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Professional Socialization In Nurse Anesthesia Educational Programs: Attitudes And Beliefs Of Faculty Members And Recent Graduates

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PROFESSIONAL SOCIALIZATION IN NURSE ANESTHESIA EDUCATIONAL
PROGRAMS: ATTITUDES AND BELIEFS OF FACULTY MEMBERS
AND RECENT GRADUATES

by

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This dissertation, submitted by Kevin Charles Buettner in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done, and is hereby approved.

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PERMISSION

Title   Professional Socialization in Nurse Anesthesia Educational Programs: Attitudes and Beliefs of Faculty Members and Recent Graduates

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                           Kevin Charles Buettner
                           July 11, 2013

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ABSTRACT

The purpose of this study was to better understand professional socialization in nurse anesthesia educational programs through an exploration of the attitudes and beliefs of faculty members and recent graduates. Participants for this cross-sectional, quasi-experimental online study included a convenience sample of 178 nurse anesthesia faculty members and 399 recent graduates of nurse anesthesia educational programs in the United States. Measures in this study explored the importance, recent graduate preparation, and influence on professional socialization outcomes (e.g., professional development, scholarly activity/critical inquiry, professional ethics, and professional and social responsibility). The effect of cohort size and instructional delivery method were also examined. Independent samples t-tests, correlations, and repeated-measures ANOVA (within subjects) were utilized to analyze the data.

Both faculty members and recent graduates indicated they were overall satisfied with professional socialization practices used in nurse anesthesia educational programs. The independent samples t-tests revealed several significant findings. Faculty members rated the importance for all outcomes higher than recent graduates. Both faculty members and recent graduates from programs with smaller cohorts rated the importance for the outcome of scholarly activity/critical inquiry highly. Recent graduates who utilized a blended/hybrid or online instructional delivery method in their program rated the importance and their preparation higher for the outcome of professional ethics.

Significant positive correlations were found for all outcomes between recent graduate preparation and frequency of participation. Although most reported frequencies of participation were low, frequency of participation was higher for the outcome of professional ethics. Repeated-measures ANOVA showed faculty members to be most influential for recent graduates, followed by clinical instructors.

Nurse anesthesia educational programs, regardless of instructional delivery method, should ensure that intentional methods and techniques to promote the socialization process are woven throughout the curricula. Furthermore, each program should assess what other influential factors or groups may affect the socialization process. Future research should be focused on collecting actual methods and techniques that are currently utilized so that current best practices for professional socialization can be determined. Methods and techniques should be evaluated for differences based on program size or utilization of distance education.

CHAPTER I

INTRODUCTION

The nursing profession assumes a large presence throughout health care systems in the United States (U.S.). With almost 2.6 million Registered Nurses (RNs) and over 250,000 Advanced Practice Registered Nurses (APRNs) working within U.S. health care systems, the nursing profession plays a significant role in health care delivery (Health Resources and Services Administration, 2010). RNs and APRNs can be found working in virtually every setting where health care is provided in the U.S. Given the sheer size of the nursing profession and its omnipresence in virtually every setting where health care is provided, the profession is arguably in the best position to lead the change that is enveloping the U.S. health care system as the Affordable Care Act of 2010 continues to be methodically implemented.

Approximately 45,000 APRNs in the U.S. are Certified Registered Nurse Anesthetists (CRNAs), and they are responsible for the safe administration of over 33 million anesthetics annually to patient populations that range from neonates to the elderly. CRNAs can be found providing anesthesia care in a variety of health care settings including hospitals, ambulatory surgery centers, and U.S. military facilities (American Association of Nurse Anesthetists, 2012).

It is incumbent on nurse anesthesia educational programs to adequately prepare students with the knowledge, skills, and decision making abilities that will be necessary

to properly function and facilitate change within a health care system that continues to see such significant and dramatic growth.

Background of the Study

Nurse anesthesia educational programs have the critical task of ensuring that each student has been socialized to the profession of nurse anesthesia to ensure the perpetuation of the profession. Awareness and inclusion of this process is necessary to ensure that students can be acclimated into the society, and culture, of the profession (McCain, 1985).

A review of the literature was stimulated by questions following a recent conversation with nurse anesthesia education colleagues regarding the professional socialization of students. An examination of the literature found the topic of professional socialization widely discussed in the nursing literature. Nonetheless, literature specific to the nurse anesthesia profession was sparse, and no literature that explored the attitudes and beliefs of nurse anesthesia faculty members related to professional socialization was found. This gap in the literature became the impetus for this study.

Prior to delving into a topic such as professional socialization, it is important to first consider what constitutes a profession. According to Haynes, Boese, and Butcher (2004), a profession can be defined as:

> A prestigious, autonomous, self-regulating occupation providing an essential
> service to society. A profession requires a lengthy and rigorous education, which
> is grounded in a unique body of knowledge taught in an institution of higher
> learning. The members are called to the profession, actively participate in its
> professional societies, and are guided by the profession's Code of Ethics. (p. 54)

Pellegrino (1983) suggests a deeper meaning of profession and asserts, "the philosophical grounding of a true profession lies in the special kind of interpersonal relationship it requires between its practitioners and those who seek their assistance" (p. 172).

The nurse anesthesia profession is a member of the broader nursing profession. There are a number of professions that work within the health care system (e.g., physicians, physical therapists, occupational therapists, social work, and dieticians). Those that are members of the profession are often referred to as being a professional.

Professional Socialization

Socialization has been well defined and applied to multiple health care professions in the literature (Merton, Reader, & Kendall, 1957; Bragg, 1976; Simpson, 1979). The definition of professional socialization that is most applicable to nursing, and subsequently this study, is described by Cohen (1981) and quoted by Du Toit (1995):

> Professional socialization is the complex process by which a person acquires the knowledge, skills, and sense of occupational identity that are characteristic of a member of that profession. It involves the internalization of the values and norms of the group into the person's own behavior and self-conception. In the process a person gives up the societal and media stereotypes prevalent in our culture and adopts those held by members of that profession. (p. 168)

The professional socialization of nurse anesthesia students is a critical process that is about more than just the mere formation of skills. It must also involve the acquisition of the values and norms of the nurse anesthesia profession, which must be internalized by every student. It is incumbent upon nurse anesthesia educational programs to ensure that this process occurs. According to Clark (2004), "professional socialization of members

during the educational preparation period is one of the hallmarks of any profession"
(p. 348).

Failure to adequately socialize students may have significant consequences. The literature suggests a lack of professional socialization in nursing is associated with several negative outcomes, including increased turnover and attrition from the profession (Crocker & Brodie, 1974; Boyle, Popkess-Vawter, & Tauton, 1996). These findings have the potential to change the culture within the nursing and nurse anesthesia professions that may lead to decreases in national association membership, participation, or perhaps both. As a result, the profession could lose the respect and strength that has developed over 80 years. In addition, the professional independence, autonomy, and scope of clinical practice for the nurse anesthetist could be negatively altered.

While nurse anesthetists currently enjoy a high job satisfaction and a professional association membership rate that exceeds 90% (American Association of Nurse Anesthetists, 2012), the best result may come from proactive measures to ensure that adequate professional socialization begins as early as possible during the student's nurse anesthesia educational program. Waiting and reacting to diminishing job satisfaction and decreasing professional membership rates is counterproductive and potentially devastating to the profession.

External Forces Affecting Practice and Education

In addition to the implementation of the Affordable Care Act of 2010, there are several forces that are current or future issues that are or will be affecting nurse anesthesia practice and education in the future. These issues are particularly salient to the topic of professional socialization. External forces that may impact current and/or future

nurse anesthesia practice and education includes graduate nursing education recommendations, workforce issues, and the drive for a transformative change in nursing.

Graduate nursing education recommendations. The American Association of Colleges of Nursing (AACN) represents over 700 member schools of nursing in the U.S., some of which house nurse anesthesia educational programs. The AACN publishes a variety of outcome recommendations, called *Essentials*, for different levels of educational preparation for nurses including baccalaureate, master's, and doctoral.

Within graduate nursing education, there are two pathways: direct care practice roles and indirect care roles (American Association of Colleges of Nursing, 2011). A nurse anesthesia educational program within an AACN member school of nursing follows the recommendations made for the direct care practice role. Within the *Essentials* documents for all levels of educational preparation are woven themes of assuming a role within the nursing profession as a professional. Graduate nurses will have, "the formation of a professional identity and accountability for one's professional image…." also "requires the development and demonstration of an appropriate set of values and ethical framework for practice" (AACN, 2008, p. 10). Given the explicit language within its recommendations, it is clear that the AACN places significant value on the idea of educational programs producing professional nurses at the baccalaureate level and beyond.

Workforce issues. Most professions deal with a variety of workforce issues, and the nurse anesthesia profession is no exception. Each year, the American Association of Nurse Anesthetists (AANA) conducts a profile survey of its membership and publishes the results as part of its annual report. Based on the 2011 results and corresponding 10-

year comparison data for 2001, the profession has two workforce issues that are of concern.

First, the profession is experiencing an aging workforce. Over 50% of the almost 6,000 members who participated in the survey are older than 50 years old, which is an increase from 38% in 2001. Second, of those CRNAs who were surveyed, 26% indicated that they expect to retire by the year 2020, and an additional 19% expect to retire by the year 2024 (AANA, 2011). These results do need to be tempered by the fact that our educational programs graduate approximately 2,000 graduates each year.

