Perceptions of Certified Registered Nurse Anesthetists on Factors Affecting Their Transition From Student

Andy Tracy, PhD, CRNA

The role transition from student registered nurse anesthetist (SRNA) to Certified Registered Nurse Anesthetist (CRNA) can be challenging and stressful. In the United States, CRNAs practice in every healthcare and administer anesthesia to more than 32 million patients a year. A qualitative phenomenographic research approach was used to identify the factors affecting CRNAs' role transition. Online recruitment and interviewing techniques were used to sample recently graduated CRNAs to identify these factors.

Five factors were perceived as promoting the CRNA role transition: mastery of self-efficacy and confidence, expert mentoring and guidance, supportive work environment, peer support, and previous experience as a SRNA. Four factors were also perceived as impeding CRNAs' role transition: practice limitations, lack of orientation and preceptor, hostile work environment, and decreased workload or caseload. This study has implications for employers of newly graduated CRNAs in implementing interventions that promote successful role transition and guide future research.

Keywords: Certified Registered Nurse Anesthetist, online interviewing, phenomenography, role transition, student registered nurse anesthetist.

Certified Registered Nurse Anesthetists (CRNA) practice in every healthcare setting in the United States and administer anesthesia to more than 32 million patients a year.[1] In some states, CRNAs are the sole anesthesia providers in rural facilities, and military CRNAs are often the sole anesthesia providers in many deployed settings.[1] The role transition from being a student registered nurse anesthetist (SRNA) to a CRNA can be challenging and stressful. The role transition for CRNAs starts while in school and continues into the first few years of practice.[2] Strategies for successful role transition have been well examined in other advanced practice nursing (APN) specialties as well as for new registered nurses (RNs), but there has been limited research on the factors affecting the role transition of CRNAs. Of the reported findings in previous APN research there has been disagreement in the literature on the factors affecting the role transitions from RNs into practicing APNs. Although there are many similarities in knowledge and skills among APN specialties, there are also differences in their didactic education and clinical training.[3] Characteristics surrounding clinical aspects and demographics have been examined relating to skill-acquisition success and socialization to the new role, but most of the research has come from an educator's viewpoint and little from the CRNA experiencing the transition.[4-10] Only one study, by Schreiber and MacDonald,[6] was found that examined the factors CRNAs viewed as influencing the CRNA role transition. Schreiber and MacDonald stated that further research was needed to identify other factors influencing the CRNA transition.

Although similarities exist between the APN roles, clinical nurse specialists, certified nurse midwives, nurse practitioners (NPs), and CRNAs arguably have differences in their role transitions and specific research is needed concerning CRNAs' role transition to ensure the successful role transition of new CRNAs into practice. Research indicates that CRNAs who left nurse anesthesia practice stated their reasons for leaving included role conflict, unclear role expectations, and increased job stress and dissatisfaction.[11] Turnover rates for CRNAs practicing in acute care settings are difficult to track because of lack of reporting. Eighty-three percent of hospitals do not report APN turnover rates or reasons for turnovers, and the cost to replace an APN has been estimated as high as twice the APN's annual salary.[12] The complexity of the CRNA's transition requires substantial and consistent support to ensure success, satisfaction, and retention. Because CRNAs differ from other APNs and from physicians in didactic and clinical education, factors influencing CRNAs during their transition into their new role may also be different.[13] Seibert[14] argued that studies have not identified factors that positively influence CRNAs' role transition. Although research from other APN specialties may be examined for possible influencing factors, CRNA-specific research is needed to identify which factors affect the CRNA role transition. Identifying these factors may allow educators and employers to positively influence the role transition of newly graduated CRNAs and to provide support during this transition period.

The purpose of this qualitative study was to examine and describe the factors affecting CRNAs during their role transition. Two guiding research questions were developed to guide the qualitative interview process. The first research question asked which factors CRNAs perceived as facilitating their transition into their new role as a CRNA. The second research question asked which factors CRNAs perceived as impeding their role transition.

