Stress, Anxiety, and Well-being in Nurse Anesthesia Doctoral Students

Jess Mesisca, DNP, CRNA Jacqueline Mainwaring, DNP, MS, CRNA

An emerging degree program of student registered nurse anesthetists (SRNAs) enrolled in a doctoral program of study exemplifies a highly challenging educational path with intense clinical and academic requirements. The focus of this study was to address the lack of research about SRNAs' stress, anxiety, and well-being by exploring responses from the newest doctoral cohorts. Students who were enrolled in a doctoral nurse anesthesia program of study from a small urban university completed valid and reliable questionnaires measuring self-perceived stress, anxiety, and distress. Other questions revealed students' perceptions of performance, experiences, and suggestions for improvement. Results were analyzed using statistical software (SPSS version 24.0, IBM Corp) and open-coded thematic analysis. Significant

urse anesthesia education is currently transitioning to a practice doctorate, expanding academic and clinical expectations for student registered nurse anesthetists (SRNAs). Nurse anesthesia is already a stressful specialty, placing high demands on students both personally and professionally.¹ High levels of psychological distress can lead to inadvertent consequences in students' mental, emotional, and physical health, requiring a need to understand the SRNA experience and to promote student well-being.² However, minimal research of SRNAs' stress, anxiety, and well-being exists.¹⁻⁴ Also, with the novel educational transition of master's degree to doctorate, SRNAs enrolled in doctoral programs have not been studied. Exploring the prevalence and relationship of stress, anxiety, and well-being in SRNAs can provide valuable knowledge for educators to improve student wellness.

With the surge in nurse anesthesia doctoral programs, it is essential to understand the impact on SRNAs and to understand their stress, anxiety, and well-being.² Current literature describes types of stressors experienced by SRNAs enrolled in master's-level education, many of which include personal, academic, clinical, interpersonal, emotional, and financial demands.^{1,2,4} The addition of the practice doctorate in nurse anesthesia education may amplify students' stress through multiple factors. Factors may include a longer duration of education, more clinical hours, doctorate coursework, extended practicum hours, results revealed that as numbers of SRNAs with low well-being increased, so did levels of anxiety (P=.02), perceived stress (P=.001), and perceived impacts on academic performance (P=.003). Open-ended questions described students' perceptions of stress, newonset anxiety, poor well-being, and a lack of support and provided suitable suggestions for improving wellbeing in students. The prevalence of stress, anxiety, and low well-being among SRNAs enrolled in a doctoral program suggests the need for developing interventions and educational changes to improve the well-being of students in the anesthesia community.

Keywords: Anesthesiology, anxiety, graduate nursing, stress and well-being, student registered nurse anesthetist.

scholarly projects, and higher financial debt. SRNAs are placed in a challenging clinical transition to working with higher levels of autonomy, more intense critical decision making, learning highly technical and complex medical knowledge, and making important decisions during life and death circumstances.¹ Although stress is inevitable in graduate student populations, an appreciation of its relationship to anxiety, well-being, or student performance exists on a continuum.³ At one end, stress and anxiety may create motivation to succeed and perform, serving as healthy adaptive emotions.³ On the other end of the continuum, poorly managed prolonged stress or anxiety has potential to lead to unfavorable consequences.² Overall, chronic elevations of stress may lead to psychological and physical sequelae, demonstrating the need to address stress and well-being in student populations and professional development.²⁻⁷ Phillips¹ found in-depth descriptions of stress that master's-level SRNAs experience such as fear of reprimand, clinical assignments, clinical evaluations, fatigue and workload, curriculum expectations, relationships, and lack of personal time. These stressors clearly indicate a need for culture change. Additionally, Chipas and McKenna⁴ studied stress levels, physiologic manifestations, and coping of both Certified Registered Nurse Anesthetists (CRNAs) and SRNAs in master's degree programs, and they specifically addressed the need for resources to manage stress. Stress and exhaustion in student providers impose a substantial risk for future

practitioners' well-being, which questions the need for long-term support for SRNAs enrolled in current and future programs.^{4,8} Furthermore, well-being involves a balance between mind, body, and soul, both personally and professionally.⁴ Research regarding emotional health and different wellness interventions are being explored in graduate student populations such as medical students.⁷ However, emotional health and well-being research is also necessary among SRNA populations.^{2,4} Providing a better understanding of SRNA stress and well-being can help cultivate a culture of wellness in nurse anesthesia education, strengthening the future of the anesthesia community.

