

## The Robert Wood Johnson Foundation Future of Nursing Scholars program: The scholar experience

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### ABSTRACT

**Background:** Robert Wood Johnson Foundation Future of Nursing Scholars program used multi-pronged approach to support nurses completing accelerated PhD programs.

**Purpose:** The purpose of this manuscript was to describe scholars' experiences completing PhDs, their dissertation characteristics, program leadership development sessions, scholar perceptions of program components.

**Methods:** Of 201 scholars, 157 (78%) completed quantitative exit surveys, providing: satisfaction with doctoral programs and FNS curricula, types of dissertation data used, dissertation formats. Interviews held with five scholars to capture representative themes.

**Findings:** Scholars utilized primary and secondary data for dissertations; 53% primarily used secondary data. The majority (68%) used manuscript dissertation formats. Approximately 64% completely agreed program curricula helped prepare them for professional transitions, to work collaboratively, lead confidently. Proportion of FNS graduates (42%) pursuing postdoctoral positions exceeded national trends.

**Discussion:** Despite stresses posed by accelerated PhD programs, scholars are well-situated to advance nursing science. Findings suggest secondary data analyses work well for accelerated programs. Scholar program experiences were positive.

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## Background

The Robert Wood Johnson Foundation (RWJF) *Future of Nursing Scholars* program (FNS program) was launched in 2013 to create a diverse cadre of PhD prepared nurses who are committed to a long-term leadership career; advancing science and discovery through research; strengthening nursing education; and furthering transformational change in nursing and health care. The development of the program was in direct response to a 2011 report from the Institute of Medicine (IOM), now the National Academy of Medicine, titled, “The Future of Nursing: Leading Change, Advancing Health.” The report highlighted the importance of and recommendation to double the number of nurses with a doctorate degree (Institute of Medicine, 2010). This recommendation was intended to increase the number of doctorally-prepared nurse faculty members, thus generating a long-term upstream solution to address the shortage of bachelor’s-prepared nurses in clinical practice. This was especially important then and now as tens of thousands of qualified student applicants are turned away annually from schools of nursing due to limited availability of nurse educators and classroom space (Aiken, Cheung, & Olds, 2009; American Association of Colleges of Nursing, 2022). Despite this recommendation from the IOM, potential nurse scholars face numerous barriers to pursuing doctoral education (Fang & Zhan, 2021; Graner & Ayoola, 2021). Innovative programmatic solutions are urgently needed to ensure that the nation will have an adequate number of PhD prepared nurse scholars capable of advancing the future of nursing science and available to train future clinicians. The FNS program is not the only philanthropically funded nursing scholars’ program. Table 1 demonstrates some of the key similarities and differences between the FNS program, the Hillman Scholars Program for Nursing Innovation, the Jonas Scholars Program, the Betty Irene Moore Nursing Initiative, the Patricia L. Starck Accelerated PhD Scholars Program, and the Macy Faculty Scholars Program (Carter, et al. 2020; Fontaine & Dracup, 2007; Greene, et al. 2017; Starck, 2015; The Jonas Center for Nursing Excellence, 2011; <https://hillmanscholars.org/key-program-components>; <https://macyfoundation.org/macy-scholars>).

The RWJF FNS program was launched in 2015. As detailed by Kelley, et al. in “The Robert Wood Johnson Foundation Future of Nursing Scholars Program: An Overview,” (in this issue) the program took an innovative multi-pronged approach to develop and support beginning nurse scientists and leaders as they completed PhDs in three years. Scholars were engaged in a Leadership Development Plan (LDP) which featured a variety of webinars, “ask the experts” calls, and three in-person events: an introductory boot camp and two summer institutes, focusing on science and policy and science and innovation, respectively (see Kelley, et al. in this issue). The webinars and calls included sessions

on academic writing and publishing, data analysis, career planning, grant writing, mentoring, and stress management, among other topics. Summer institutes included sessions on how research can be used to inform policymakers, best practices for communication, statistical workshops, and more.

The national program brought together over 40 academic institutions to implement and streamline PhD plans of study in addition to providing substantial financial, leadership, and career development support. In addition to the financial mechanism (\$75,000 over 3 years from the program, matched with at least \$50,000 by the scholars’ school), each scholar also had access to a national network of mentors, programming designed to support their doctoral program trajectories, and one-on-one direct support from program leaders.

This paper describes the scholars’ individual experiences completing their PhDs during this program, as well as characteristics of their dissertations, and their perceptions of the FNS program components (Figure 1 and Table 4).