If there is an expansion of health care services in the United States within the next decade that requires the skill and presence of CRNAs, a shortage related to the foregoing current trends described may occur. Nurse anesthesia educational programs need to ensure that it prepares professional nurse anesthetists to meet future health care demands.

Future of nursing. In 2010, the Institute of Medicine (IOM) of the National Academies released a report titled, *The Future of Nursing: Leading Change, Advancing Health*. The report was a joint effort between the IOM and the Robert Wood Johnson Foundation (RWJF). The report, a call to action for the nursing profession, including APRNs, made four significant recommendations:

1. Nurses should practice to the full extent of their education and training;

2. Nurses should achieve higher levels of education and training through an improved education system that promotes seamless academic progression;

3. Nurses should be full partners with physicians and other health care professionals, in redesigning health care in the United States;

4. Effective workforce planning and policy making require better data collection and an improved information infrastructure. (Institute of Medicine of the National Academies, 2010a, p. 4)

If the nursing profession wants to be at the forefront and leaders of the changing health care environment, the education of nurses will need to change, and nurse faculty members will play a critical role in this change. "New approaches and education models must be developed to respond to the burgeoning information in the field" (Institute of Medicine of the National Academies, 2010b, p. 2).

The dramatically changing health care environment and the push for the nursing profession to assume a leadership role is an opportunity for educational programs to evaluate their program curriculum and consider how and what content is delivered to students. We must contemplate how we, as faculty members, are preparing our students to possess the skill, knowledge, and decision-making abilities to provide anesthesia to our patients. Of equal importance to consider is how we are socializing students into the profession of nurse anesthesia.

Nurse Anesthesia Education

Like many health care professionals, RNs can have different levels of educational preparation. The extent of their education certification and licensure will determine the level and scope of their nursing practice. RNs who successfully complete an APRN educational program, such as nurse anesthesia, are eligible to take a certification exam to become a Certified Registered Nurse Anesthetist (CRNA). Upon successful completion of a certification exam, the individual will join a profession of more than 45,000 CRNAs (AANA, 2012).

In our current educational system, there are 112 accredited nurse anesthesia educational programs in the United States. Within these programs, nurse anesthesia faculty members strive to ensure that students complete the program with the required knowledge and clinical experiences that meet or exceed minimal standards and requirements set by both the Council on Accreditation of Nurse Anesthesia Educational Programs (COA) and the National Board of Certification and Recertification for Nurse Anesthetists (NBCRNA).

Educational preparation. The current minimum educational preparation is at the master's level for entry into practice. However, the AANA has moved toward a minimum level of education for entry into practice to change to the doctoral level by 2025. In 2004, the AACN members endorsed a position statement for movement to the doctoral level by 2015 for member institutions that have advanced practice nurse educational programs (AACN, 2004).

As some nurse anesthesia educational programs are housed within AACN member institutions, those programs will need to follow the 2015 transition timeline, versus the 2025 deadline, that will apply to the remainder of the educational programs. This movement to the doctoral level of educational preparation is congruent with other health professions who have also moved to the clinical doctorate level (i.e., pharmacists, physical therapists, and occupational therapists).

Distance education. Distance education continues to explode throughout higher education and its popularity continues to grow. According to Allen and Seaman (2011), "31% of all higher education students now take at least one course online" (p. 4). The use of distance education is alive and well in nurse anesthesia programs. While a number of

programs are approved by the Council on Accreditation of Nurse Anesthesia Educational

Programs (COA) to deliver distance education courses, there are over 20 programs that

are approved as distance education programs (S. Monsen, personal communication,

November 9, 2012), where over half of the curriculum can be offered and delivered at a

distance (Council on Accreditation of Nurse Anesthesia Educational Programs, 2013b).

Since minimal literature exists regarding the professional socialization of students

in distance nurse anesthesia programs, the broader nursing literature was utilized.

Researchers disagree when it comes to professional socialization in distance programs.

There is research that supports the notion that professional socialization in distance

nursing programs is comparable to traditional on-campus programs (Cragg et al., 2001;

Nesler et al., 2001), and there is research that indicates socialization was lacking (Stanton

et al., 2005).

In a study by Holley and Taylor (2009), some students reported their experience

as, "strongly individualized and sometimes isolating….students and faculty members

rarely had interaction beyond electronic communication" (p. 262). These responses are

concerning, given the importance of communication to socialization (Garcia-Alvarez et

al., 2002). Certainly faculty members may need to take action and incorporate intentional

activities to ensure socialization takes place in the online environment.

Statement of the Problem

Professional socialization is a critical element of any educational program that is

tasked with preparing their students to enter a profession. For nurse anesthesia

educational programs, professional socialization is addressed in the COA *Standards for*

Accreditation of Nurse Anesthesia Educational Programs. According to COA Standard

III: Program of Study:

> The program curriculum is relevant, current, comprehensive, and meets
>
> commonly accepted national standards for similar degrees. The teaching-learning
>
> environment promotes the achievement of educational outcomes driven by the
>
> mission of the institution and fosters student learning, professional socialization,
>
> and faculty growth. The curriculum prepares graduates for the full scope of nurse
>
> anesthesia practice. (2013a, p. 5)

The COA does not prescribe how a nurse anesthesia program will meet this standard. It is

within the purview of program administrators and faculty members to decide how to best

meet accreditation standards. Additionally, the NBCRNA currently does not require

specific knowledge related to professional socialization for students to take the National

Certification Exam (NCE). However, for students to be eligible to sit for the NCE,

program administrators must attest on the students' transcript that the student has met the

necessary requirements for completion of an accredited program, which includes criteria

within the aforementioned COA Standard III. Again, the responsibility lies with the

program to ensure that the professional socialization process has taken place.

Those with whom the student has contact during their program of study

significantly influence the degree to which a student is professionally socialized. These

influencing individuals, sometimes referred to as socializing agents in the literature,

include faculty members, clinical preceptors, peers, professional leaders, and patients. Of

these individuals, the faculty member has been identified as a primary influence of

students (Bragg, 1976).

With an active professional membership that exceeds 90% in the AANA, there is no doubt that students are professionally socialized in our educational programs, yet the degree or extent is not clear. Given the pivotal role that nurse anesthesia faculty members play in the education and mentoring of future members of the profession, there is a critical need to explore their attitudes and beliefs relating to professional socialization. MacLellan, Lordly, and Gingras (2011) state, "within the formal educational system, faculty and preceptors can have both a positive and negative impact on an individual's professional growth and development" (p. 40). Similarly, Hammer (2000) asserts, "it is important to remember that students can be *negatively* socialized just as easily as they can be *positively* socialized" (p. 457).

Statement of Purpose

The purpose of this study was to better understand professional socialization in nurse anesthesia educational programs through an exploration of the attitudes and beliefs of nurse anesthesia faculty members from educational programs throughout the U.S. In addition, since the students are the primary focus of the socialization process, it is prudent to examine their attitudes and beliefs. Understanding the attitudes and beliefs of recent graduates is an indirect implication of understanding the faculty members.

Rationale for Study

There is a lack of literature that speaks to the attitudes and beliefs of nurse anesthesia faculty members and recent graduates regarding professional socialization. It is critical for the nurse anesthesia profession and the future professional who will join their ranks that students are adequately socialized into the nurse anesthesia profession.

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Given the important role that faculty members play in the education of future anesthetists, this seems extremely relevant.

This study produced findings about the attitudes and beliefs of nurse anesthesia faculty members and recent graduates that included comparisons with both cohort size and instructional delivery method. The findings in this study are useful to nurse anesthesia program administrators, faculty members, and accrediting bodies that desire to better understand professional socialization as a process and outcome within educational programs.

Research Questions

The primary research questions that were examined in this study include:

1. Is there a difference between how faculty members and recent graduates:

   a. Perceive the importance of activities related to professional socialization as outcomes of nurse anesthesia education programs?

   b. Rate overall preparation of recent graduates in activities related to professional socialization?

   c. Rate their overall satisfaction with professional socialization in nurse anesthesia education programs?

2. Is there a difference between faculty member ratings of recent graduate overall preparation in activities related to professional socialization according to:

   a. Cohort size?

   b. Instructional delivery method?

3. Is there a difference between recent graduate ratings of overall preparation in activities related to professional socialization according to:

   a. Cohort size?

   b. Instructional delivery method?

4. Is there a relationship between recent graduate rating of preparation in activities related to professional socialization and:

   a. Overall satisfaction with professional socialization in their nurse anesthesia education?

   b. Frequency of participation in activities related to professional socialization?

5. Who do recent graduates identify as being most and least influential in their professional socialization?

Operational Definitions

The following definitions are provided to help the reader better understand terms used throughout this study:

Certified Registered Nurse Anesthetist (CRNA): An advanced practice registered nurse who has received extensive graduate level education in anesthesia, has successfully passed a national certification exam, and is part of the nurse anesthesia profession (AANA, 2012).

Faculty Member: For this study, an individual who is a faculty member within a nurse anesthesia educational program in the U.S. and is a CRNA.