The purpose of this study was to explore the relationship between stress, anxiety, and well-being in SRNAs enrolled in a doctoral program of study. Students' perceptions of academic and clinical performance, views of preceptor support, and suggestions to improve wellbeing were also examined. Furthermore, SRNAs in year 1, year 2, and year 3 were evaluated across the measurement tools to assess for any potential differences, as each year of school presents different and unique challenges. It was postulated that SRNAs enrolled in a doctoral program of study will demonstrate heightened stress and anxiety and low well-being (high distress) across all years of education. SRNAs in year 3 may provide more qualitative insight, as they have spent more time in both didactic coursework and clinical practice hours. Gaining knowledge about SRNAs enrolled in doctoral programs is important for the future of education. Raising awareness of student distress can help to open the discussion on student well-being, change negative viewpoints on emotional health, and demonstrate the need for interventions in anesthesia and graduate education.

Materials and Methods

In this cross-sectional mixed-methods study, electronic surveys were distributed to a convenience sample of SRNAs. The chosen population included all SRNAs (N=76) currently enrolled in a doctoral program at a small urban university campus. Institutional review board approval was obtained. The entry-level nurse anesthesia doctoral program that was studied is a fully accredited, 36-month integrated program requiring students to take 92 credits. The program provided didactic coursework and more than 2,000 hours of clinical practice, with approximately 26 students per cohort (class year).

The following demographic data were collected: age, gender, race, and years of experience in the intensive care unit (ICU) before school. To further describe the sample, there were 3 years of SRNAs: students in year 3 (n=24), year 2 (n=15), and year 1 (n=25). The third-year students were enrolled in full-time clinical and specialty clinical rotations, doctoral coursework, and nurse anesthesia board review courses. Second-year students were enrolled in full-time clinical (4 days per week), didactic

doctoral courses, and anesthesia courses. First-year students were enrolled in full-time nurse anesthesia courses and didactic doctoral coursework, preparing for entry into the clinical setting. Study inclusion criteria were all full-time students currently enrolled in the institution's nurse anesthesia doctoral program as of January 2019. All SRNAs not enrolled full-time or who were lost due to attrition were excluded. Confidentiality of voluntary participants was a priority; the study was sent and collected anonymously with an electronic cover page stating implied consent to continue with survey completion.

Data were collected and dispersed via an online survey software program (Qualtrics, Qualtrics). Three validated measurement tools were used to assess stress, anxiety, and well-being in SRNAs enrolled in a doctoral program: the Perceived Stress Scale-10 (PSS-10),⁹ the Penn State Worry Questionnaire (PSWQ),10 and the Medical Student Well-Being Index (MSWBI).¹¹ A high score on the PSS-10 indicated higher levels of perceived stress, and a high score on the PSWQ demonstrated higher levels of worry (a well-demonstrated construct of anxiety).9,10 The MSWBI can be used to identify individuals with distress (low well-being) and those who are thriving (high well-being).¹¹ A high score on the MSWBI indicated poor well-being with a greater risk of personal or professional compromise, whereas a low score indicated higher levels of well-being or thriving.¹¹ The PSS-10, PSWQ, and MSWBI demonstrated good overall reliability and validity for the dimensions of this study. Each measurement tool has been validated in student populations with moderate to high reliability, adding rigor to the outcomes of this study.¹²⁻¹⁴ The Cronbach α of the PSS-10 was above 0.70 among student populations.¹² The PSWQ was found to have a mean Cronbach α of 0.89, ranging between 0.60 and 0.99 in student and nonstudent populations.¹³ Additionally, the Cronbach α for the MSWBI has ranged between 0.69 and 0.78 in medical students.¹⁴