Methods

• *Design.* A qualitative, descriptive, phenomenographic design using online recruitment and interviewing was used to explore the perceived experiences of recently graduated CRNAs making their transition into full-time practice. Qualitative inquiry using a phenomenographic approach allows for the study of the factors that may be affecting a phenomenon, giving a descriptive and holistic view of the data.[15] Phenomenographic methods have been used in previous anesthesia research, and this research design was based on previous role transition research in other APN specialties.[4,15] This study was approved by a committee of experienced researchers and received approval from the author's institutional review board (IRB). Online interview research is an accepted and growing method in qualitative research, which involves using online audio and video conferencing to interview participants.[16] Online interview methods were deemed acceptable by supervising experienced qualitative researchers to understanding CRNAs' role transition and answering the research questions. Meleis and colleagues'[17] Transitions Theory created the framework to identify previous factors researched as well as areas for possible future research. Transitions Theory has been used in previous research to define personal and community-level transition conditions of APNs that either promote or inhibit their transition.[18]

The primary researcher was a doctoral student (A.T.), and 2 experienced researchers supervised the research study, one of whom was an experienced qualitative researcher. The dissertation committee also included an experienced CRNA researcher. Following approval from the university's IRB, approval was gained from the American Association of Nurse Anesthetists' (AANA) research division to use membership information for study recruitment. The AANA's membership comprises more than 90% of CRNAs in the United States and allowed for recruiting participants from multiple areas across the nation[19]

• *Sampling.* Purposeful sampling was chosen to select participants who would best be able to provide data about the phenomenon.[20] A criterion-based sample was chosen of recently graduated CRNAs, all of whom had graduated in the last 4 years, were residing in the United States, and were employed full time as CRNAs. The AANA research division randomly selected 500 CRNAs from the AANA membership and sent out recruitment

emails for the primary researcher, who was allowed to receive emails for study recruitment. These potential participants were emailed a copy of the IRB approval letter, study overview, and consent form before the start of the interview. Potential participants responded to the researcher through email, and CRNAs identified as appropriate were contacted to verify they met study criteria and to set up interview appointments. The final sample comprised a total of 15 CRNAs, 80% of whom were women. The average age was 30 years, with a range from 27 to 35 years. Two CRNAs worked for the Department of Veterans Affairs, and another CRNA was serving in the military. Ten participants worked in anesthesia care team settings, with 7 of these CRNAs working in large university hospitals and 3 working in urban hospitals. Three CRNAs worked in a "mixed practice" setting where CRNAs and anesthesiologists worked independently but collaborated as needed. Two CRNAs worked independently in office-type settings. To ensure anonymity, participants were assigned a pseudonym before the start of the interviews by the primary researcher, and only the primary researcher had access to participants' identifying information.

• *Data Collection.* Data on recently graduated CRNAs were collected in semistructured online interviews using the Internet communication software audio-video conferencing (Skype, Microsoft Corp) and recording software (Evaer, Evaer Technology). Interviews were conducted at a mutually agreed on time. All participants were asked the same open-ended questions with similar follow-up questions and probes. Individual interviews were concluded when all the interview questions had been addressed. All interviews were recorded and transcribed verbatim, with any identifying information removed from the transcripts to protect anonymity. Emails and other study material were stored on a protected external hard drive, which was secured and deleted in accordance with approved IRB research protocols. A follow-up interview was conducted with each participant approximately 1 week after the initial interview to offer the participant the opportunity to add additional information and to validate data and findings from the first interview.

Data collection continued until data saturation was achieved after 13 interviews. Data saturation is achieved when the recruitment of new participants does not yield additional or new data and redundancy occurs.[20] Two additional interviews were further conducted to verify data saturation and redundancy for a total of 15 participants. Data saturation was agreed on by the primary researcher and the supervising experienced researchers.

• *Pilot Study.* A pilot study was performed to test logistics and expose any deficiencies before the full study was performed. The pilot study consisted of 3 participants. Interviews and data collection techniques were reviewed by the experienced researchers to ensure

rigor before the full study was performed. No changes were made to logistics, and the pilot study interviews were approved and included in the full study. Rigor and credibility were maintained through periodic review of data and analysis by the primary researcher's supervising researchers during the pilot study and full study to ensure that adequate and detailed data were obtained. A total of 15 CRNAs participated in the study, including the 3 CRNAs from the pilot study.