Professional Socialization: As defined by Cohen (1981) and quoted by Du Toit (1995):

Professional socialization is the complex process by which a person acquires the knowledge, skills, and sense of occupational identity that are characteristic of a member of that profession. It involves the internalization of the values and norms of the group into the person's own behavior and self-conception. In the process, a person gives up the societal and media stereotypes prevalent in our culture and adopts those held by members of that profession. (p. 168)

Recent Graduate: For this study, an individual who has graduated from a nurse anesthesia educational program in the U.S. within the past three years and is a CRNA.

Assumptions

1. Participants who responded to the survey met the study qualifications.

2. Participants responded to the survey to the best of their ability.

3. Participants understood and responded to survey questions in an honest and complete manner.

Delimitations

1. The study was limited to participants in two groups: faculty members from, and recent graduates of, nurse anesthesia educational programs in the U.S. Participants in both groups were CRNAs. Faculty members are those who were primarily in the academic setting. Recent graduates were those participants who graduated from a nurse anesthesia educational program in the past three years.

2. The survey instruments were electronically administered and data collected using Qualtrics®, a Web based survey provider.

Organization of the Study

This study has been organized into five chapters. Provided in Chapter I was an introduction and background of the study, statement of the problem, statement of purpose, research questions, operational definitions, assumptions, and delimitations. In Chapter II a review of the literature for professional socialization is presented. In Chapter III the reader will find a description of the methodology utilized for this study (i.e., research design, description of the survey instruments, participants, and procedure for data collection and analysis). In Chapter IV the findings of the study and analysis of data are found. Finally, a discussion of the findings, limitations, and recommendations for future research are provided in Chapter V.

CHAPTER II

LITERATURE REVIEW

The purpose of this study was to better understand professional socialization in nurse anesthesia educational programs through an exploration of the attitudes and beliefs of faculty members and recent graduates. To better understand this purpose, a review of the existing literature is warranted.

This chapter is organized to first present the conceptual framework chosen for the study, then to provide a background overview of professional socialization. Next, a further exploration of professional socialization that includes professional identity, influences, mentorship, and the process within specific higher education professional programs follows. Lastly, professional socialization will be discussed within the context of distance education.

Conceptual Framework

The conceptual framework that provides the underpinnings for this research is the Weidman, Twale, and Stein Graduate Socialization Framework (Weidman, Twale, & Stein, 2001). The model depicts a series of three ellipses that are connected and overlapping. The focus of the model is at the center, which is described as the "core socialization experience in the graduate degree program" (Weidman et al., 2001, p. 37). See Figure 1 for an illustration of the Weidman, Twale, and Stein Graduate Socialization Framework.

PROFESSIONAL
COMMUNITIES
Practitioners
Associations

UNIVERSITY

PROSPECTIVE
STUDENTS
Background
Predispositions

Institutional
Culture
Academic Programs
Peer Climate

Socialization
Processes
Interaction
Integration
Learning

NOVICE
PROFESSIONAL
PRACTITIONERS
[Commitment]
[Identity]

[Knowledge Acquisition]
[Investment, Involvement]

PERSONAL
COMMUNITIES
Family
Friends
Employers
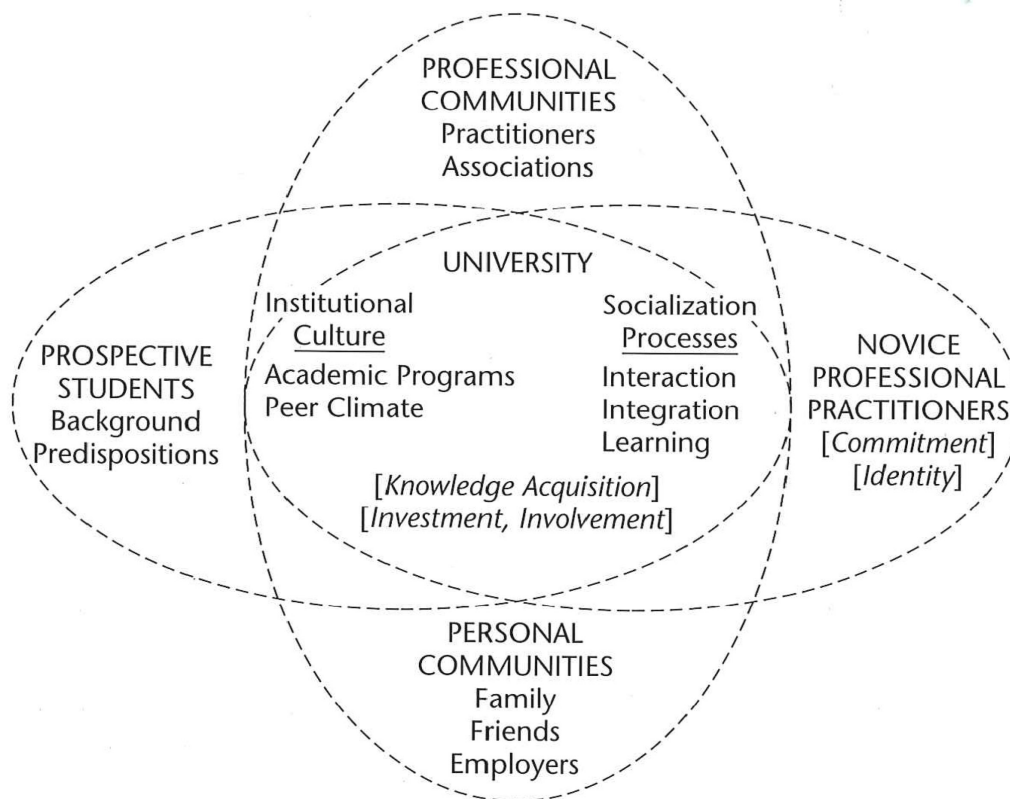
Interactive Stages of Socialization: Anticipatory, Formal, Informal, Personal

Figure 1. The Weidman, Twale, and Stein (2001) Graduate Socialization Framework. From *Socialization of Graduate and Professional Students in Higher Education: A Perilous Passage?* By J.C. Weidman, D.J. Twale, and E.L. Stein, 2001. Copyright 2001 by John Wiley & Sons, Inc. Reprinted with permission.

Within the center, or core, socialization is facilitated through three distinct elements that include knowledge acquisition, investment, and involvement. Knowledge acquisition refers to acquiring the skills and knowledge specific to the profession being learned. Investment is focused on how much time the student has committed to the profession. Involvement refers to the interaction of the student with practicing practitioners in the profession. There are four stages of the socialization process that can take place throughout the model when knowledge acquisition, investment, and

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involvement are occurring. These stages include anticipatory, formal, informal, and personal (Weidman et al., 2001).

Surrounding the core within the three ellipses are the other components that are essential to the socialization of the graduate student: prospective students, professional communities, personal communities, and novice professional practitioners. On the far left of the model is the prospective student, which represents the student prior to beginning the formal educational program. On the far right of the model is the novice professional practitioner, which represents the student who has completed the program and is prepared to enter the profession (Weidman et al., 2001).

According to this model, graduate students will rotate from the core to the other components throughout their program. Yet, the exact movement of students within the components of the model and how much time they spend in each area may vary depending on the educational program and the student (Weidman et al., 2001).

Further, socialization occurs not only within the education program (Ohlen & Segesten, 1998; Weidman et al., 2001). Weidman et al. (2001) posit, "socialization is dynamic and ongoing, without a definite beginning or end" (p. 40). This is in contrast with earlier models of socialization, where it was thought that the majority of socialization occurs within the formal educational program (Simpson, 1967; Hinshaw, 1977; McCain, 1985).

Within the core, or the center of the model, Weidman et al. (2001) suggest three processes are at play to socialize the student: interaction, integration, and learning. While there are a number of individuals who are involved in the socialization process, it is

specific educational programs, such as nurse anesthesia educational programs, that have the command. According to Weidman et al. (2001):

> It is the academic program faculty who establish the norms for teaching, research, and service within the constraints of the larger university community….and shape the curriculum as well as the organization of instruction and social relationships among members of the academic program. (p. 38)

Faculty members assume a critical role, having the potential to significantly impact students; it is clear that they are central to professional socialization. In this respect, it makes sense that faculty members are often considered *gatekeepers* to the profession (Weidman et al., 2001).

It is important to note that academic programs do not operate in isolation; while the program may direct the process, it takes the efforts of all involved for the process to be successful. According to Weis and Schank (2002), "for full embodiment of professional values to occur, education, service, and the profession must deliberately participate in the process" (p. 274).

Another important aspect of the model is the interaction that takes place within the professional communities, which refers to practitioners and associations (Weidman et al., 2001). Students within nurse anesthesia programs are required to meet clinical experience requirements, as set forth by the Council on Accreditation of Nurse Anesthesia Educational Programs (COA). It is through these clinical experiences that students are afforded the opportunity to work with clinical practitioners and gain critical experience. In addition, many educational programs will encourage students, if not require them, to attend state and/or national professional association meetings.

This conceptual framework is well suited to frame this research. It is specific to the process of professional socialization of students in graduate programs such as nurse anesthesia educational programs. Using this framework, Weidman et al. assert, "the outcome of socialization is not the transfer of a social role, but identification with and commitment to a role that has been both normatively and individually defined" (2001, p. 36).