Supplementary questions for clinical performance, academic performance, student's perceptions of preceptor support, and other open-ended questions for students to express beliefs, perceptions, and suggestions were included and developed by the principal investigator (J. Mesisca) for qualitative understanding of data. Regarding student performance, this was evaluated based on "yes or no" subjective responses to questions on the impact of stress or anxiety on academic or clinical performance, respectively. Coding for these questions with dichotomous "yes or no" responses was done with 1 for yes and 0 for no.

The data were evaluated using statistical analysis software (SPSS version 24.0, IBM Corp). Inferential statistics was used to evaluate the strength and nature of relationships using Spearman ρ correlation of stress, anxiety, and well-being in SRNAs enrolled in a doctoral program (*P* value less than .05 determined significance). Spearman ρ , a nonparametric correlation test, was used because

Parameter	Statistic	MSWBI	PSWQ score	PSS-10 score	Impact on clinical performance	Impact on academic performance
MSWBI	ρ	1.000	.294 ^a	.413 ^b	.181	.370 ^b
	P (2-tailed)	_	.02	.001	.27	.003
	n	66	66	66	39	63
PSWQ score	ρ	.294 ^a	1.000	.408 ^b	.069	.329 ^b
	P (2-tailed)	.02	—	.001	.67	.009
	Ν	66	66	66	39	63
PSS-10 score	ρ	.413 ^b	.408 ^b	1.000	.237	.411 ^b
	P (2-tailed)	.001	.001	—	.15	.001
	Ν	66	66	66	39	63
Impact on clinical performance	ρ P (2-tailed)	.181 .27	.069 .68	.237 .15	1.000	.346 ^a .03
	Ν	39	39	39	39	39
Impact on academic performance	ρ P (2-tailed)	.370 ^b .003	.329 ^b .009	.411 ^b .001	.346 ^a .03	1.000
	Ν	63	63	63	39	63

Table 1. Spearman p Correlations Between Test Scores and Clinical and Academic Performance

Abbreviations: MSWBI, Medical Student Well-Being Index; PSS-10, Perceived Stress Scale-10; PSWQ, Penn State Worry Questionnaire. ^aCorrelation is significant at the .05 level (2-tailed).

^bCorrelation is significant at the .01 level (2-tailed).

of a skewed distribution of variables, which violates assumptions for parametric testing. Descriptive statistics of frequency and percentage were used to describe demographic data. The PSS-10, PSWQ, and MSWBI are reported as mean scores with standard deviations for additional data and interpretation. To test for variations among the 3 years of SRNAs surveyed, the researchers used a multivariate analysis of variance to compare anxiety, stress, and well-being to test for any correlation differences among these 3 dependent variables.

For qualitative data from open-ended questions, thematic analysis was used to identify, analyze, organize, and describe themes regarding students' perceptions of stress, anxiety, and well-being and students' suggestions for improvement.¹⁵ Analytic steps for thematic analysis included becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining themes, and a write-up.¹⁶ For this study, open coding was used, meaning there were no preset codes for data, as themes were deducted from student responses.¹⁶

Results

There were 64 respondents for this survey, with an overall response rate of 84.2%. Most participants reported being 25 to 29 years of age, female, White, and in program year 1 or year 3 and having worked 2 to 3 years in ICU before entering school.

Significant positive correlations were found between the MSWBI and PSWQ (ρ =.294, P=.02), PSS (ρ =.413, P=.001), and academic performance (ρ =.370, P=.003), but not clinical performance (ρ =.181, *P*=.27). These data indicate that as scores of low well-being increase, so do scores of anxiety and stress. Additionally, as MSWBI scores increased, respondents reported a perceived impact on their academic performance, which was quantified by 1 for yes and 0 for no (Table 1).