• *Data Analysis.* Verbatim transcripts were analyzed through inductive content analysis.[21] The content analysis consisted of 8 steps: (1) reading the entire text to obtain a sense of the whole, (2) making memos of initial impressions of the text, (3) detailed and word-by-word readings, (4) highlighting important statements that appeared to capture key concepts in the interviews, (5) analyzing statements across interviews for labels that appeared in several interviews, (6) examining labels across interviews and transforming labels into themes, (7) developing descriptions of each theme, and (8) identifying quotations that represented the themes. This step-by-step analysis occurred after each interview.

• *Trustworthiness.* The criteria for evaluating the trustworthiness of a qualitative research study includes dependability, credibility, and transferability.[22] Dependability refers to the stability or reliability of data.[23] Dependability was addressed using experienced researchers to review the study's design and verify the primary researcher's findings and analysis. Data checks by experienced qualitative researchers on the primary researcher's committee were used to ensure appropriate thematic interpretations. An experienced CRNA researcher was included to ensure findings were appropriate and authentic to CRNAs. The auditing of data analysis increased the trustworthiness of the study's findings. Transcripts of all 15 participants were reviewed to ensure neutrality in the interpretation of the narratives. *Credibility* was verified by the study participants confirming findings with intended meanings during follow-up interviews.[23] At the study's completion, interpretation of thematic analysis results was reviewed by 3 randomly selected participants who confirmed the analysis captured the intended participants' perceptions. *Transferability* refers to the extent to which research findings may be replicated by other, similar studies and addresses the question of the researcher's neutrality in collecting the data.[20] *Neutrality* means consistency in measurement and ensures that the same researcher would report the same interpretation of the narrative on future occasions. Experienced researchers reviewed each step to ensure a detailed data trail. Verification of interpretations was conducted by supervising researchers to ensure neutrality.

Results
In each of the interviews there was an overarching story of successful role transition with identifiable factors promoting and impeding the CRNA's role transition. The interviews were invaluable to answer all 3 research questions. Major themes were identified, with findings presented in the aligned research question and according to identified themes. The use of direct quotations by participants was used to provide support and meaning to the themes,[24] and selected quotes are included in Tables 1 and 2.

• *Research Question 1: Factors Promoting Role Transition.* The first research question asked participants to identify which factors they perceived as facilitating the transition into their new role as a CRNA. The factors promoting role transition included 5 major themes seen throughout the participants' stories. The 5 major themes developed during the analysis process included: (1) mastery of self-efficacy and confidence, (2) expert mentoring and guidance, (3) supportive work environment, (4) peer support, and (5) previous experiences as a SRNA (see Table 1).

Mastery of self-efficacy and confidence was the first theme identified as promoting CRNAs' role transition. In each participant's interview, an overarching theme was found regarding the importance of mastery of self-efficacy and confidence. Each of the participant's commitment to the profession was evident from the passionate discussion of growing his or her knowledge base, furthering skills mastery, and continuing one's education and training. Waugaman[10] theorized that CRNAs gain the commitment to the profession through role socialization. Participants perceived this as extremely important to their role transition during the first 6 to 12 months. Those CRNAs making time to increase their knowledge base, further skills mastery, and continuing education perceived themselves as transitioning into their new role earlier. All 15 participants stated in similar language that self-efficacy and confidence were essential.

The second theme identified was of expert mentoring and guidance and was perceived as beneficial whether it came through having a preceptor, an official or unofficial mentor, or online support. Eleven participants perceived having a preceptor or mentor as essential to making the transition easier. Mentoring and preceptorship in CRNAs has not been studied in detail, but previous research with SRNAs found mentoring and preceptorship as beneficial.[25,26] Twelve participants described how having a mentor was perceived as facilitating CRNAs' transition.