Background

Before delving into an expansive topic, such as professional socialization and appreciating the process within the context of nurse anesthesia education, it is important to first describe the process from a historical perspective. Professional socialization is an extension of the term socialization, which is rooted in sociology. Brim (1966) defines socialization as, "the process by which persons acquire the knowledge, skills, and dispositions that make them more or less able members of their society" (p. 3).

While the focus of this study is on adults in professional nurse anesthesia educational programs, the process itself has applications throughout the lifespan, beginning when we are children. Socialization can be used from the viewpoint of either an individual or a group:

> For the group, socialization is a mechanism through which new members learn the values, norms, knowledge, beliefs, and the interpersonal and other skills that facilitate role performance and further group goals. From the perspective of the individual, socialization is a process of learning to participate in social life. (Mortimer & Simmons, 1978, p. 422)

Profession

Certified Registered Nurse Anesthetists (CRNAs) are an example of a group that identifies itself as a profession. Given that this study is aimed at describing the process that prepares individuals to enter a profession, it seems prudent to define the term. The dictionary defines a profession as, "a calling requiring specialized knowledge and often long and intensive academic preparation", "the whole body of persons engaged in a calling" (Merriam Webster Online Dictionary, n.d.).

Haynes, Boese, and Butcher (2004) define a profession as:

> A prestigious, autonomous, self-regulating occupation providing an essential service to society. A profession requires a lengthy and rigorous education, which is grounded in a unique body of knowledge taught in an institution of higher learning. The members are called to the profession, actively participate in its professional societies, and are guided by the profession's Code of Ethics. (p. 54)

Pellegrino (1983) asserts, "the philosophical grounding of a true profession lies in the special kind of interpersonal relationship it requires between its practitioners and those who seek their assistance" (p. 172). While Pellegrino was speaking from the perspective of a physician, it is certainly is applicable to other professions within health care, including nursing.

Professionals

Those individuals who are members of the profession are often referred to as being professionals. According to Pellegrino (1983), "a true professional is, in sum, an ordinary person called to extraordinary duties by the nature of the activities in which he or she has chosen to engage" (p. 175). Professionals are those who have received and

proved they possess the necessary knowledge, skills, and have internalized the necessary values and norms. Being a professional in a high stakes health care environment such as a hospital is critical. "The welfare of the professionals' clients is virtually affected by the competence and quality of the service performed" (Moore, 1970, p. 3).

Professional Identity

As previously mentioned, the process of professional socialization has been described both as a developmental process and an outcome. During the process of acquiring and assimilating knowledge, skills, norms, and values that are essential to becoming a member of a profession, the individual is developing an identity. In the context of graduate students, Weidman et al. (2001) posit, "one of the most important outcomes of professional socialization is an evolving professional identity" (p. 16). Development of this identity is equally important to those entering the profession of nursing (Faulk, Parker, & Morris, 2010).

Howkins and Ewens (1999) conducted a qualitative study to investigate if there was a change in role identity for advanced practice nursing students during a community-nursing program and, if so, how the role identity changed. The researchers recruited a total of 26 participants from two cohorts and used interviews to collect data. These interviews took place when the course began, when it ended, and then after six months of professional practice. There were several findings from this study.

First, the impact that nursing education has on the process of professional socialization is dependent on the past experiences of students. Moreover, the use of reflective processes and which beliefs and values receive emphasis within the education program can have an effect on the degree of impact on the process. A last finding of the

study was that students had acquired a greater understanding of their specialist role, made radical reappraisals of their perceptions, and became less rigid in their thinking during the course (Howkins & Ewens, 1999).

Professional Socialization

The topic of professional socialization has been extensively discussed in the extant literature for over 50 years and has been frequently applied to the professions of medicine, nursing, and higher education (Merton, Reader, & Kendall, 1957; Bragg, 1976; Simpson, 1979). While variations exist for the definition of professional socialization, depending on the context and discipline in which it was used, the definition remains relatively consistent. The most applicable definition to nursing and subsequently this study is described by Cohen (1981) and quoted by Du Toit (1995):

> Professional socialization is the complex process by which a person acquires the knowledge, skills, and sense of occupational identity that are characteristic of a member of that profession. It involves the internalization of the values and norms of the group into the person's own behavior and self-conception. In the process a person gives up the societal and media stereotypes prevalent in our culture and adopts those held by members of that profession. (p. 168)

Professional socialization, a complex process, is described in the literature both as a process and outcome. In the context of professional educational programs in higher education, the process involves the acquisition of knowledge, skills, values, norms, and behaviors for the profession to be entered.

Applied to the profession of nurse anesthesia, Waugaman, Faut-Callahan, and Hornsby (2011) assert, "the concept of professional socialization describes how nurses

are "molded" into their new roles as nurse anesthetists by developing knowledge, skills, behavior, and career commitment appropriate to the profession" (p. 27). Successful professional socialization is evidenced by outcomes, including the establishment of a professional identity (Bragg, 1976; Weidman et al., 2001) and a commitment to the profession (Saarmann, Freitas, Rapps, & Riegel, 1992; Weidman et al., 2001; Waugaman, Faut-Callahan, & Hornsby, 2011).

As previously mentioned, socialization is described as a process that occurs throughout the lifespan. Professional identity and commitment developed by the individual during the educational program, continue to develop over time after graduation (Bragg, 1976; Weidman et al., 2001).

Professional identity is shaped in formal education by faculty members, peers, and patients (Clark, 1997) and continues to be fashioned in clinical practice. In a mixed methods study of Norwegian nurses, Fagermoen (1997) found that interactions with peers, patients, and their families during practice affected and changed the values and subsequently their professional identity as nurses.

Influences

Looking more broadly at the professional socialization process, there are a number of factors that can influence the socialization process. Factors include the educational program, faculty members, clinical preceptors, classmates, professional associations, family, peers, patients/clients, and employers (Saarmann et al., 1992; Weidman et al., 2001; Waugaman et al., 2011).

Faculty members assume a pivotal role in the socialization process of students (Crocker & Brodie, 1974; Bragg, 1976; Waugaman et al., 2011). Faculty members serve

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as *socializing agents*, using intentional socialization approaches such as "modeling and teaching of the professional role; demonstrating mastery of nursing knowledge, skills, and behaviors; and exhibiting commitment to values, traditions, obligations, and concerns of the profession" (American Association of Colleges of Nursing, 1987, p. 55).

While the existing literature has identified faculty members as prominent and important influences in the socialization process, a recent literature review by MacLellan, Lordly, and Gingras (2011) suggests that nurse preceptors may play a more important role in the process than faculty members. Given the amount of time a nurse anesthesia student spends in both the academic environment and the clinical setting, it may be that both faculty members and preceptors assume prominent influencing roles.

However, not all things that happen within the process can be planned and intentional, especially in nurse anesthesia programs (Waugaman & Aron, 2003). MacLellan, Lordly, and Gingras (2011) state, "within the formal educational system, faculty and preceptors can have both a positive and negative impact on an individual's professional growth and development" (p. 40).

Mentorship. Faculty members and clinical instructors can influence the socialization process not just as professional role models, but also by assuming mentorship roles with their students. Mentoring is a mainstay within the nurse anesthesia profession and it assumes an important role in the socialization process (Waugaman et al., 2011) According to Gray and Smith (1999), "the mentor is the linchpin of the students' experience" (p. 639). Nursing research has shown that mentoring can improve clinical learning for students (Myall, Levett-Jones, & Lathlean, 2008). Additionally, peer mentoring can enhance both personal and professional growth (Glass & Walter, 2000).

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Distance education can affect the quality and quantity of mentorship between faculty members and students. A small study by Miller and Deggs (2012) of 13 graduate students explored mentoring in online adult graduate education programs. The study found a decreased focus on mentoring professional socialization that may be attributed to either the use of distance education formats, program changes, or perhaps both. Interestingly, there also may be a generational component. Miller and Deggs (2012) posits, "students may be seeking less input or support from their academic institutions, an idea consistent with the Millennial-described approach to acceptance rather than confrontation (p. 27).

There is a connectedness between the professional socialization process that extends beyond the academic program and mentorship. Following a meta-analysis of nursing literature, Price (2008) found, "role models and mentors were a great source of support to individuals and often made a difference in the decision to remain in nursing" (p. 17).

Lack of Professional Socialization

Professional socialization should be viewed by nurse anesthesia faculty members as an important and critical process within, and outcome of, educational programs. Simpson (1979) asserts, "failure to socialize, like success in doing so, rests with the school and its program" (p. 232).

Failure to adequately socialize students, whether by omission or through the use of ineffective strategies, may have detrimental outcomes for the student during the program, such as poor performance (Crocker & Brodie, 1974). Once the student graduates and becomes certified, these negative consequences can extend into their

professional role (Joel, 2004) and cause professional dissatisfaction and increased attrition from the profession (Crocker & Brodie, 1974; Boyle et al., 1996).

A pre-prerequisite for admission into nurse anesthesia programs is registered nurse (RN) licensure and a baccalaureate degree. Prospective students bring to graduate programs their prior background and experiences (Weidman et al., 2001). While not readily apparent to nurse anesthesia admission committees and faculty members, this background could possibly include inadequate, or deficient areas of socialization. Joel (2004) posits, "inadequate socialization predicts marginalization, or the inability to either remain in a previous role or move onto another" (p. 62).