Scores and means for anxiety and perceived stress on the PSWQ and PSS-10 were also evaluated independently. On the PSWQ the mean score was 44.47 (SD=3.651) with a minimum score of 37 and a maximum score of 53 for a range score of 16 points. The PSS-10 mean score was 18.27 (SD=3.453) with a minimum score of 9 and a maximum score of 25 for a range score of 16 points. These scores indicated moderate levels of worry and perceived stress. Mean scores on the PSS, PSWQ, and MSWBI from SRNAs in years 1, 2, and 3 can be found in Table 2.

Differences in stress, anxiety, and well-being of year 1, year 2, and year 3 SRNAs enrolled in the doctoral program of study was also compared. A 1-way multivariate analysis of variance was run to determine the effect of student's year in schooling on the PSWQ, PSS-10 and MSWBI. Preliminary assumption checking was assessed by the Levene test (*P*>.05) and there was homogeneity of variance-covariance matrices, as assessed by the Box M test (*P*=.61). Differences between the SRNA cohorts, on the combined dependent variables (PSWQ, PSS-10, and MSWBI), were not significant: *F* (*df*=2,120)=1.313, *P*=.26; Wilks A=0.879; and partial η^2 =0.863 (see Table 2). Thus, no significant differences existed between year 1, year 2, and year 3.

Test	Class year	Mean score (SD)	N
PSWQ	Year 1 (class of 2021)	44.1250 (3.59120)	24
	Year 2 (class of 2020)	43.2667 (3.03472)	15
	Year 3 (class of 2019)	45.6400 (3.95685)	25
	Total	44.5156 (3.69466)	64
PSS-10	Year 1 (class of 2021)	17.4583 (4.10704)	24
	Year 2 (class of 2020)	18.2000 (2.85857)	15
	Year 3 (class of 2019)	19.0800 (3.13475)	25
	Total	18.2656 (3.49713)	64
MSWBI	Year 1 (class of 2021)	3.6250 (1.63687)	24
	Year 2 (class of 2020)	3.9333 (1.43759)	15
	Year 3 (class of 2019)	4.5600 (1.55671)	25
	Total	4.0625 (1.59239)	64



Abbreviations: MSWBI, Medical Student Well-Being Index; PSS-10, Perceived Stress Scale-10; PSWQ, Penn State Worry Questionnaire.

A separate analysis of MSWBI results was completed to further quantify well-being. Results are displayed in the Figure. The MSWBI revealed a mean score of 4.08 (SD=1.572). Most respondents (67%) scored equal to or above 4, indicating low well-being and presenting a high risk of adverse outcomes. The scores above or equal to 4 corresponded with a higher risk of the following adverse consequences: poor mental quality of life, suicidal ideation, burnout, severe fatigue, and risk of dropping out.¹¹

• Additional Survey Questions. When asked about perceptions of student well-being, 50% of SRNAs (n=32) believed that their preceptors and clinical faculty did not acknowledge student well-being. However, 40 of the total 76 survey recipients were enrolled in clinical practice. Of the SRNAs enrolled in clinical practice who responded to the survey, 82% thought their well-being was not acknowledged by preceptors and/or clinical faculty. Students' discernment of usefulness of stress reduction workshops was also assessed. Greater than 60% of respondents (n=39) expressed they would benefit from either online or in-person well-being workshops to learn stress reduction strategies.

• Emergent Themes Identified Open-Ended Questions. Thematic analysis was used for open-ended responses to identify themes. Participant descriptions from openended questions clustered around 4 main themes: (1) negative personal and emotional impacts, (2) doctoral education impacts and needed changes, (3) disconnect of clinical preceptor understanding or supporting doctor of nursing practice (DNP) course load, and (4) suggestions to improve SRNAs' well-being during doctoral education. Organization of themes and subthemes with respondent examples from the survey can be found in Table 3.