## Methods

Following the successful defense of their dissertations, the scholars were asked to complete an exit program evaluation survey emailed to them via SurveyMonkey. This survey addressed several areas including the type of research (primary or secondary data collection) they conducted, the type of dissertations they completed (five chapters vs. manuscript formats), level and type of support from their mentors, and their experiences with the FNS program, including their assessments of the leadership development activities provided. A total of 159/201 (79%) scholars participated in exit surveys. One hundred and fifty-five scholars (77%) completed all survey items and were included in this analysis.

Finally, individual qualitative descriptive interviews were conducted with a select group of five scholars, chosen to highlight specific demographics and programs, to elucidate themes about the impact of the program, career plans, and beliefs about accelerated nursing PhD programs. A purposeful sampling approach was utilized to identify scholars for the interviews. The individual interviewees were chosen to represent a broad array of scholar attributes and were selected by the Nation Program Office to represent different perspectives based on their unique characteristics, such as entry into a postdoctoral program and post-baccalaureate preparation. Scholar 1 completed a BSN to PhD trajectory and following her defense spent the next two years in clinical practice, going on to a postdoctoral position. Scholar 2 was selected as an exemplar of one of the FNS-only funded postdoctoral fellows. Scholar 3 was co-funded for a post-doc by the National Institute of Nursing Research and FNS in a shared arrangement. Scholar 4 developed a new care company. A health system employer funded Scholar 5.

**Table 1 – Philanthropically-Funded Nursing Scholars Programs.**

Scholar Program	Similarities to FNS	Differences from FNS	Funding
Hillman Scholars Program for Nursing Innovation	<ul style="list-style-type: none"> <li>• Students complete PhDs in 3 years.</li> <li>• Students receive structured mentoring with a focus on research.</li> </ul>	<ul style="list-style-type: none"> <li>• Hillman program exists at three schools (University of Pennsylvania, University of North Carolina, and University of Michigan). FNS was a national program.</li> <li>• All students are BSN-PhD students. Some FNS students were BSN-PhD students, but this wasn't a requirement.</li> <li>• Students at each school apply for the Hillman program. For FNS, schools applied to the program and once selected, chose their participating scholars.</li> </ul>	<ul style="list-style-type: none"> <li>• Supported by the Rita and Alex Hillman Foundation.</li> <li>• Scholar stipend is based on the federal T32 stipend amount.</li> </ul>
Jonas Scholars Program	<ul style="list-style-type: none"> <li>• Program supports doctoral nursing students.</li> <li>• Students receive financial support from the program.</li> <li>• Students participate in leadership development activities.</li> </ul>	<ul style="list-style-type: none"> <li>• Jonas Scholars may be enrolled in PhD, DNP, DNSc, or EdD programs while FNS Scholars were only enrolled in PhD programs.</li> </ul>	<ul style="list-style-type: none"> <li>• Supported by Jonas Nursing and Veterans Healthcare.</li> <li>• Scholars received \$10,000.</li> </ul>
Betty Irene Moore Nursing Initiative	<ul style="list-style-type: none"> <li>• Program supported nurses to complete 3-year accelerated PhD programs.</li> <li>• Program provided leadership development support for scholars and mentors.</li> </ul>	<ul style="list-style-type: none"> <li>• The Moore fellows all attended one school: the University of California San Francisco.</li> <li>• The fellows were required to commit to teaching for three years in a nursing program after graduation.</li> </ul>	<ul style="list-style-type: none"> <li>• Supported by the Gordon and Betty Moore Foundation.</li> <li>• Scholars received \$60,000 stipends every year for three years.</li> </ul>
Patricia L. Starck Accelerated PhD Scholars Program	<ul style="list-style-type: none"> <li>• Program supported nurses to complete three-year accelerated PhD program.</li> </ul>	<ul style="list-style-type: none"> <li>• This program was created by the University of Texas Health Science Center (UTHSC) School of Nursing and all participating scholars are enrolled there.</li> <li>• The scholars were required to stay and teach for 3 years following graduation.</li> </ul>	<ul style="list-style-type: none"> <li>• The UTHSC School of Nursing fundraised to support the program.</li> <li>• Scholars receive \$60,000 stipends every year for 3 years.</li> <li>• Faculty mentors receive \$5,000 per year.</li> </ul>
Macy Faculty Scholars Program	<ul style="list-style-type: none"> <li>• Program provides leadership development activities for nurses.</li> </ul>	<ul style="list-style-type: none"> <li>• This program does not support PhD students, but rather supports five faculty members from nursing and medicine each year.</li> <li>• Participants implement an education project at their home institution.</li> </ul>	<ul style="list-style-type: none"> <li>• Supported by the Josiah Macy, Jr. Foundation.</li> <li>• Scholars receive salary support up to \$100,000 per year for two years.</li> </ul>

Descriptive statistical approaches were utilized to summarize the survey responses (e.g., means, frequencies). A summative content analysis approach (Hsieh & Shannon, 2005) was utilized to identify and quantify frequently occurring themes from the individual interviews. Representative quotes to capture these thematic findings are included.