Two research studies were found in the literature that reported attrition in nurse anesthesia educational programs (Mathis, 1993; Dosch, Jarvis, & Schlosser, 2008). Mathis (1993) reported an average attrition rate of approximately 8.2% for the cohort that graduated in 1990 from the 45 nurse anesthesia educational programs that participated in the study. Dosch et al. (2008) reported an average attrition rate of approximately 7.7% for the cohort that graduated in 2005 from 62 nurse anesthesia educational programs. Reported attrition rates ranged from zero to 41%, with seven programs reporting a 20% or greater attrition and three programs greater than 30 percent. The top three reasons for attrition included student withdrawal/resignation due to personal reasons, dismissal for academic related issues, and dismissal for clinical related issues (Mathis, 1993; Dosch et al., 2008).

While a wide range of possibilities exist for the most prevalent reasons for this attrition, it's possible there were students who were not identified as being deficient in professional socialization from their prior undergraduate education. Nurse anesthesia

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faculty members who observe a student with poor academic or clinical performance within their program should consider this deficiency as a possibility.

Waugaman and Aron (2003) conducted a prospective cross-sectional study to identify time periods of increased risk of student attrition in nurse anesthesia programs. Findings in the study identified the time period of 12-18 months as the time when students are particularly at risk to attrition. While programs are designed differently, this time period could correlate with the student participating in full-time clinical experiences. Dismissal for clinical related issues was cited as a reason for attrition in both the Mathis (1993) and Dosch et al. (2008) studies.

Professional Socialization in Educational Programs

Nurse anesthesia. While professional socialization has been studied extensively within the nursing discipline, there were only a few studies found in the literature review related to nurse anesthesia education (Waugaman & Lu, 1999; Waugaman & Lohrer, 2000). Waugaman and Lu (1999) conducted a quantitative cross sectional study of 1,117 student registered nurse anesthetists from 83 nurse anesthesia programs in the United States. They sought to determine if there were relationships that existed between culture, race, and ethnicity on professional socialization and career commitment of student registered nurse anesthetists.

A key finding in this study was differences among measured dimensions of socialization and the cultural and ethnic backgrounds of the participants. This is significant, given the critical role that educational programs have in the socialization process. Faculty members need to not only ensure graduates are culturally competent when providing anesthesia care to patients, they must also consider the cultural needs of

the students. Failure to consider these cultural needs of students may create an unintended barrier to the socialization process (Waugaman & Lu, 1999).

A qualitative study by Condon and Sharts-Hopko (2010) provides a context for the necessity to consider cultural needs of students. The researchers explored the process of socialization with respect to Japanese nursing students through the use of interviews. There were eight nursing students and two faculty members recruited from a large college of nursing in Tokyo for the study.

An important key finding of this study was, "Japanese students are socialized into nursing by other means, such as observing nurses, working with peers, and participating in team-building activities" (Condon & Sharts-Hopko, 2010, p. 170). If the cultural needs of these students were not considered in a similar nursing program within the United States, there is a good possibility the students would be inadequately socialized, and perhaps not complete the educational program.

In a similar study, Waugaman and Lohrer (2000) investigated whether a relationship existed between the influence of age and gender on professional socialization and career commitment of student registered nurse anesthetists. This study of 1,106 student registered nurse anesthetists from 83 nurse anesthesia programs in the United States used a quantitative prospective cross sectional design. Several significant correlations were demonstrated between the variables of age, gender, and the socialization process using a GSK ANOVA analysis. There were several key findings in this study. First, increasing age was found to negatively correlate in the scales of three areas: professional socioeconomic rewards, attraction to professional role, and personal relatedness to the professional role. Conversely, increasing age was found to positively

correlate with the age influence scale. Second, males were found to more readily achieve socialization in the occupational orientation dimension. A last finding revealed that males were more oriented to administrative and supervisory type roles, where females demonstrated a holistic view (Waugaman & Lohrer, 2000). Similar to the Waugaman and Lu (1999) study, it would be prudent for faculty members to consider the effects of age and gender on the socialization process.

Nurse practitioner. Hupcey (1990) investigated the role expectations of master's-level nurse practitioner students. In addition, she sought to identify factors in the socialization process that influence those role expectations. Using a self-developed instrument, Hupcey surveyed a total of 94 students from 13 accredited master's programs in the United States. Study participants indicated they utilized three different types of preceptors for their clinical experiences: faculty, nurse practitioner, and physicians. Students indicated that the nurse practitioner was the most frequently utilized and the most preferred by participants. This study found that the student's prior experience or current education was not significantly influential on their role expectations of nurse practitioners. One finding in the study suggested that one method of enhancing the socialization process was to give students the opportunity to practice nurse practitioner role behaviors. Participants also indicated that they placed greater importance on the technical aspect of the role as compared to the master's level role behaviors. The author does suggest that participants in this study may not be sufficiently socialized (Hupcey, 1990). Its important to keep in mind that this was a relatively small study that focused solely on adult nurse practitioner students, and as such is not generalizable.

Physical therapy. Dutton (2001) conducted a research study of professional socialization in the physical therapy profession by examining influences and outcomes related to professional socialization in physical therapy. Since the instruments utilized in the Dutton (2001) study are used for data collection in this study, it is important to outline the study and several findings in detail for later comparison and discussion.

Dutton's (2001) mixed methods study looked at a total of 876 participant responses that included physical therapy faculty members, clinicians, and recent graduates. Participants were asked to complete and return a self-developed survey instrument by mail. The instrument was developed based on existing literature and professional documents germane to the profession of physical therapy. Four possible outcomes of physical therapy education were constructed: professional development, scholarly activity/critical inquiry, professional ethics, and professional and social responsibility. Activities were developed for each outcome and modified based on feedback following an expert review process. Chapter III includes more detail about the instrument including reliability and validity.

There were several findings from the Dutton (2001) study. First, faculty members rated the outcomes of professional socialization (professional development, scholarly activity/critical inquiry, professional ethics, and professional and social responsibility) as being more important than did clinicians or recent graduates. Second, when examining the preparation of recent graduates in activities related to professional socialization, recent graduates rated their own preparation as being highest, followed by faculty members, and clinicians. The third finding in the study of significance was that when compared to the perceived importance of the outcome by recent graduates, they rated

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their preparation for the outcome of scholarly activity/critical inquiry as significantly greater. Fourth, faculty members were found to have the greatest perceived influence on the outcomes of professional development, scholarly activity/critical inquiry, professional ethics, and professional and social responsibility. This was followed, greatest to least influence, by clinical instructors, professional leaders, patients, and peers. There were no significant differences noted for any outcome based on institutional type or entry-level degree.

There were multiple significant positive correlations reported by Dutton (2001) between recent graduates' ratings of importance, preparation, and their frequency of participation in each outcome. Actual recent graduate participation in activities for all outcomes related to professional socialization was low, but especially for the outcomes of scholarly activity/critical inquiry and professional and social responsibility. There were disconnects in this study between ratings of importance, preparation, and frequency of participation. Dutton (2001) argued that unknown barriers may exist to cause a low frequency of participation by recent graduates, despite the fact that they thought the outcomes were important and perceived they were well-prepared.

Distance Education

Distance education is defined differently within the literature. Schlosser and Simonson (2006) define it simply as, "a generic, all inclusive term used to refer to the physical separation of teachers and learners" (p. 65). According to Simonson, Smaldino, Albright, and Zvacek (2006), distance education is, "an institution-based, formal education where the learning group is separated, and where interactive

telecommunications systems are used to connect learners, resources, and instructors"
(p. 28).

Like other professional educational programs within higher education, nurse anesthesia educational programs continue to see significant changes in how course content is delivered. Nurse anesthesia education programs in the U.S. must meet accreditation requirements and be approved for distance education. The Council on Accreditation of Nurse Anesthesia Educational Programs (COA) defines distance education as:

> An educational process that is characterized by the separation, in time or place, between instructor and student and supports regular and substantive interaction between the students and instructor, either synchronously or asynchronously. This term includes courses in which: 50 percent or more of instruction is provided via communication technologies, including Internet-based courses both asynchronous and synchronous, two-way and one-way interactive video, audio conferencing, multimedia, compact disc, videocassette, and audiotape. (2013b, p. D-8)

As of November 2012, there were 26 nurse anesthesia programs in the United States that were approved by the COA as a distance education program (S. Monsen, personal communication, November 9, 2012). The COA (2013b) defines a distance education program as, "a program where 50% or more of the total didactic curriculum of any plan of study is offered via distance education and leads to the award of a degree or certificate" (p. D-8).

Additionally, there were 47 nurse anesthesia programs approved by the COA to deliver distance education courses (S. Monsen, personal communication, November 9,

2012). The COA (2013b) defines a distance education course as, "a course where 50 percent or more of the required activities is offered at a distance" (p. D-8). Many nurse anesthesia programs utilize instructional delivery methods that incorporate technology, but not all require prior approval. According to the COA (2013b), "programs are not required to apply to the COA for approval of hybrid or web-enhanced courses if the course requires regular face-to-face interaction at the program site throughout the term" (p. D-8).