Discussion

To the best of the authors' knowledge, this is the first



Figure. Student Registered Nurse Anesthetists' Scores on Medical Student Well-Being Index^a

^aScores range from 0 to 7, and scores above or equal to 4 indicate an increased risk of adverse outcomes related to high distress.

study evaluating stress, anxiety, and well-being of SRNAs enrolled in an entry-level doctoral nurse anesthesia program. To gain a greater insight, the researchers used quantitative and qualitative means to explore SRNAs' perceptions and experiences.

Provider well-being, even at the student level, is a vital component of delivering safe, high-quality anesthesia care to patients. Long-term high elevations of stress and anxiety can harm an individual's personal and professional well-being, which has been shown to adversely influence patient care delivery.⁸ Anesthesia providers and SRNAs provide care during pivotal moments and are responsible for critical decisions influencing patient care; thus, they should function optimally at their individual and professional best. The results of this study suggest that SRNAs enrolled in a doctoral program of study experience moderate to high levels anxiety, stress, and low well-being. Notably, SRNA well-being should not be over-

Main themes and subthemes	Example of survey response		
Theme 1: Negative personal and emotional impacts 1a. New onset anxiety or increased anxiety	"I never had anxiety prior to school, and [my] anxiety has [now] overwhelmed me."		
1b. Stress described as extreme, constant, or overwhelming and its impacts	"I feel sleep deprived and stressed all the time, and it affects my performance and personal life significantly"		
Theme 2: Doctoral education impacts and needed changes	"The DNP classes cause extra stress and worry and do not allow me to fully focus and prepare for clinical, where my performance matters most"		
 2a. DNP course load additional worry/stress 2b. Request to reduce or improve DNP course-load designs 	"Reduce doctoral course workload so that students can primarily focus [on anesthesia]."		
2c. Connect DNP course material to anesthesia practice	"[Make the] DNP being more meaningful and applicable to anesthesia instead of constant conflict that pulls me away from learning my new profession"		
Theme 3: Disconnect of clinical preceptor understanding/supporting DNP course load	"I feel many clinical providers brush off the amount of stress we have [T]hey cannot relate to our DNP course load."		
	"[Clinical preceptors] usually downplay or talk badly about our doctoral education."		
Theme 4: Suggestions to improve SRNA well-being 4a. Plan SRNA group extracurricular activities	"[Plan for] more group activities for classmates outside of school/ clinical"		
4b. Improve clinical coordinator and SRNA relationship	"Supportive clinical coordinators [and] genuine relationships"		
4c. Encourage wellness day policy and time off	"The 2 wellness days we are granted will be very helpful in reducing stress and maintain good work/life balance"		
rotations	"Unable to take time off [between] clinical rotations puts a toll on [anyone]."		

Table 3. Emergent Themes and Subthemes From Analysis of Open-Ended QuestionsAbbreviations: DNP, doctor of nursing practice; SRNA, student registered nurse anesthetist.

looked, especially since the future of the nurse anesthesia profession begins with our current generation of students.

The study findings suggest that in doctoral nurse anesthesia education there exists low well-being or high levels of distress for SRNAs, as depicted on the MSWBI scores. Additionally, as scores of low well-being on MSWBI increased, participants had increasing levels of perceived stress and anxiety, demonstrated with the PSS-10 and PSWQ. Furthermore, results on the MSWBI demonstrate an interesting inference for the increased risk of negative outcomes. Again, as a point of reference, higher scores on the MSWBI indicate low well-being (high distress). With a high MSWBI score there exists an increased risk of distress contributing to a personal or professional compromise in medical students.¹¹ Scores greater than or equal to 4 on the MSWBI suggest an increased risk of adverse outcomes, including poor mental quality of life, suicidal ideation, burnout, severe fatigue, and, not surprisingly, a high risk of dropping out of the program.¹¹ Most SRNAs (66.7%) from this sample scaled equal to or above 4. Although a high degree of stress is to be expected with challenging career paths, such as nurse anesthesia, these types of potential adverse outcomes should not be considered part of the norm or be overlooked. The results of this study advocate the need for stress reduction interventions to prevent the potential for