Online support and mentoring is a newer form of expert mentoring and guidance and has been examined in other APN specialties. Poronsky[27] discussed online mentoring with NP students to promote NP role transition. Similar to Poronsky's findings, 3 CRNAs from this study perceived online support from experienced CRNAs as a positive influence on their role transition, especially when they were practicing in remote areas.

Mastery of Self-Efficacy and Confidence: "Starting out, I was good at something, like intubations, but not so good at regional techniques like using the ultrasound for interscalene blocks. I think you really need time when you are first starting out to get solid with your skills and abilities…. The group gave me time, didn't rush me, which really helped my confidence when I was new. I think it's really important to gain confidence in yourself and your skills when you are new. I think they [employer] had more faith in my skills and abilities than I did."

Expert Mentoring and Guidance: "We had 8 weeks where we were placed one on one with an experienced CRNA, kind of a mentor or preceptor.… It gave me an opportunity to have an experienced [CRNA's] insight on the surgeons and to get to know the preferences for different cases.… My mentor and I still talk, not as often as we did at first, but she still checks in on me from time to time, encourages me to take on new things to just improve my skills, experience, etc."

Supportive Work Environment: "We had a couple of anesthesiologists and CRNAs, a small practice. They were all very supportive. The first few months I took call I had a backup person I could call, even in the middle of the night, if I needed help or had questions. So I think that's been kind of an eye opener and something to get used to being independent right out of school. It definitely helps having colleagues who are supportive. They all work really well together, and when I started everyone wanted me to succeed and were supportive."

Peer Support: "A group of us all started at the hospital together as new grads. It was less nerve racking to have other people starting with me. I think it helps having other new grads as well. I feel like I could talk to the other new grads easier, and none of them were going to judge me. We were all in the same boat together."

Previous Experience as a SRNA: "What helped was that I had been a SRNA there before, so I was familiar with the place and people. It's such a big place that it's helpful to be familiar with things. Another CRNA started around the same time I did. She hadn't rotated through our hospital. I had an easier transitioning and often helped her. A lot of my classmates took positions at hospitals they rotated through because it just seemed easier when you already know the place, people, types of cases, and you kind of know what you are getting yourself into."

Table 1. Factors Promoting CRNA Role Transition: Interviewees' Quotations
Abbreviations: CRNA, Certified Registered Nurse Anesthetist; SRNA, student registered nurse anesthetist.

Practice Limitations: "I think of the first time when I was working with one of our younger anesthesiologists; it was rough just because she wouldn't give me any space. It was an uneventful case on a fairly healthy patient, but she literally just wouldn't let me make any clinical decision and barked orders at how she wanted that anesthetic. So I was frustrated, but I was new and didn't want to make waves, so I just bit my tongue and kept my head down. It was so hard to feel like a CRNA there. I felt more like an assistant than a provider, which is how they viewed us. After 6 months I got out and went to a hospital where the anesthesiologists allowed the CRNAs more autonomy. Two years later and I'm [still] here and love my practice."

Lack of Orientation and Preceptor: "They definitely let me be independent, but a little orientation or some kind of preceptor or person to ask questions to would have been helpful. I was actually the last employee for that group that was hired before they started an actual orientation phase. The employees hired after me, they went through a week of orientation and having a CRNA precept them. The anesthesia group finally started the formal orientation and preceptor because all the new CRNAs kept quitting, so I do think the ones that came after me had an easier time."

Hostile Work Environment: "I want to work in an academic center. What I didn't expect was how political the place was. I found out that they called CRNAs nurses, not even nurse anesthetists, just referred to them as nurses. Surgeries would have delayed starts while we waited for the anesthesiologists. Even the surgeon would get frustrated. Between 7 AM and 3 PM we had to be totally supervised but after 3 PM, when the anesthesiologists wanted to go home, we could be independent and do cases without them. It was all so political and frustrating. After about 6 months I left for another practice where the anesthesiologists are great and CRNAs are treated like professional[s] and respected in the department. "

Case Complexity and Workload: "It felt like the transition to CRNA took longer because I wasn't doing very many cases, and they were all pretty healthy…. It wasn't really diverse or complex. So after a while I felt like I got it for the most part, but I wasn't really getting a good handle on my skills or becoming a CRNA. It just wasn't the best practice setting when first starting out. So I switched to the hospital where we do a great variety of complex cases, and I think you need that exposure when you are first starting out in order to complete your transition from SRNA to CRNA and be successful at it."