## Findings

Sixteen of the 218 scholars withdrew from their PhD program, resulting in an attrition rate of 7.3%. Sadly, one scholar died before completing her degree. Of the 201 remaining scholars, 68% ( $n = 137$ ) graduated within

**Table 2 – FNS Scholar Attrition and Graduation Rates. Source: FNS Program Records.**

	Number of Scholars
Withdrew	16
Graduated Within Three-Year Deadline	137
Graduated Beyond Three-Year Deadline	44
	16 from Cohort 4
	10 from Cohort 5
Still Enrolled in PhD Program (as of May 1, 2022)	20
Deceased	1
Total	218

the 3-year deadline. Graduation rates among the FNS scholars slowed due to the Covid-19 pandemic as not all scholars were able to stay on track with their research due to restrictions. As of May 1, 2022, 90% (n = 181) of scholars have defended their dissertations. Since the Covid-19 pandemic had graduation implications for Cohorts 4 and 5, these cohorts all had an additional 3 months added to their “on time” clock. Still, some scholars were further delayed with their research and IRB approval processes due to Covid restrictions. As noted below, almost 60% of those who have defended (but beyond the deadline) were from Cohorts 4 and 5, the two cohorts effected by the pandemic.

**Types of Dissertation Research and Format**

Dissertation research approaches varied across scholars. Of the 157 scholars who completed the exit survey and provided information about their data. Seventy-five scholars (48%) conducted primary data collection for their dissertation. Eighty-two scholars (52%) utilized existing secondary data sources. Of those who collected primary data, 22 (29%) collected quantitative data and 17 (23%) pursued qualitative data collection. Eighteen scholars (24%) collected both quantitative and qualitative data. Eighteen scholars (24%) collected both primary data while also completing a secondary data analysis. Among the 82 scholars (52%) conducting secondary data analyses, 51 (62%) utilized publicly available data repositories and 31 (37%) utilized data available to them from their faculty mentors. Several nurse scientists have supported the use of secondary

data sets as important sources for nursing research (Brennan & Bakken, 2015; Henly, 2014).

In their 2021 study of data from between January 2017 and September 2018, Strobehn et al. 2021 noted that “five-chapter dissertations were common (84%) with average total page lengths of 166” among the dissertations they analyzed. These findings differed with the dissertation formats utilized by FNS scholars. Over two thirds of FNS scholars (67%) presented their dissertations in a manuscript format (e.g., three lead author manuscripts that were either peer-reviewed during their doctoral program or were formatted to be submitted for peer review upon successful defense). Thirty-three percent of the scholars completed a traditional five-chapter format (Table 3).

