which may lead to recall bias. In addition, response rates from faculty mentors were low: 47% (n = 93) completed the quantitative survey and 26% (n = 51) provided qualitative responses. We also do not know if any faculty mentors terminated their mentoring obligation (e.g., retirement, transition to other university) to be replaced by an alternative faculty mentor who was unknown to us at the time of the survey. Students did not always tell us when they changed mentor, so there may have been a pool of people who mentored and who did not get a survey, and those who no longer mentored did not complete the survey. These limitations may minimize the generalizability of the program evaluation findings.

Conclusion

Completing a PhD program in 3 years requires increased use of faculty resources including intensive faculty mentor time. However, as the FNS program has shown, this timeline is achievable if a number of mentorship factors are in place: committed mentors, shared research interests, structured plans (use of IDPs), and identification and provision of emotional support. Mentors in this study commonly used these strategies to assure timely completion and success of the program scholars. Study findings suggest that future changes to PhD programs including alignment of student and faculty research and support for and valuing of secondary analyses studies should be considered in order to reduce the time from program entry to graduation, although some scholars collected their own data and completed a 3-year PhD (see "The Robert Wood Johnson Foundation Future of Nursing Scholars Program: The Scholar Experience" in this issue). Further research is warranted to determine if the mentorship needed for accelerated PhD students has an impact on post-graduation outcomes such as appointment as a postdoctoral fellow or tenure track assistant professor, years until first National Institutes of Health R01, R21, or R03 notice of award, and other benchmarks.

Credit Statement

Dr. Gillespie was responsible for conceptualization, methodology, validation, formal analysis, data curation, writing – original draft, writing – review and editing, visualization, and project administration.

Dr. Vallerand was responsible for conceptualization, methodology, validation, formal analysis, writing – original draft, writing – review and editing, and project administration.

Dr. Fairman was responsible for conceptualization, methodology, software, validation, formal analysis, investigation, writing – original draft, writing – review and editing, visualization, and funding acquisition.

REFERENCES

American Association of Colleges of Nursing. (2021). *Latest data on diversity*. Retrieved from https://www.aacnnursing.org/Diversity-Inclusion/Latest-Data. Accessed April 29, 2021.

Anderson, K. M., McLaughlin, M. K., Crowell, N. A., Fall-Dickson, J. M., White, K. A., Heitzler, E. T., Kesten, K. S., & Yearwood, E. L. (2019). Mentoring students engaging in scholarly projects and dissertations in doctoral nursing programs. *Nursing Outlook, 67*, 776–788, doi:10.1016/j.outlook.2019.06.021.

Anusiewicz, C. V., Li, P., & Patrician, P. A. (2021). Measuring workplace bullying in a U.S. nursing population with the Short Negative Acts Questionnaire. *Research in Nursing & Health, 44*, 319–328, doi:10.1002/nur.22117.

Bova, C., Perry, D. J., Kane, A. T., Morris, N. S., & Fain, J. (2018). Expanding horizons: Lonergan's philosophy as a guide to PhD program pedagogy. *Nursing Outlook, 66*, 77–83, doi:10.1016/j.outlook.2017.07.003.

Broome, M. E., & Fairman, J. (2018). Editorial: Changing the conversation about doctoral education in nursing. *Nursing Outlook, 66*, 217–218, doi:10.1016/j.outlook.2018.04.011.

Broome, M. E., Villarruel, A. M., & Thompson, H. J. (2021). Innovations in Ph.D. Education to prepare nurse scientists for the future. *Journal of Professional Nursing, 37*, 212–215, doi:10.1016/j.profnurs.2020.09.013.

Campbell, J., Ladden, M. D., McBride, A. B., Cimino, A., Kostas-Polston, E., & Deming, K. (2017). Overview of the robert wood johnson foundation nurse faculty scholars program. *Nursing Outlook, 65*, 254–264, doi:10.1016/j.outlook.2016.12.008.

Carter, E. J., Montalvo, W., Hicks, A., Liu, J., & Cato, K. D. (2020). The Jonas Scholars Program—Evaluation of a decade-long program to advance doctoral-prepared nurses. *Nursing Outlook, 68*, 365–370, doi:10.1016/j.outlook.2020.01.003.

Gillespie, G. L., Gakumo, C. A., Von Ah, D., Pesut, D. J., Gonzalez-Guarda, R. M., & Thomas, T. (2018). A summative evaluation of productivity and accomplishments of robert wood johnson foundation nurse faculty scholars program participants. *Journal of Professional Nursing, 34*(4), 289–295, doi:10.1016/j.profnurs.2017.11.001.

Giordano, N. A., Compton, P., Joseph, P. V., Romano, C. A., Piano, M. R., & Naylor, M. D. (2021). Opportunities and challenges presented by recent pedagogical innovations in doctoral nursing education. *Journal of Professional Nursing, 37*(1), 228–234, doi:10.1016/j.profnurs.2020.09.003.

Graves, J. M., Postma, J., Katz, J. R., Kehoe, L., Swalling, E., & Barbosa-Leiker, C. (2018). A national survey examining manuscript dissertation formats among nursing PhD programs in the United States. *Journal of Nursing Scholarship, 50*(3), 314–323, doi:10.1111/jnu.12374.