Table 2. Factors Impeding CRNA Role Transition: Interviewees' Quotations
Abbreviations: CRNA, Certified Registered Nurse Anesthetist; SRNA, student registered nurse anesthetist.

A supportive work environment was the third theme that emerged from the data as promoting the CRNA role transition. Participants perceived a supportive work environment as one that included autonomy, a variety of cases based on skill needs, and supportive staff who wanted the CRNA to succeed in the new role. Thompson[28] examined factors relating to CRNA job satisfaction and discussed a supportive work environment, autonomy, and anesthesiologist support as influences. Participants, similarly, perceived a supportive work environment, autonomy, and having a variety of cases as having a positive influence on their role transition.

Peer support was the fourth theme that emerged from the data that participants perceived as helping to promote CRNAs' role transition. Peer support was perceived as starting with other newly graduated CRNAs, new employee meetings, and online support groups. Peer support has been examined in newly graduated NPs and

found that peer-to-peer sharing and support improved satisfaction and retention in NPs.[29] Similarly, CRNA participants in this study reported that having other recently graduated CRNAs starting around the same time gave them a perceived benefit and positively influenced their transition. Eight participants reported similar perceptions about how effective peer support was during their role transition.

New employee meetings were seen as a type of peer support and positively influencing CRNAs, especially when they started in a practice with other experienced providers. Having other new providers, whether APNs, physician assistants, podiatrists, physicians, or other recently graduated providers, who met on a regular basis to socialize was also perceived as a factor promoting role transition in CRNAs. Similarly, Sargent and Olmedo[30] identified that participation in interprofessional meetings by novice NPs assisted in facilitating their role transition.

Previous experience as a SRNA was the fifth theme that emerged from the data that participants perceived as promoting CRNAs' role transition. Five CRNAs interviewed accepted their first nurse anesthesia practice in a setting where they had rotated through during their nurse anesthesia education. Certified Registered Nurse Anesthetists perceived their transition as easier at a practice if they had previously worked at the location during their anesthesia rotations. One participant explained how rotating through a practice not only made it easier for her transition but also allowed her to assist another recently graduated CRNA who had not rotated through the hospital.

• *Research Question 2: Factors Impeding Role Transition.* The second research question asked to identify factors impeding role transition. The factors perceived by CRNAs as impeding role transition included 4 major themes as seen throughout the participant's stories, with examples provided in Table 2. These 4 themes were (1) practice limitations, (2) lack of orientation and preceptor, (3) hostile work environment, and (4) decreased case complexity and workload.

Practice limitations were perceived as impeding role transition, and most participants felt frustrated with not being able to use and master the skills they had learned during their education. Previous research by Alves[31] identified that CRNAs with limited scope of practice reported increased work stress and role insufficiency. Similarly, 4 participants from this study reported being frustrated and leaving their initial practice settings because of practice limitations to go to practice settings that allowed the CRNAs greater autonomy.

Lack of orientation and preceptors was perceived as a very limiting and frustrating factor by participants. Interviewed CRNAs perceived a lack of orientation and preceptors as impeding their role transition while increasing their stress and anxiety at the start of their new career. Two participants reported leaving their first practice settings after 6 months of employment because of frustration, stress, and anxiety. Similar to this study's findings, a study involving NPs reported that a formal orientation was found to promote NP role transition.[18]

Participants viewed a hostile work environment as extremely impeding on the CRNA role transition. Those CRNAs working in unsupportive or hostile work environments discussed how the daily stress and tension made transitioning more difficult. A hostile work environment is not unique to nursing or nurse anesthesia. Prior research involving medical internists found hostile environments were not conducive to learning their new role as physicians.[32] Three participants of this study discussed how hostile work environments impeded their role transitions and how they eventually left for different practice settings.