Professional Socialization

There was no literature found related to distance nurse anesthesia educational programs and professional socialization during the literature search; therefore, the broader nursing literature will be considered. Researchers within the nursing literature disagree on how comparable professional socialization is between distance and traditional nursing programs. Nesler, Hanner, Melburg, and McGowan (2001) conducted a large quantitative study of almost 1200 students from a total of 30 nursing programs in the United States. Of the 30 programs, 26 were traditional nursing programs, three were large distance education nursing programs, and one was a psychology program. Distance learning occurred through audio teleconference.

The participants in the study included students who were pursing a Bachelor of Science degree in Nursing (BSN) or students who were already registered nurses (RNs) and were returning to school for their BSN. Participants were asked to complete two instruments – the Nursing Care Role Orientation Scale and the Stone Health Care Professional Attitude Inventory. There were several findings from this study. First, nursing students in distance programs scored higher on professional socialization scores

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than students in traditional, on-campus nursing programs. Second, the researchers found that the nursing students, returning to school with prior experience in health care was valuable, because this group achieved higher professional socialization scores (Nesler et al., 2001).

The researchers concluded that students in distance nursing programs showed higher levels of professional socialization as compared to students in traditional programs. Yet, this increased level of professional socialization may not be related to the influence of faculty members. "It must be assumed that students enrolled in distance programs achieve professional socialization through alternative routes, rather than through faculty interaction" (Nesler et al., 2001, p. 300). This finding should be a consideration to program administrators and faculty members, as these routes might be either beneficial or detrimental to the socialization process. Hammer (2000) asserts, "it is important to remember that students can be *negatively* socialized just as easily as they can be *positively* socialized" (p. 457).

Also supporting the idea that professional socialization is comparable in distance and traditional programs was a research study by Cragg, Plotnikoff, Hugo, and Casey (2001). This quantitative study explored the professional re-socialization of RNs who were returning to school to complete their BSN in a distance education program by comparing three groups of students in Canada: entering RN to BSN students, generic nurse graduates, and RN to BSN graduates. The RN to BSN graduates were sub-divided into the following groups: onsite, distance education, or mixture of methods. There were several findings from this study. First, the RN to BSN students who utilized distance education scored higher compared to RN to BSN students that utilized a traditional onsite

program. This finding supported that RN to BSN students are re-socialized when a distance education is utilized. Second, the fact that the RN to BSN students possessed prior experience and were actively involved in nursing promoted re-socialization to the BSN role (Cragg et al., 2001).

Research exists that does not support effective professional socialization in distance education programs. Stanton et al. (2005) conducted a mixed methods study that included six faculty members and 29 former students from a web-based nursing program in Rural Nursing Case Management. A survey instrument and interviews were utilized to collect data. A main finding in this study was that both faculty members and students indicated that socialization was lacking.

Holley and Taylor (2009) utilized a descriptive case study methodology to explore the experiences of 19 students enrolled in an online BSN program at one institution. Data were collected using interviews and document analysis. One findings of the study included student experiences in their online BSN program that were, "strongly individualized and sometimes isolating" (p. 262). Student and faculty interaction was confined to electronic communications within the confines of the course and with sparse interaction with faculty members outside the online course (Holley & Taylor, 2009).

Instructional Delivery

Courses within higher education programs, such as nurse anesthesia programs, can be delivered using one of four methods: traditional, web-facilitated, blended/hybrid, or online (Allen & Seaman, 2011). Traditional instructional delivery occurs in person, face-to-face, where participants are required meet at a given time and physical location. Web-facilitated delivery may be used to augment a traditional instructional delivery, but

the majority of instruction is done face-to-face. Online instructional delivery is completed totally online, where participants typically do not have the requirement of meeting at a given time or physical location. A blended/hybrid instructional delivery combines aspects of both traditional and online instructional delivery (Boettcher & Conrad, 2010).

Instructional delivery within courses are associated with the amount of content delivered online. Traditional courses have no content delivered online, web facilitated have between one and 29 percent delivered online, blended/hybrid have between 30 and 79 percent delivered online, and online courses have 80 percent or more delivered online (Boettcher & Conrad, 2010; Allen & Seaman, 2011).

While face-to-face and in-person meetings are generally not required in online courses, that does not mean they should be avoided and may be beneficial in promoting faculty-student interaction, and enhancing learning (Koeckeritz, Malkiewicz, & Henderson, 2002). According to Boettcher and Conrad (2010), "many programs are designed with occasional face-to-face gatherings for introductory, assessment, or celebratory meetings." (p. 9).

Communication

In distance education, interaction and communication in online learning can either be synchronous or asynchronous. Synchronous communication allows students and faculty members to be in different locations, but online together at a specified time. Examples would include one-way or two-way interactive video or text-based chats (Newlin & Wang, 2002).

Asynchronous communication allows greater flexibility, where the students and faculty members can interact and communicate from different locations and times.

Examples would include discussion boards, bulletin boards, and e-mail (Newlin & Wang, 2002).

Regardless of whether the course is synchronous or asynchronous, consistent instructor interaction with students and communication are important aspects of online learning (Johnson, 2003; Stavredes, 2011). "Instructor-to-learner interaction is a critical component of learner satisfaction and the lack of it can have a negative impact on learner persistence" (Stavredes, 2011, p. 151).

Intentionally planning activities to foster and enhance interaction and communication in online learning is key to increase student success and meeting course outcomes (Johnson, 2003; Stavredes, 2011). Similarly, Mancuso-Murphy (2007) conducted a review of the literature exploring student experiences with distance education from a five-year period between 2001 and 2006. She found that both faculty-student interaction and communication were central themes in the literature.

Class Size

The use of online learning in distance education has allowed for increasing class sizes. The question then becomes, can class size have an effect on the socialization process? Certainly the quality of student and faculty member interactions is an important determinant in both traditional on-campus and online courses.

Burruss, Billings, Brownrigg, Skiba, and Connors (2009) conducted a large exploratory descriptive study that examined class size in relation to technology, educational practices, and outcomes in an online courses. There were 1,128 students who participated in the study, of which 863 were graduate students within nursing programs. Five class sizes were used for comparisons: 1-10 students, 11-20 students, 21-30

students, 31-40 students, and 41+ students. Statistically significant differences were noted among the graduate course class sizes for the variables of student-faculty interaction, professionalism, satisfaction, and connectedness. Specifically, the smaller class sizes (1-10 and 11-20) were perceived as having more student-faculty interaction than larger class sizes (31-40 and 41+). Additionally, there was an increase in perceived professionalism and satisfaction in smaller class sizes (1-10 and 11-20). A decrease in perceived connectedness was also seen in very large classes (41+). When students in larger graduate courses with perceive a lack of student-faculty interaction, professionalism, satisfaction, and connectedness, it is possible that they will also perceive a lack of professional socialization (Burruss et al., 2009).

Russell and Curtis (2013) had similar findings in their mixed-methods sequential exploratory study of students and educators in online Spanish language courses, where 100% of the content was delivered electronically. A total of two instructors and 60 students participated in the study. The study found that larger class size negatively affected student satisfaction as well as the number and quality of student-instructor interactions. In addition, the researchers noted an attrition rate in the larger class double that of the smaller class (i.e., 26.4% compared to 12%).

Given the negative impact of large class sizes, smaller class sizes may be preferable. Palloff and Pratt (2003) asserts, "we continue to believe that smaller is better in an online course….smaller numbers support the community building process, minimize information overload for all involved, and raise the perception of quality of the course as students feel recognized and heard" (p. 119).

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While distance education continues to dramatically grow and technologies advance, there does not appear to be enough evidence in the literature to unequivocally support the notion that professional socialization within traditional programs and distance programs is the same. Weidman et al. (2001) assert:

> While these new pedagogical approaches and resources fulfill students' desires for low cost, practicality, proximity, and convenience; however, most of these innovations fail to address the face-to-face faculty/student and student/peer social exchanges common to the formal classroom and integral to professional socialization. (p. 52)

Summary

Professional socialization has been discussed in the literature for over 50 years, primarily in the fields of medicine, nursing, and higher education. The literature on professional socialization indicates that it is both a developmental process and an outcome for educational programs. It is important during this process that the students' professional identity is cultivated. Further, this identity continues to evolve throughout the career of the professionals as they gain clinical experience.

While many factors and individuals may influence the professional socialization process during educational programs, faculty members have been identified as having a central role. Faculty members utilize role modeling, teaching, and mentorship to facilitate the socialization process; many of these are intentional techniques and methods. A lack or absence of the process may result in detrimental outcomes for both the professional and the profession. Only a few studies have been conducted exploring professional

socialization within nurse anesthesia educational programs; therefore, the broader nursing and allied health literature was considered.

The use of distance education in higher education is increasing in a dramatic fashion, and many nurse anesthesia programs are utilizing distance education within their programs. Literature exists both supporting and opposing the notion that students can be professionally socialized in distance education; however no studies specific to nurse anesthesia programs were identified during the search. Both instructional delivery method and class/cohort size are important factors to consider in the delivery of distance education.