**Scholar Perspectives on the FNS Leadership Development Program**

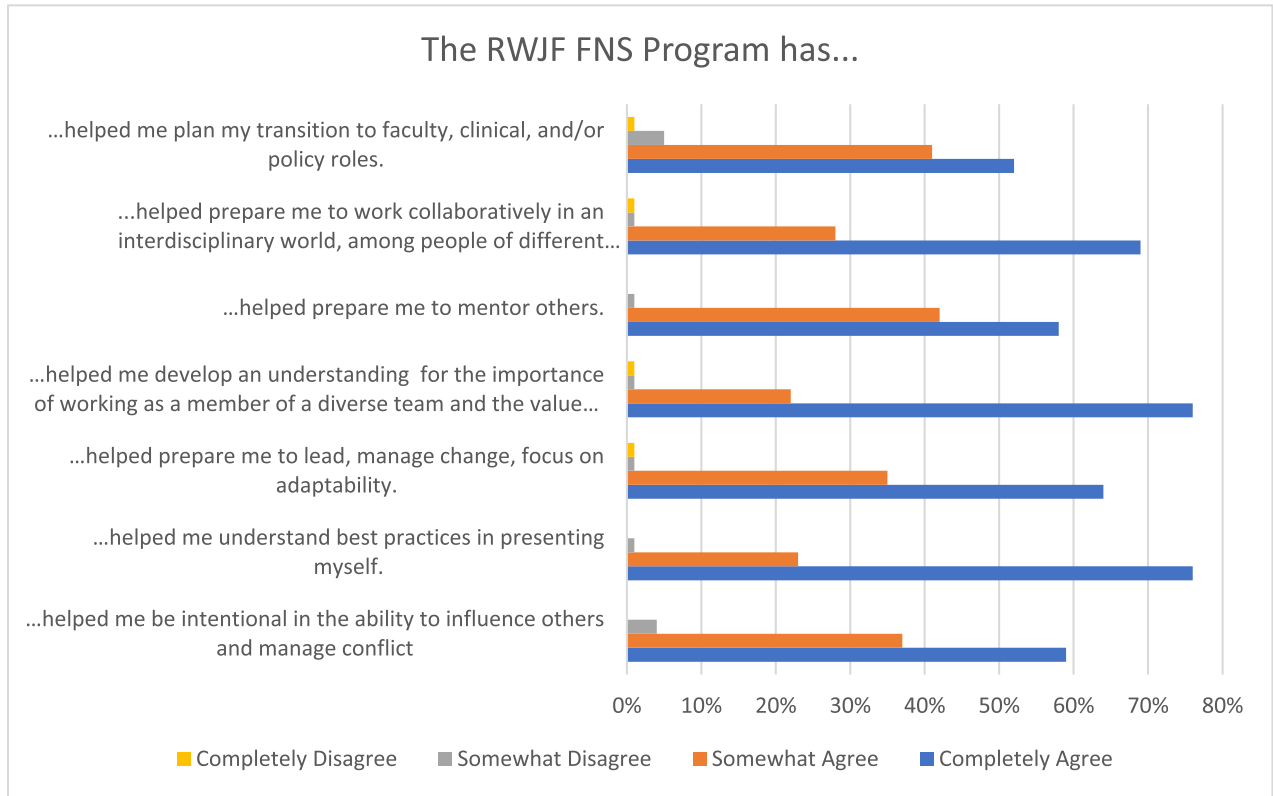
*Preparation for Career Transition*

Figure 1 describes Ninety-three percent (n = 147) of Exit Interview respondents agreed that the program “has helped me plan my transition to faculty, clinical, and/or policy roles” with 52% (n = 82) completely agreeing and 41% (n = 65) somewhat agreeing with the statement. Respondents noted the importance of the program’s resources and guidance as they set career goals. One of these respondents noted: “I was able to obtain a postdoc fellowship through the many resources that RWJF provided for us. The program has truly helped direct me in my future career path.” Another stated: “The program has helped me obtain my first step into my future career goals as a research nurse scientist and teacher. I plan to gain further research skills to teach others and to build my own research career as well as to teach the next generation.”

Scholars were able to position themselves for successful career transitions regardless of their readiness upon entry into their doctoral programs. In fact, three of the 16 initial (first cohort) FNS scholars (18.75%) were BSN to PhD students and successfully completed their degrees within the required 3 years. One of these scholars participated in the qualitative interviews and is identified as Scholar 1. This scholar noted that the schedule for the accelerated doctoral program was helpful because s/he was accustomed to being in school, but that the tradeoff was that s/he was less familiar with the clinical setting. However, this didn’t ultimately hinder Scholar 1 in meeting his/her

**Table 3 – FNS Scholar Dissertation Details. Source: SurveyMonkey Exit Interview Scholar Survey.**

Primary Data Collection (n = 75)				Secondary Data Analysis (n = 82)		Dissertation Format (n = 159)	
Quantitative	Qualitative	Quantitative and Qualitative	Primary Data and Secondary Analysis	Publicly Available Data	Faculty Mentor’s Data Set	Manuscript Format	Five-Chapter Format
22 (29%)	17 (23%)	18 (24%)	18 (24%)	51 (62%)	31 (37%)	107 (67%)	52 (32%)



**Figure 1 – Scholar Views on FNS Leadership Development Program. Source: SurveyMonkey Exit Interview Scholar Survey.**

goals, although it did elongate her trajectory to a faculty position. Following the completion of the PhD, s/he worked as a clinical nurse for almost 2 years before beginning a postdoctoral fellowship at a Carnegie R1-level research institute, and then onto a faculty position.

*Preparation for Collaborative, Interdisciplinary Work*

Almost all of the Exit Interview respondents (97%; n = 152) agreed that the program has “helped prepare me to work collaboratively in an interdisciplinary

world, among people of different backgrounds.” Sixty-nine percent (n = 108) of the respondents completely agreed with the statement, while 28% (n = 44) somewhat agreed. Scholars were exposed to a wide variety of leaders, across many fields. Additionally, they were strongly encouraged to engage a mentor from outside of the nursing discipline to participate on their dissertation or advisory team. Through webinars and in-person events, program leaders invited presenters across disciplines to engage with scholars. One of these