latent unfavorable outcomes in graduate student populations. Equipping SRNAs with tools, skills, and resources to better cope with inevitable stress, anxiety, and disturbances of well-being involved with graduate education may foster a culture of personal and professional wellbeing in the anesthesia community for students to use in their present and future career.

• Themes. Supporting the quantitative MSWBI results, the most frequent theme discussed by participants among open-ended qualitative questions was "negative personal and emotional impacts." Common subthemes of this main theme, new-onset anxiety and constant overwhelming stress from doctoral anesthesia education, raise awareness to the demands placed on SRNAs. Some participants disclosed a decline in quality of life, and SRNAs expressed concern regarding the following stressors: inability to take time off, amount of coursework, clinical time, clinical precepting relationships, finances, fatigue, and personal relationships. One participant described stress with a lack of support "extreme stress and no one seems to care" (anonymous participant 1, SRNA enrolled in year 3). Overall, many participants disclosed overwhelming stress affecting their personal and academic lives.

The second most frequent open-ended theme found was the added impact of doctoral nursing courses on anesthesia education resulting in needed changes. A signifi-

cant relationship was found with increasing levels of low well-being, worry, and perceived stress with increased perceptions of impact on student academic performance. This relationship demonstrates the importance of future curriculum planning of coursework. An overarching subtheme supporting this consisted of students describing the doctoral course load as causing unnecessary extra worry and stress in addition to their intense anesthesia education. Some students discussed a lack of time to focus on anesthesia material and claimed there were "unrealistic expectations" (anonymous participant 2, SRNA enrolled in year 2). Another participant stated that they "could not commit to [doctoral courses] fully due to clinical expectations and exhaustion" (anonymous participant 3, SRNA enrolled in year 3). These results further exemplify the need to evaluate the anesthesia practice doctorate curriculum layout and course load. Revealing a desire for change, students described that their current curriculum did not allow for the optimal time to focus on learning the art and science of anesthesia.

The third most common theme that emerged from open-ended data was the divide that students perceived with their clinical preceptors' understanding or supporting DNP education. Sadly, many students expressed a lack of understanding or patronizing received from preceptors regarding their doctoral nursing education as an SRNA. From SRNAs enrolled in clinical rotations during this survey, more than 80% believed their well-being was not acknowledged by clinical faculty, indicating a potential disengagement in understanding and empathy. One participant described that his or her clinical preceptors "usually downplay or talk badly about our doctoral education" (anonymous participant 4, SRNA enrolled in year 3). Overall, many students expressed a lack of preceptor or coordinator support for the switch of nurse anesthesia master's degree education to doctoral education. Doctorate programs of study in nurse anesthesia create a new platform of educational transformation that serves important foundations for the future CRNAs and the profession of nursing. Additionally, students must also empathize with the challenges and difficulties of precepting a multitude of students enrolled in doctorate programs that might be foreign to preceptors. Nonetheless, it is apparent that maintaining a culture of support and guidance is an essential component that SRNAs yearn for in their educational path. Students are the foundation of each profession, and having a safe, trusting, and supporting relationship among preceptors is important for improving learning environments and enhancing one's professional well-being.