Little research has been conducted with respect to faculty members' perspectives on professional socialization, which is where the gap lies. Given the pivotal role faculty member plays in the professional socialization process, it seems particularly important to examine their attitudes and beliefs. It is also important to examine the attitudes and beliefs of recent graduates, as understanding them is an indirect implication of understanding faculty members.

CHAPTER III

METHODS AND PROCEDURES

While there are several studies about professional socialization in the literature with respect to nursing, there was a significant gap in the literature related specifically to the nurse anesthesia profession. To address this gap, the current research study was conducted, using primarily a quantitative methodology. Found in this chapter is a description of the research design, participants, survey instruments, and procedures for data collection and statistical analyses.

Purpose

The purpose of this study was to better understand professional socialization in nurse anesthesia educational programs through an exploration of the attitudes and beliefs of nurse anesthesia faculty members and recent graduates. The following research questions guided this study:

1. Is there a difference between how faculty members and recent graduates:

   a. Perceive the importance of activities related to professional socialization as outcomes of nurse anesthesia educational programs?

   b. Rate overall preparation of recent graduates in activities related to professional socialization?

   c. Rate their overall satisfaction with professional socialization in nurse anesthesia educational programs?

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2. Is there a difference between faculty member ratings of recent graduate overall preparation in activities related to professional socialization according to:

   a. Cohort size?

   b. Instructional delivery method?

3. Is there a difference between recent graduate ratings of overall preparation in activities related to professional socialization according to:

   a. Cohort size?

   b. Instructional delivery method?

4. Is there a relationship between recent graduate rating of preparation in activities related to professional socialization and:

   a. Overall satisfaction with professional socialization in their nurse anesthesia education?

   b. Frequency of participation in activities related to professional socialization?

5. Who do recent graduates identify as being most and least influential in their professional socialization?

Research Design

This study used a cross-sectional, quasi-experimental online survey research design to identify attitudes and beliefs of nurse anesthesia faculty members and recent graduates related to professional socialization. The research questions, supported by gaps in the extant literature, guided the selection of methodology for this study. Given that the study would collect data at one point in time, a cross-sectional design was selected.

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According to Polit and Beck (2004), "cross-sectional studies are appropriate for describing the status of phenomena or for describing relationships among phenomena at a fixed point in time" (p. 166).

A quasi-experimental approach was utilized in that the subjects were not randomized, and it was important to minimize threats to external validity by studying participants in their natural settings as much as possible. "Quasi-experimental designs introduce some research control when full experimental rigor is not possible" (Polit & Beck, 2004, p. 187).

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Participants

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The two groups of participants for this study included nurse anesthesia faculty members and recent graduates of nurse anesthesia educational programs in the United States (U.S.). A convenience sample was utilized for each group.

Faculty Members

The faculty member sample for this study was drawn from 424 email addresses collected by the author from the websites of the 112 nurse anesthesia programs in the U.S. Inclusion criteria for this population included that the individual was a faculty member in a nurse anesthesia program and a Certified Registered Nurse Anesthetist (CRNA). This population was limited to those faculty members whose email addresses were available on each program's website.

Of the 424 invitations to participate that were sent out to faculty members, 202 respondents logged onto the Qualtrics® system. Of those participants, 18 respondent surveys were excluded because there was minimal data entered (i.e., the respondent did not complete the demographic survey questions or answered very few questions after

completing the demographic questions). In addition, four surveys were excluded because they did not meet the study qualifications (i.e., the participants either indicated they were not a CRNA or did not answer the question). Two surveys were excluded because they did not meet the study qualifications (i.e., participants indicated they were not currently faculty members of a nurse anesthesia program). A total of 24 respondent surveys were eliminated prior to data analysis, leaving a sample size of 178 participants and a response rate of 41.98% (178/424).

Characteristics. Each participant who completed the Professional Socialization: Influences and Outcomes Faculty Survey was first asked to complete several demographic items. Participants were asked to identify their age, gender, highest level of education completed, years of AANA membership, CRNA certification status, employment status, and years of experience as a nurse anesthesia faculty member. The participants were also asked to indicate the average cohort size for their program over the past two years and what best described their primary instructional delivery method. In Table 1 the demographic data for faculty member participants is provided.

Age was calculated as a continuous variable. The mean age for faculty member study participants was 49.64, the median age was 50, the SD was 8.88, the minimum age was 29, and the maximum age was 74. A higher percentage of females participated in the study than males, 62.9% compared to 37.1%. The majority of participants (80.3%) indicated that they have been members of the AANA more than 11 years, with 37.1% indicating more than 20 years. Most participants (82.6%) indicated they were full-time faculty members. Almost half of the participants (47.8%) had more than nine years of experience as a faculty member, with 14.6% indicating more than 20 years of experience.

Table 1. Demographic Characteristics for Faculty Member Participants.

Characteristics		*N*
Gender	Male	66
	Female	112
Highest Level of Education Completed	Bachelor's Degree	1
	Master's Degree	72
	Practice Doctorate (DNP or DNAP)	57
	Research Doctorate (PhD or DNSc)	36
	Other (EdD)	4
	Other (DHA, DMP, DrPH)	3
	Other (PhDc and EdDc)	3
	Other (Enrolled in PhD Program)	1
	Missing	1
Years as Member of AANA	1 to 5 years	8
	6 to 10 years	26
	11 to 15 years	34
	16 to 20 years	43
	More than 20 years	66
	Not Current Member of AANA	1
Current Employment Status	Full Time	147
	Part Time	29
	Retired	2
Years of Educator Experience	Less than 1 year	7
	1 to 2 years	18
	3 to 5 years	39
	6 to 8 years	29
	9 to 10 years	19
	11 to 15 years	20
	16 to 20 years	20
	More than 20 years	26
Average Cohort Size Over Past 2 Years	Less than 10 students	4
	10-25 students	107
	26-50 students	52
	51-75 students	9
	76-100 students	1
	Greater than 100 students	4
	Missing	1
Primary Instructional Delivery Method Over Past 2 Years	Traditional	123
	Blended/Hybrid	51
	Online	4

Most participants (89.3%) were from nurse anesthesia programs with average cohort sizes between 10-50 students in the past two years. Over two-thirds of the participants (69.1%) indicated a traditional primary instructional delivery method over the past two years.

Recent Graduates

The recent graduate sample for this study was drawn from an American Association of Nurse Anesthetists (AANA) member database of approximately 5,000 CRNAs. Members of the AANA included within the "Certified" database passed their National Certification Exam (NCE) within the past two years and are currently practicing as CRNAs. The majority of students who graduate from nurse anesthesia programs do not take their NCE immediately after graduation. To account for this time delay, the inclusion criteria for this population included graduation from a nurse anesthesia program within the past three years, in addition to being a CRNA.

A total of 4,999 invitations to participate were sent out by the American Association of Nurse Anesthetists (AANA). Following the initial invitation and two email reminders, a total of 472 respondents logged onto the Qualtrics® system. Of those participants, four respondent surveys were excluded because they did not give consent to participate. Excluded were 67 respondent surveys, because there was minimal data entered (i.e., the respondent did not complete the demographic survey questions or answered very few questions after completing the demographic questions). Two surveys were excluded, because the participants did not meet the study qualifications (i.e., one participant failed to indicate when he/she graduated from his/her program and one participant indicated it had been greater then three years since graduation from a nurse

anesthesia program). A total of 73 respondent surveys were eliminated prior to data analysis, leaving a sample size of 399 participants and a response rate of 7.98% (399/4999).

Characteristics. Each participant who completed the Professional Socialization: Influences and Outcomes Recent Graduate Survey was first asked to complete several demographic items. Participants were asked to identify their age, gender, highest level of education completed, and time since graduation from their nurse anesthesia program. The participants were also asked to indicate their nurse anesthesia program cohort size and what best described the primary instructional delivery method utilized within their nurse anesthesia program. In Table 2 the demographic data for recent graduate participants is provided.

Age was calculated as a continuous variable. The mean age for recent graduate study participants was 34.69, the median age was 34, the SD was 5.94, the minimum age was 25, and the maximum age was 55. A higher percentage of females participated in the study than males, 58.9% compared to 40.1%. The majority of participants (95.5%) indicated their highest level of education was at the Master's level. Over half of the participants (58.4%) graduated from their nurse anesthesia program between one and three years ago. Most participants (84.2%) were from nurse anesthesia programs with average cohort sizes between 10-50 students. A majority of recent graduates (72.7%) indicated that a traditional primary instructional delivery method was utilized in their program.

Table 2. Demographic Characteristics for Recent Graduate Participants.

Characteristics		*N*
Gender	Male	160
	Female	235
	Missing	4
Highest Level of Education Completed	Bachelor's Degree	1
	Master's Degree	381
	Practice Doctorate (DNP or DNAP)	14
	Other (DMPNA)	2
	Other (Doctoral Candidate)	1
Years Since Nurse Anesthesia Program Graduation	Less than 1 year	166
	1 to 3 years	233
Nurse Anesthesia Program Cohort Size	Less than 10 students	10
	10-25 students	203
	26-50 students	133
	51-75 students	33
	76-100 students	5
	Greater than 100 students	15
Primary Instructional Delivery Method in Program	Traditional	290
	Blended/Hybrid	107
	Online	2

Survey Instruments

Original Survey Instrument

Two survey instruments were used in this study, the Professional Socialization: Influences and Outcomes Faculty Survey and the Professional Socialization: Recent Graduate Survey, both of which were originally developed by Dutton (2001) for her study of professional socialization in the physical therapy profession. The author of the instrument, guided by the existing literature and her research questions, developed four outcomes related to professional socialization: professional development, scholarly

activity/critical inquiry, professional ethics, and professional and social responsibility. For each of these outcomes, Dutton developed activities and behaviors related to each outcome that were based on the extant literature, several documents specific to the physical therapy profession, and feedback from expert reviewers.