**Table 4 – Scholar Views on FNS Leadership Development Program. Source: SurveyMonkey Exit Interview Scholar Survey.**

The program has . . .	Completely Agree	Somewhat Agree	Somewhat Disagree	Completely Disagree
..helped me plan my transition to faculty, clinical, and/or policy roles.	81 (52%)	65 (41%)	8 (5%)	2 (1%)
..helped prepare me to work collaboratively in an interdisciplinary world, among people of different backgrounds.	107 (69%)	44 (28%)	2 (1%)	2 (1%)
..helped prepare me to mentor others.	89 (58%)	65 (42%)	1 (1%)	0 (0%)
..helped me develop an understanding for the importance of working as a member of diverse team and the value of having a diversity of perspectives on a team.	119 (76%)	34 (22%)	1 (1%)	2 (1%)
..helped prepare me to lead, manage change, and focus on adaptability.	99 (64%)	55 (35%)	1 (1%)	1 (1%)
..helped me understand best practices in presenting myself.	119 (76%)	36 (23%)	0 (0%)	0 (0%)
..helped me be intentional in the ability to influence others and manage conflict.	91 (59%)	58 (37%)	6 (4%)	0 (0%)



respondents shared: "Meeting a diverse group of individuals that are interested in research and teaching was fantastic."

#### *Preparation for Mentoring*

When asked about the factors that contributed to their completion of the 3-year PhD, scholars completing the SurveyMonkey survey noted the support (financial and emotional) from RWJF and the FNS program, family support, and the support of their mentors and schools. Program leaders focused heavily on the importance of strong mentoring through the building of mentorship skills. This was represented by the inclusion of several webinars, calls, and in-person sessions that focused on mentorship, including what to expect from a successful mentor-mentee relationship. In addition to the direct mentoring provided to scholars by their faculty advisors, each scholar was also assigned an FNS program mentor and received one-on-one coaching and mentoring. This was intended to support scholars throughout their educational journey. These combined approaches served scholars well by preparing them to be in a mentee role, as well as in eventual mentor roles. This is demonstrated by 99% of Exit Interview respondents ( $n = 155$ ) reporting that the program "helped prepare me to mentor others." Fifty-seven percent of respondents ( $n = 90$ ) completely agreed and almost 42% ( $n = 65$ ) somewhat agreed with the statement. Scholars identified the importance of learning from the mentorship they received as doctoral students and through program leaders and staff. One of these respondents noted: "Having experienced strong mentorship is a great model for how I want to mentor in the future." Another shared: "I had some great mentors in this program and not so great mentors. I have learned what kind of support students generally need and what kind of mentor I should be for future students." Other scholars found that the FNS program provided them with insight to better make decisions about mentorship. One stated: "I felt the program helped me to scrutinize and self-examine what I was looking for in my primary mentor and build a mentorship team." Another scholar noted: "I think the program helped me recognize how to not only mentor others, but how to be a good mentee as well... and realize it is a relationship (both sides-mentor and mentee-need to contribute to make it work)."

In some cases, this mentorship came from beyond the program or a scholar's university. One of the scholars who was part of the qualitative interviews (identified as Scholar 5) was funded by an employer to complete the program. S/he noted that s/he felt dually supported, not just from the FNS program, but also from the workplace's director of research. Scholar 5 explained that doctoral program peers at the school who were not part of the FNS program did not have the same level of support.

#### *Preparation for Working on Diverse Teams*

Almost 98% of Exit Interview respondents ( $n = 154$ ) agreed (69% completely and 28% somewhat) that the program "helped me develop an understanding for the importance of working as a member of a diverse team and the value of having a diversity of perspectives on a team." Scholars shared a variety of opinions regarding the program's focus on diversity. One respondent shared: "This is probably the greatest benefit of the program! I have leaned toward DEI and improving policy because of your programming. To boot, I understand how to connect with local officials to start my policy journey." However, other scholars who completed the SurveyMonkey survey felt that the program office did not do enough to ensure diverse representation. For example, one stated: "Our cohort was fairly diverse, but I feel like we could have had more representation of diversity and inclusion throughout this program. Our program leaders and staff were predominantly white and female, which perpetuates the stereotype of nurses as white and female-especially those who hold PhDs. Sessions on this would have been helpful."

#### *Preparation for Leadership, Change Management and Adaptability*

Almost 99% of Exit Interview respondents ( $n = 155$ ) completely (64%) or somewhat agreed (35%) that the program "helped prepare me to lead, manage change, focus on adaptability." The scholars' boot camp experience featured a large focus on understanding change and influencing styles (see Kelley et al.). These sessions had a strong impact on many scholars. One respondent stated: "I still remember the survey we took [during the boot camp] to determine which leadership style we fell under. I have kept those findings in mind and tried to use them to be a more successful leader (in my own small-scale way) when mentoring PhD students or running a meeting." Another survey respondent noted the importance of these sessions as they were not featured through university course work. This scholar shared: "There were important basic skills I learned through RWJF programs on styles of change, communication, and leadership which were unique to the program and offered nowhere in my university coursework. I have found these to be very helpful professionally and personally."