Heaton, K., & Weaver, T. E. (2021). Innovative approaches to PhD in nursing curricula: What is lost and what is gained? *Journal of Professional Nursing, 37*(1), 1–4, doi:10.1016/j.profnurs.2020.11.001.

Hodgson, N. A., Ladden, M., Madigan, E., Mishan, A., & Montalvo, W. (2021). Emerging roles for research intensive Ph.D. prepared nurses as leaders and innovators: Views from funders/sponsors. *Journal of Professional Nursing, 37*, 207–211, doi:10.1016/j.profnurs.2020.10.003.

Kelly, L. A., McHugh, M. D., & Aiken, L. H. (2011). Nurse outcomes in Magnet(R) and non-magnet hospitals. *Journal of Nursing Administration, 41*(10), 428–433, doi:10.1097/NNA.0b013e31822eddbc.

Lewinski, A. A., Mann, T., Flores, T., Vance, A., Bettger, J. P., & Hirschey, R. (2017). Partnership for development: A peer mentorship model for PhD students. *Journal of Professional Nursing, 33*, 363–369, doi:10.1016/j.profnurs.2017.03.004.

Lucero, R. J., Lake, E. T., & Aiken, L. H. (2010). Nursing care quality and adverse events in US hospitals. *Journal of Clinical Nursing, 19*(15-16), 2185–2195, doi:10.1111/j.1365-2702.2010.03250.x.

McBride, A. B., Campbell, J., Woods, N. F., & Manson, S. M. (2017). Building a mentoring network. *Nursing Outlook, 65*, 305–314, doi:10.1016/j.outlook.2016.12.011.

McSweeney, J., Weglicki, L. S., Munro, C., Hickman, R., & Pickler, R. (2020). Preparing nurse scientists: Challenges and solutions. *Nursing Outlook, 69*(6), 414–418, doi:10.1097/NNR.0000000000000471.

Mentes, J. C., & Phillips, L. R. (2020). Seizing opportunity: Diverse early-entry nursing students' perceptions of seeking a PhD. *Nursing Outlook*, doi:10.1016/j.outlook.2020.11.008 in press.

Olds, D. M., Aiken, L. H., Cimiotti, J. P., & Lake, E. T. (2017). Association of nurse work environment and safety climate on patient mortality: A cross-sectional study. *International Journal of Nursing Studies, 74*, 155–161, doi:10.1016/j.ijnurstu.2017.06.004.

Redeker, N. S. (2021). Fortifying the pipeline of nurse scientists to assure the nation's health: A "career-span" approach. *Nursing Outlook, 69*, 246–248, doi:10.1016/j.outlook.2021.02.005.

Rita and Alex Hillman Foundation. (n.d.). *Hillman scholars in nursing innovation: Key program components*. Retrieved from https://hillmanscholars.org/key-program-components/. Accessed January 17, 2023.

Smaldone, A., Heitkemper, E., Jackman, K., Woo, K. J., & Kelson, J. (2019). Dissemination of PhD dissertation research by dissertation format: A retrospective cohort study. *Journal of Nursing Scholarship, 51*(5), 599–607, doi:10.1111/jnu.12504.

Stimpfel, A. W., & Aiken, L. H. (2013). Hospital staff nurses' shift length associated with safe and quality of care. *Journal of Nursing Care Quality, 28*(2), 122–129, doi:10.1097/NCQ.0b013e3182725f09.

Swanson, K. M., Larson, E. L., & Malone, B. (2017). Mentors' perspectives on supporting nurse faculty scholars. *Nursing Outlook, 65*, 315–323, doi:10.1016/j.outlook.2017.01.006.

Szen-Ziemiańska, J. (2020). Facilitating a mentoring programme for doctoral students: Insights from evidence-based practice. *International Journal of Doctoral Studies, 15*, 415–431, doi:10.28945/4594.

Thompson, H. J., Santacroce, S. J., Pickler, R. H., Allen, J. K., Armer, J. M., Bakken, S., Bowles, K. H., Conley, Y. P., Dunbar, S. A., Ellington, L., Grey, M., Heitkemper, M. M., Herr, K. A., Lake, E., McCarthy, A. M., Melnyk, B., Miaskowski, C. A., Moore, S. M., Naylor, M. D., & Weiss, S. J. (2020). Use of individual development plans for nurse scientist training. *Nursing Outlook, 68*, 284–292, doi:10.1016/j.outlook.2020.01.001.

Vance, D. E., Heaton, K., Antia, L., Frank, J., Moneyham, L., Harper, D., & Meneses, K. (2020). Alignment of a PhD program in nursing with the AACN report on the research-focused doctorate in nursing: A descriptive analysis. *Journal of Professional Nursing, 36*, 604–610, doi:10.1016/j.profnurs.2020.08.011.

Xu, J., Francis, L., Dine, J., & Thomas, T. H. (2018). Unique experiences of direct entry BSN/BS-PhD nursing students: A Delphi study. *Nurse Education Today, 69*, 30–34, doi:10.1016/j.nedt.2018.06.024.