Although understanding and raising awareness of the lack of well-being among SRNAs is important, interventions and ideas to improve student well-being will provide the ultimate solution moving forward. The final main theme found from this study, "suggestions to improve SRNA well-being" provides student recommendations to improve well-being. Some students proposed that the faculty plan group events for students outside clinical rotations and school such as comedy shows or other group activities. Creating a safe place for students to connect outside the classroom and clinical rotations is important to a well-rounded educational experience, even at the graduate level. Another subtheme advocated for improving authentic relationships between SRNAs and their clinical coordinators. Moreover, students commented on the helpfulness of "wellness days" and encouraged faculty to continue and oblige with the wellness day policy at the program's clinical sites (a policy specific to this anesthesia program in which students may request up to 2 days off during nonrotating clinical semesters). Participants expressed that the wellness days helped promote worklife balance. However, reinforcement of this policy across clinical sites is important, as one student expressed feeling that they would be "judged negatively for taking a wellness day," even if the student felt burned-out and needing a day off (anonymous participant 5, SRNA enrolled in year 3). The wellness day policy implemented at this particular institution communicates the need to address wellness in anesthesia programs and other graduate health professions as well. Although having an extensive commitment to clinical hours and academics is imperative for nurse anesthesia education, this must be balanced with a positive work-life balance.

As we continue to understand the tolls of long-term high levels of stress on student populations, there may be a need to change how we prepare our students for educational and career challenges at the graduate level. In graduate education and high-stress professions, the power of positivity over condemnation is an important principle. Cultural changes in nurse anesthesia academic and clinical practice are necessary to promote a more positive philosophy of professional and personal well-being. However, enhancing the anesthesia profession begins with enhancing the educational practices and creating a culture of safety for students, educators, and providers.

• *Limitations, Strengths, and Future Suggestions.* This study was limited to a small sample size at a single institution involving the first cohorts of SRNAs pursuing entry-level doctorate education. Additionally, the MSWBI, part of the Well-Being Index measurement tool, has not been exclusively studied in SRNAs until now. Another limitation includes the use of author-derived yes and no questions for respondents' perceived academic and clinical performance. Future studies should focus efforts using one comprehensive tool such as the WBI.

Strengths of the study include the high response rate and open-ended questions allowing for in-depth understanding of the student experience. Since this study showed no significant difference between cohorts (P=.26), this demonstrates applicability to studying larger

groups of SRNAs, regardless of their year in the program.

Future suggestions include using the Well-Being Index to evaluate well-being progression in students through either semester or yearly evaluations. It may also be interesting to conduct more research on well-being in larger studies of SRNAs and potential adverse outcomes such as suicidal ideation, burnout, and poor quality of life. Additionally, implementing educational workshops for well-being, success tools, and stress reduction may serve to be important for students and preceptors.

In conclusion, SRNAs enrolled in a nurse anesthesia doctoral program of study demonstrated stress, anxiety, and low well-being. These results suggest the potential need for resources and interventions to positively manage daily stressors and improve well-being skills that are necessary for a healthier future workforce of anesthesia professionals. As demonstrated by this study, student populations are eager to learn how to manage their stress. Stress management initiatives in academic institutions should involve clinical partners such as preceptors and coordinators. Educational tools and strategies for preceptors may also be helpful. This may enrich the overall student and preceptor experience while enhancing engagement in the clinical arena. Implementing stress reduction workshops and well-being initiatives should be a future focal point for nurse anesthesia research in both education and clinical practice.

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AUTHORS

Jess Mesisca, DNP, CRNA, is a 2019 graduate from Thomas Jefferson University in Philadelphia, Pennsylvania, who currently works for Anesthesia Services PA in Newark, Delaware. Email: jlp6200@gmail.com.

Jacqueline Mainwaring, DNP, MS, CRNA, is the program director of the Nurse Anesthesia Program at Thomas Jefferson University. Email: Jacqueline.mainwaring@jefferson.edu.

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Name: Jess Mesisca, DNP, CRNA

Contribution: This author made significant contributions to the conception, synthesis, writing, and final editing and approval of the manuscript to justify inclusion as an author.

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Name: Jacqueline Mainwaring, DNP, MS, CRNA

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