While the majority of program graduates have moved into academic positions, there are some notable exceptions. One of the scholars who participated in the qualitative interviews is the co-founder and chief nursing officer of a new company that promotes group-based care for new mothers. S/he is identified as Scholar 4 and explained that when s/he was pursuing postdoctoral opportunities, s/he realized that academia wasn't his/her true calling, stating: "I went in [to the PhD program] because I wanted to translate research into clinical practice immediately." As chief nursing officer in the new company, Scholar 4 explained, "our mission is to provide comprehensive

continuous care from pregnancy through pediatrics for the next generation of kids, all to improve health outcomes.”

#### *Preparation for Presentation*

Almost all of the Exit Interview respondents (99%;  $n = 156$ ) agreed that the program “helped me understand best practices in presenting myself.” Seventy-six percent of respondents ( $n = 1207$ ) completely agreed and about 23% ( $n = 36$ ) somewhat agreed with the statement. One responding scholar shared: “The opportunities to present our dissertation research (work-in-progress) at the summer institutes and get feedback from colleagues and mentors were extremely valuable. It helped me to overcome some of my anxiety as I presented my research work, and I found the feedback to be constructive and helpful.” Another reported: “The summer institute presentations provided a safe and good space to allow our research ideas to be presented to the public and to learn to refine our work to make it more understandable and concise.” Another survey respondent suggested that the accelerated program primed participants to become communicators who could have an impact. This scholar stated: “I think the accelerated timeline along with constant networking and professional development opportunities imposes a ‘mandatory invitation’ to develop as a communicator, thinker, and listener. It is excellent.”

#### *Preparation to Influence and Manage Conflict*

Ninety-six percent of the Exit Interview respondents ( $n = 150$ ) completely agreed (59%) or somewhat agreed (37%) that the program “helped me be intentional in the ability to influence others and manage conflict.” One scholar noted: “The program absolutely helped me to make a connection between my project and policy and community stakeholders. During the development of my proposal, I engaged in a number of interviews with community agencies and water justice experts to further develop my objectives.”

#### *Value of Postdoctoral Training Support*

In addition to supporting the scholars during their doctoral program, the FNS program also sought to prepare them to transition into their postdoctoral research career. [Bednash, Breslin, Kirschling, and Ross-eter \(2014\)](#) recommend that a postdoctoral program is important “to provide more in-depth study and to enhance the formation of an expert researcher.” To facilitate this transition for FNS scholars, the program featured a series of webinars, presentations at summer institutes, and open “office hours” with program faculty focused solely on postdoctoral opportunities, including those funded by the National Institutes of Health as well as others. Ultimately, 42% of graduates from the FNS program pursued postdoctoral training.

The FNS program also awarded competitive postdoctoral fellowships to scholars from each cohort. The

program offered three types of postdoctoral awards to be funded by the program. The first option was a traditional postdoctoral funding arrangement at a university in which RWJF contributed \$50,000 for up to 2 years. Scholars were able to supplement this grant with other federal or non-federal awards. Relevant federal awards included T32s, F32s, and K awards. The second option was a collaboration funded by the National Institutes of Health (NIH) National Institute of Nursing Research (NINR) and RWJF. Interested scholars identified a research project investigator at NINR with whom to collaborate. RWJF contributed \$50,000 over 2 years to support the scholar’s efforts with NIH providing supplemental funds so that the scholar’s stipend would be commensurate with other similar NIH salaries. The third option, an Investigator-Initiated Award, was not utilized by any FNS scholars. For this type of postdoctoral award, an applying scholar could identify intentions to conduct a fellowship outside of a university setting, using the \$50,000 provided by RWJF for salary support.

Over the five cohorts, 43 scholars applied for the FNS postdoctoral funding mechanism and 32.6% of proposals were accepted for this funding. Applications were submitted in December of the scholars’ final year in the program. Each application was reviewed by two members of the program’s national advisory committee. Selected applications were then submitted to RWJF for approval. At least 50% of these postdoctoral fellows received support from T32s and were able to pair the \$50,000 program award with funds at their institutions. The awardees’ work focused on a broad array of topics such as outcomes of lung transplantation in older adults, health status of transgender adults, and health consequences of dementia worry.

One of the scholars individually interviewed received an FNS program-funded postdoctoral award with the goal was to study at a research-intensive university with time sheltered for individual research. With the program’s support, this scholar (identified as Scholar 2) was able to be part of a T32 program while not taking on additional job responsibilities. Therefore, s/he was able to address the concern noted previously about accelerated graduates having less time to develop their thinking. Scholar 2 noted: “I don’t know how people jump from a PhD program to an intensive university... without having that extra time and being able to just collaborate and learn from some of the best minds in nursing.”