Decreased case complexity and workload were perceived as impeding role transition by participants. Two CRNAs interviewed reported leaving their first, smaller practice setting after only a few months to start at a larger practice where there was increased case complexity and workload. These participants perceived the need for higher case complexity and workload as needed to complete their transition.

Discussion

The aim of this study was to examine factors perceived by CRNAs as affecting their role transition from student. This is the first known phenomenographic study that explored these factors, and it provides the preliminary work for future research on CRNA role transition. As outlined by Meleis and colleagues' Transitions Theory, a number of community-based transition conditions or factors were identified as facilitating and inhibiting CRNA role transition.[17] This adds to the existing knowledge on personal-based transition conditions in the literature.[4-9,33-34] Although other research has identified personal-based transition conditions, there has been limited research on community-based conditions affecting CRNAs' transition.[6,28] This study confirms the findings by Mauleon and Ekman[4] as well as identifies other factors influencing the CRNA transition.

The results of this study could have implications for CRNA practice and employers. The Institute of Medicine (now called the National Academies' Health and Medicine Division) has recommended establishing programs that support APNs, including CRNAs, during their transition into practice.[35] Similar to research on NP role transition, CRNAs who had orientation periods perceived the formal orientation as having a positive influence on their role transition.[30] Although the optimal orientation period for CRNAs has not been researched and was outside the scope of this study, these findings have implications for employers of CRNAs. Participants perceived that orientations should include familiariza-

tion with equipment and personnel and allow sufficient time to become comfortable with new equipment. Future research could examine formal orientation similar to the study by Barnes[18] involving NPs, and employers of CRNAs could benefit from the knowledge gained from such research. Furthermore, having optimal orientation periods could cut costs by avoiding too lengthy an orientation period while still optimizing the time needed for CRNAs to become oriented and comfortable with their practice. Arguably, optimal orientation may lower newly graduated CRNAs' stress and anxiety and increase patient safety by not having too short a period of orientation. Future research will be needed to explore these areas.

Another program that would support CRNAs during their transition into practice includes the use of a trained preceptor. Assigning a designated preceptor was perceived by participants as a beneficial intervention to CRNA role transition. Preceptor use and influence on NP role transition has been reported as positively influencing NP role transition during a 12-month new NP residency program[29]; a similar intervention might be appropriate for employers of CRNAs to implement. Similar to results found in NP research, employers may find increased satisfaction and retention from the use of official preceptors during the transition period. Further research is needed to confirm these findings and ascertain the period for preceptorship that would be optimal during CRNAs' role transition.

Use of mentors during the CRNA role transition has been previously researched, and this study helps to confirm the findings of Schreiber and MacDonald[6] that mentorship positively influences CRNAs' transition. Future research is needed to determine the types of mentorship that are optimal in various employment situations. Mentoring has been examined regarding other APN specialty role transitions,[6,27,36] and further research would be beneficial in examining the effects of mentoring during CRNA role transition. Employers may find that implementing a mentorship program for recently graduated CRNAs by experienced CRNAs is a way to promote CRNA role transition and increase CRNA retention and satisfaction.

New employee meetings were perceived as a positive intervention by this study's participants and have been used by employers of recently graduated NPs to facilitate role transition and interdisciplinary learning.[30] Examining research used in other APN settings could be beneficial in adapting content for CRNAs' participation in similar interprofessional meetings of new providers. Future research using the study results of Sargent and Olmedo[30] as a foundation could explore the benefits of interprofessional meetings on CRNA role transition; employers may find that other professions may also benefit from new employee interprofessional meetings. Furthermore, employers could find research relating to new employee meetings as a cost-effective way to assist all recently graduated professionals with their role transitions through one interprofessional meeting program.

Exclusion criteria for this study consisted of CRNAs who did not have access to the Internet and CRNAs who were not engaged in full-time nurse anesthesia practice. Also, CRNAs who did not have video communication software were excluded from participation and may be considered a study limitation. Another limitation of this study was that 80% of the participants were females and therefore did not match the gender ratio of newly graduated CRNAs. Finally, if CRNAs were not members of the AANA, they were not included in this study. Nonmember CRNAs did not have access to the benefits of being a member of the national organization and some of the membership benefits. Identifying factors affecting AANA members' vs nonmembers' CRNA transition was outside the scope of this study. The AANA does provide a variety of support to its members, so the factors affecting nonmembers may be different from members. Results of this study speak to perceptions and views only of CRNAs with full-time employment and within this particular timeframe from graduation. Nurse anesthetists who were employed only part-time during their transition into their new career as CRNAs might be influenced by different factors than CRNAs employed full time, and this study did not attempt to identify differences. Finally, although generalizability of findings from qualitative studies may be limited, the transferability of findings may be applied to other similar settings.

Conclusion

This study set out to answer research questions designed to identify the factors promoting and impeding the role transition specific to CRNAs. The individual interviews provided sufficient data for answering these questions as well as identifying interventions that employers of CRNAs may use to assist newly graduated CRNAs as they transition into their new roles. The compassion and empathy shared by the participants through their stories and perceptions culminated into rich descriptions of the first few years of CRNA practice and identified many factors both promoting and impeding CRNA role transition. Further quantitative research is needed to verify this study's findings and to address the feasibility of possible intervention in the larger population of recently graduated CRNAs.

REFERENCES
1. Wilson WO. Nurse anesthesia: a past, present, and future perspective. *Nurs Clin North Am.* 2012;47(2):215-223.
2. Barton TD. Student nurse practitioners: a rite to passage? The universality of Van Gennep's model of social transition. *Nurse Educ Pract.* 2007;7(5):338-347.
3. Hamric AB, Hanson CM. Educating advanced practice nurses for practice reality. *J Prof Nurs.* 2003;19(5):262-268.
4. Mauleon AL, Ekman SL. Newly graduated nurse anesthetists' experiences and views on anesthesia nursing: a phenomenographic study.

AANA J. 2002;70(4):281-287.

5. Clayton BL, Lypek, DJ, Connelly LM. Faculty perceptions of characteristics needed for clinical success at military nurse anesthesia programs. *AANA J.* 2000;68(6):515-523.

6. Schreiber RS, MacDonald MA. Keeping vigil over the profession: a grounded theory of the context of nurse anesthesia practice. *BMC Nurs.* 2010;9:13.

7. Waugaman WR, Aron GL. Vulnerable time periods for attrition during nurse anesthesia education. *AANA J.* 2003;71(1):11-14.

8. Waugaman WR, Lohren DJ. From nurse to nurse anesthetist: the influence of age and gender on professional socialization and career commitment of advanced practice nurses. *J Prof Nurs.* 2000;16(1):47-56.

9. Waugaman WR, Lu J. From nurse to nurse anesthetist: the relationship of culture, race and ethnicity to professional socialization and career commitment of advanced practice nurses. *J Transcult Nurs.* 1999;10(3):237-247.

10. Waugaman WR. The socialization and professional roles of Certified Registered Nurse Anesthetists. In: Foster SD, Faut-Callahan M, eds. *A Professional Study and Resource Guide for the CRNA.* 2nd ed. Park Ridge, IL: AANA; 2011:25-39.

11. Jones TS, Fitzpatrick JJ. CRNA-physician collaboration in anesthesia. *AANA J.* 2009;77(6):431-436.

12. The Retention Institute at NSI Nursing Solutions Inc. *2015 National Healthcare Retention & RN Staffing Report.* East Petersburg, PA: NSI Nursing Solutions Inc; 2015.

13. Hamric AB, Hanson CM. Educating advanced practice nurses for practice reality. *J Prof Nurs.* 2003;19(5):262-268.

14. Seibert EM. From novice to expert: how registered nurses become CRNAs. In: Henricks B, Thompson J, eds. *A Resource for Nurse Anesthesia Educators.* Park Ridge, IL: AANA Publishing; 2009:299-317.

15. Larsson J, Holmström I. Phenomenographic or phenomenological analysis: does it matter? Examples from a study on anaesthesiologists' work. *Int J Qual Stud Health Well-being.* 2007;2(1):55-64.