Also interviewed was the scholar identified as Scholar 3, who was the only FNS scholar to take advantage of a unique opportunity co-funded by RWJF and NINR. As mentioned previously, one of the FNS postdoctoral award options was a co-funded federal fellowship. This selection required an awardee to relocate to NINR. Scholar 3 was able to take advantage of this funding match for a project focused on gene expression and symptom emergence related to a tissue injury. S/he stated that the financial support for postdoctoral work allowed time for specific training.

“My primary objective for this period was to really build out some more of the lab skills and be able to do a little bit more at the bench, because everything shut down so quickly after the postdoc started [due to the Covid-19 pandemic] I had to shift my focus a little bit.”

### **Challenges in Completing the Accelerated Program**

Scholars were asked during the SurveyMonkey survey to describe the biggest obstacles they faced in completing a 3-year PhD program. While many scholars reported difficulties in managing their school-life balance due to personal issues (i.e., divorce, illness, and childbirth), some also shared that they felt pressured with the timeline due to institutional challenges like completing the IRB process. Other scholars shared challenges they had at their individual school, relating to either structural issues within the school’s doctoral study plan or mentors who either didn’t grasp or embrace the accelerated timeline. Some scholars in Cohorts 4 and 5 mentioned the stress related to the Covid-19 pandemic. Other scholars discussed concerns about not having as much time to evolve their thinking about their dissertation research and some shared that they were not able to focus on publishing articles during the doctoral program due to time constraints.

### **Discussion**

A large majority of the scholars completely or somewhat agreed that the curricula and experiences provided by the FNS program prepared them well for their future career. From connecting the scholars with national experts and mentors to providing insight on research questions, to offering programming relevant to both doctoral studies and career planning, the program focused on supporting the scholars developing into nurse scientists and leaders. These are all strategies schools can undertake to support PhD students even without RWJF FNS funding. Survey results show the overwhelmingly positive responses scholars had with the LDP offerings geared towards leadership and career development. These findings underscore the utility and value of schools continuing to offer condensed PhD plans of study for selected nurse scientists by pairing scholar’s academic institutional resources with intentional career development content. These resources could potentially be offered by centralized teams so that nurse scholars across institutions can be supported, or by individual schools for their particular students.

Despite the condensed training timeline, scholars undertook innovative quantitative and qualitative research studies. Program findings may reflect changing trends among nursing PhD programs nationally. For example, more than half of FNS scholars conducted secondary data analyses. Such an approach may appeal to nurse scholars in condensed PhD plans

of study compared to the time needed for prospective data collection. Even so, that is not to say scholars shied away from primary data collection, as seen by the volume who opted to conduct both quantitative and qualitative data collection in the 3-year plan of study. Further, the growing trend to present dissertation research in manuscript format may be indicative of the need to pursue pragmatic dissemination opportunities that result in multiple peer-reviewed publications soon after graduating rather than a traditional five-chapter approach. These data from FNS scholars may reflect the growing need among nurse PhD graduates to expedite and focus their research skill development and productivity to be effective nurse scientists across academic and health system settings. These data also reflect the acknowledgment that the process of developing research expertise is a life-long learning experience as science, research methods, and data sources change, no matter the length of a PhD program.

Graduates of the FNS program felt prepared to continue advancing nursing science, as evident by survey data and career outcomes data. For example, the proportion of nurse scientists continuing to pursue postdoctoral training among FNS program graduates (42%) exceeded that of other individual programs and even national trends, where approximately 15% to 30% pursue postdoctoral programs ([American Association of Colleges of Nursing, 2019](#); [Vance et al., 2020](#)). The greater proportion of FNS scholars going into post-docs could indicate that these accelerated students did not feel prepared to enter into research careers. However, it could also suggest that the message from their mentors and the NPO on the importance of post-doctoral work was strong. In fact, in their concept analysis, “Rigor in PhD dissertation research,” [Goodman, Robert, and Johnson \(2020\)](#) make no mention of doctoral program length as relating to a program’s rigor. Several authors (e.g., [Rudy & Grady, 2005](#); [Broome, et al., 2021](#)) recommended post-doctoral training for PhD students in general because of the increasing complexity of science, without regard to program length, especially those who focus on the life sciences. A sustained commitment to continue to develop research skills among FNS graduates helps to ensure a pipeline of nurse scientists who are committed to conducting innovative research for years to come. This is particularly important given the increased number of nursing faculty, and consequently scientists, who are approaching or exceed retirement age ([Fang & Kesten, 2017](#)).

FNS program leaders developed the program to provide scholars with the tools they would need to be successful not only in their doctoral programs, but also throughout their careers, regardless of their readiness upon entry. It is worth noting that the scholars noted in exit interviews that the combination of financial support, emotional support, mentorship, and leadership development activities had profoundly positive impacts on experiences and future plans.