16. Salmons J. *Qualitative Online Interviews: Strategies, Design, and Skills.* 2nd ed. Thousand Oaks, CA: Sage Publications; 2015.

17. Meleis AI, Sawyer LM, Im EO, Hilfinger Messias DK, Schumacher K. Experiencing transitions: an emerging middle-range theory. *ANS Adv Nurs Sci.* 2000;23(1):12-28.

18. Barnes H. Exploring the factors that influence nurse practitioner role transition. *J Nurse Pract.* 2015;11(2):178-183.

19. American Association of Nurse Anesthetists. *Report of the AANA Executive Director.* Published 2012. http://www.aana.com/myaana/ Publications/annualreports/Pages/ default.aspx. Accessed November 15, 2015.

20. Polit DF, Beck CT. *Essentials of Nursing Research: Appraising Evidence for Nursing Practice.* 8th ed. Philadelphia, PA: Lippincott Williams, & Wilkins; 2013.

21. Hsieh HF, Shannon SE. Three approaches to content analysis. *Qual Health Res.* 2015;15(9):1277-1288.

22. Lincoln YS, Guba EG. *Naturalistic Inquiry.* Newbury Park, CA: Sage Publications; 1985.

23. Whiting M, Sines D. Mind maps: establishing 'trustworthiness' in qualitative research. *Nurse Res.* 2012;20(1):21-27.

24. Sandelowski M. The use of quotes in qualitative research. *Res Nurs Health.* 1994;17(6):479-482.

25. Tracey A [sic]. A pilot study on student nurse anesthetists' views on CRNA role transition. *Anesth eJ.* 2015:3(1). https://anesthesiaejournal. com/index.php/aej/article/view/26. Accessed September 30, 2017.

26. Elisha S, Rutledge DN. Clinical education experiences: perceptions of student registered nurse anesthetists. *AANA J.* 2011;79(4 suppl):S35-S42.

27. Poronsky CB. A literature review of mentoring for RN-to-FNP transition. *J Nurs Ed.* 2012;51(11):623-631.

28. Thompson L. Job satisfaction of nurse anesthetists. *AANA J.* 1981;49(1):43-51.

29. Thabault P, Mylott L, Patterson A. Describing a residency program developed for newly graduated nurse practitioners employed in retail health settings. *J Prof Nurs.* 2015;31(3):226-232.

30. Sargent L, Olmedo M. Meeting the needs of new-graduate nurse practitioners: a model to support transition. *J Nurs Adm.* 2013;43(11):603-610.

31. Alves SL. A study of occupational stress, scope of practice, and collaboration in nurse anesthetists practicing in anesthesia care team settings. *AANA J.* 2005;73(6):443-452.

32. Daugherty SR, Baldwin DC Jr, Rowley BD. Learning, satisfaction and mistreatment during medical internship: a national survey of working conditions. *JAMA.* 1998;279(15):1194-1199.

33. Cook KA, Marienau MS, Wildgust B, Gerbasi F, Watkins J. Assessment of recent graduates preparedness for entry into practice. *AANA J.* 2013;81(5):341-345.

34. Wren KR. Learning from a nurse anesthetist perspective: a qualitative study. *AANA J.* 2001;69(4):273-278.

35. Institute of Medicine. *The Future of Nursing: Leading Change, Advancing Health.* Published 2010. http://nationalacademies.org/hmd/ Reports/2010/The-Future-of-Nursing-Leading-Change-Advancing-Health/Recommendations.aspx. Accessed January 15, 2016.

36. Brannagan KB, Oriol M. A model for orientation and mentoring of online adjunct faculty in nursing. *Nurs Educ Perspect.* 2014;35(2):128-130.

AUTHOR

Andy Tracy, PhD, CRNA, is an assistant professor, Rosalind Franklin University of Medicine and Science, North Chicago, Illinois. Dr Tracy was a nursing doctoral student at the time he wrote this article.

DISCLOSURES

The author has declared no financial relationships with any commercial entity related to the content of this article. The author did not discuss off-label use within the article.