The program's findings demonstrate that there is no singular approach for developing well prepared nurse scientists and faculty. Schools that offer accelerated PhD programs would be well-advised to promote dissertation types and topics that are in line with students' interests and the questions they are focused on, as well as faculty who can mentor them in their topic and methods areas (as noted by Gillespie, et al. in this issue). The results suggest that the studies need not be limited to secondary data analyses for a perceived ease and speed of completion—strong science can come from these data sources. Further, schools should, when possible, provide students with access to additional content beyond traditional doctoral courses, such as leadership development opportunities, to further prepare them for leadership and career advancement.

Despite the accomplishments of the program and the lessons learned about ways to support accelerated nursing students, attention must be paid to the scholar concerns noted about diversity and inclusion. As noted by [Muirhead, Richard-Eaglin, and Webb \(2022\)](#), despite the increased admittance of nursing students from underrepresented groups, "institutional efforts fail to reach concordance of racial and ethnic diversity among faculty and the nursing workforce at large." The authors suggest this lack of representation has a strong impact on not just the student experience, but also on "workplace satisfaction, and career progression in practice, research, academia, and leadership." It stands to reason, then, that programs like FNS should make the effort to increase diversity not just among scholar participants and guest speakers, but among program leadership as well.

### Limitations

Although 201 scholars have either completed or are still enrolled in the program, not all of them completed the SurveyMonkey program survey. While 159 scholars participated in the survey, some scholars neglected to answer some of the questions. All of the 159 scholars answered the question about dissertation format, but only 157 provided information on the type of data used. Some of the scholars skipped questions about the program components, but for all features reported, at least 155 scholars (97% of those responding) provided responses. The program exit survey was supplemented with one-on-one interviews conducted with five scholars. These scholars represented different scholar attributes but spoke only in relation to their own experiences. The scholars may have believed their responses may have had an impact on their standing in the program although they had all completed their commitments to RWJF FNS at the point of the survey and individual interviews. Finally, the experiences of the five individually interviewed scholars represent their own experiences and may not be seen as representative of the entire cohort.

### Conclusions

After the launch of the FNS program, RWJF announced that they would sunset "single discipline" programs. It was decided that the program would admit five cohorts of scholars before closing. The FNS program admitted its last cohort in 2018, and the program has closed. It is now up to schools to sustain, extend, or improve their own programs through funding, robust selection of students for accelerated programs, and key mentor selections (see Villarruel; Giordano, et al.; Gillespie et al. in this issue). Scholars' experiences with the FNS program were enthusiastically positive, evident by exit survey and interview data. Despite the shortened timeline of their plan of study, scholars completed the FNS and PhD programs feeling prepared to be successful nurse leaders and scientists. The volume of graduates, in addition to their rigorous scientific and leadership training, demonstrates the feasibility of meeting the IOM goal of preparing more doctoral prepared nurses by implementing condensed plans of study. This was feasible given the financial support and career development activities provided by the FNS national program office, as well as the concentrated mentorships and support of schools. As we review the impact of the FNS program, it is clear that accelerated programs are very successful under the right circumstances (i.e., in schools with a strong research environment, with a cadre of strong mentors who are committed to the timeline, and have resources to support students financially and emotionally) and with selected students (i.e., doctoral students with a clear motivation to complete a program within the timeline, as determined by the school, and a research plan which may be executed within that timeline).

We can conclude that there are five important contributors to maximize the success of nursing PhD students in accelerated programs. First, mentorship is key. From the investment of mentors at the scholars' home institutions, to the program mentorship provided by the national program office, to the connections facilitated by the LDP, scholars knew that they were supported in their work. Second, it was important to build a sense of cohesion among scholar cohort members. Scholars met for the first time during the boot camp and remained connected throughout their doctoral programs and beyond. Third, the program provided scholars the opportunity to build existing leadership skills and develop new ones. Fourth, it was important to provide support for postdoctoral work, both by providing program funding opportunities, and also by providing guidance on other opportunities. Finally, providing funding was a significant motivator in encouraging students to embark on an accelerated timeline. All in all, scholars noted that the leadership development, mentoring, and coaching skills provided by the FNS program were important resources needed to support them during their PhD program and in the years that follow.

## Authors' Contribution

**HJK:** Conceptualization, Methodology, Writing - Original Draft, Project Administration, Visualization, Formal Analysis. **NG:** Writing - Original Draft, Formal Analysis. **MB:** Writing - Review & Editing. **AB:** Conceptualization, Writing - Review & Editing. **ML:** Conceptualization, Writing - Review & Editing. **MW:** Investigation, Writing - Review & Editing. **MMC:** Validation. **JF:** Conceptualization, Methodology, Writing - Review & Editing, Project Administration, Visualization, Supervision, Funding Acquisition.

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## Conflict of Interest

None.

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