Faculty instrument. In Dutton's 2001 study, the same survey instrument was used for both faculty and clinicians who had been practicing for five years or more. The instrument was divided into four parts and contained the following number of items for each outcome: professional development (7); scholarly activity/critical inquiry (9); professional ethics (8); professional and social responsibility (11). Each item represents an identified activity or behavior specific to that outcome. For each of the four parts of the survey, respondents were asked to respond to three questions. The respondent was first asked to rate the level of preparation for recent graduates in the activity or behavior. The respondent could select from the following ratings: not prepared, somewhat prepared, prepared, or well prepared. The respondent was then asked to rate the level importance for each activity or behavior as possible outcomes of entry-level physical therapy education. The respondent could select from the following ratings: not important, somewhat important, important, or very important. The last question was open-ended and asked the respondent to describe any additional activities that they felt reflected the outcome.

Recent graduate instrument. The recent graduate instrument, developed and used by Dutton in 2001, was divided into six parts. The first four parts included the same items for each outcome used in the faculty and clinician survey: professional development (7); scholarly activity/critical inquiry (9); professional ethics

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(8); professional and social responsibility (11). For each of the first four parts, respondents were asked to respond to three questions. The first question asked respondents to rate their level of preparation in the activity or behavior. Respondents could select from the following ratings: not prepared, somewhat prepared, prepared, or well prepared. The second question asked respondents to rate the level of important for each activity or behavior as outcomes of entry-level physical therapy education. Respondents could select from the following ratings: not important, somewhat important, important, or very important. The last question was open-ended and asked respondents to describe any additional activities that they felt reflected the outcome (Dutton, 2001).

The fifth part of the survey instrument asked respondents to indicate how often they participate in the aforementioned activities. There were a total of 35 activities listed, and respondents were asked to rate their level of participation as follows: never, occasionally, often, or very often. Following these ratings, respondents were asked to indicate the institution from which they received their entry-level degree and the type of entry-level degree they received.

The sixth and last part of the instrument asked respondents to rate the level of influence of the following groups on the development of their attitudes and beliefs as recent graduates: faculty members, clinical instructors, professional leaders, patients and/or clients, and peers. For each group, the respondents were asked to rate the level of influence in each of the following outcomes: professional development, scholarly activity/critical inquiry, professional ethics, and professional and social responsibility. Respondents could select from the following ratings: no influence, minimal influence, moderate influence, and significant influence.

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Reliability of instruments. Table 3 indicates the levels of internal consistency (i.e.,

reliability) for the two survey instruments utilized in Dutton's 2001 study. Dutton

calculated the reliability coefficients for the importance and preparation scales based on

the total sample size of 876 respondents. For the frequency and influence scales, she

calculated the reliability coefficient using a sample size of 274, which represents the size

of the recent graduate group.

Table 3. Scale Reliability for Dutton (2001) Survey Instruments.

Scale	Cronbach's Alpha
Professional Development – Importance	.60
Professional Development – Preparation	.78
Professional Development – Frequency	.62
Scholarly Activity/Critical Inquiry – Importance	.85
Scholarly Activity/Critical Inquiry – Preparation	.87
Scholarly Activity/Critical Inquiry – Frequency	.78
Professional Ethics – Importance	.80
Professional Ethics – Preparation	.88
Professional Ethics – Frequency	.56
Professional and Social Responsibility – Importance	.85
Professional and Social Responsibility – Preparation	.89
Professional and Social Responsibility – Frequency	.75
Faculty Influence	.76
Clinical Instructor Influence	.80
Professional Leader Influence	.94
Patient Influence	.83
Peer Influence	.85

A Cronbach's alpha calculation is a measure of reliability and is commonly used to

measure internal consistency of constructs (Morgan, Leech, Gloeckner, & Barrett, 2004).

According to Polit and Beck (2004), "for group-level comparisons, coefficients in the

vicinity of .70 are usually adequate, although coefficients of .80 or greater are highly

desirable" (p. 421). The majority of scales from Dutton's study demonstrated Cronbach's

alpha results greater than .70. There were three scales that fell below .70 (professional

development – importance, professional development – frequency, and professional

ethics – frequency); however, these results are still considered acceptable, as they are all

greater than .40 (Leech, Barrett, & Morgan, 2005). Since the scales all demonstrated

acceptable values for internal consistency, the instruments were considered to be reliable.

Dissertation Study Survey Instruments

Permission to use and modify the survey instruments was sought and obtained

from Dr. Dutton in May 2012 (see Appendix A). The purpose of adding demographic

items to the beginning of each survey instrument was two-fold. The first purpose was to

get an accurate picture of the populations being surveyed. Second, it was necessary to

have the additional information so that comparisons could be made between groups.

Several minor revisions to item wording were made to both instruments to clarify that the

items were in reference to the nurse anesthesia profession.

Faculty survey. Items added to the faculty member instrument included age,

gender, highest level of education completed, years of AANA membership, CRNA

certification status, employment status, and years of experience as a nurse anesthesia

faculty member. In addition, one item asked the average cohort size for their nurse

anesthesia program over the past two years. One item was also added asking for the

faculty members' primary instructional delivery method over the past two years. If

respondents indicated that their primary instructional delivery method was either

blended/hybrid or online, they were asked to indicate a percent of time used in each of

the following learning environments: online asynchronous, online synchronous (primary text based), online synchronous (interactive video), or other (see Appendix B for faculty instrument codebook).

Recent graduate survey. Items added to the recent graduate instrument included age, gender, highest level of education completed, time since graduation from nurse anesthesia program, and their cohort size for their nurse anesthesia program. Similar to the faculty survey, one item was added to determine the primary instructional delivery method utilized. If respondents indicated that their primary instructional delivery method was either blended/hybrid or online, they were asked to indicate a percent of time used in each of the following learning environments: online asynchronous, online synchronous (primary text based), online synchronous (interactive video), or other (see Appendix C for recent graduate instrument codebook).

Instrument validity. The instruments utilized for this study have been previously shown to be reliable and valid (Dutton, 2001). When adding items or revising item wording in established instruments, it becomes important to ensure that the construct validity of the instrument has not been adversely affected. Construct validity is, "the degree to which an instrument measures the construct under investigation" (Polit & Beck, 2004, p. 714). Assessment of construct validity for the modified instruments began with a review to establish face validity prior to data collection. According to Fink (2003), "face validity refers to how a measure appears on the surface: Does it seem to ask all the needed questions? Does it use appropriate language and language level to do so" (p. 51).

Faculty member. A total of five faculty members reviewed the modified Professional Socialization: Influences and Outcomes – Faculty Survey instrument. Once

the individual agreed, an email message containing instructions and an electronic link to the survey instrument was sent to each reviewer. The reviewers were asked to provide feedback in general or regarding specific individual survey items. In addition, the reviewers were asked to identify issues with overall survey flow, clarity, readability and or applicability of the survey items to them as faculty members.

There were further modifications made to the instrument based on the feedback of faculty reviewers. To keep the faculty member and recent graduate instruments congruent, when an item was added, revised, or removed on one instrument, the same occurred for the other instrument. For example, the item, "read non-peer reviewed articles related to nurse anesthesia" was removed from the outcome of professional development.

For the outcome of professional ethics, "in an ethical dilemma" was added to the item "Consult the American Association of Nurse Anesthetists (AANA) Code of Ethics for direction" to provide additional clarity to the question. Two additional items under the outcome of professional ethics, "Refer to other practitioners those patients presenting with diagnoses outside the scope of their knowledge, experience, or expertise" and "Disclose to the patient if the referring practitioner derives any compensation from the provision of nurse anesthesia" were both removed as reviewers indicated the activity was not applicable to the practice of nurse anesthesia.

For the outcome of professional and social responsibility, the item "Provide *pro bono* services" was removed, as reviewers indicated the activity was not applicable to the practice of nurse anesthesia. Faculty reviewers expressed that the addition of "Participate

in a volunteer mission abroad" was an important activity related to the outcome of professional and social responsibility; therefore, it was added.

Following revisions and modifications, the Professional Socialization: Influences and Outcomes: Faculty Survey instrument contained the following items in five parts: demographic items (10), professional development (6), scholarly activity/critical inquiry (9), professional ethics (5), and professional and social responsibility (11).

Recent graduate. Four recent graduates, who graduated from nurse anesthesia educational programs within the past three years, reviewed the modified Professional Socialization: Influences and Outcomes – Recent Graduate Survey instrument. Once the individual agreed, an email message containing instructions and an electronic link to the survey instrument was sent to each reviewer. The reviewers were asked to provide feedback in general or regarding specific individual survey items. In addition, the reviewers were asked to identify issues with overall survey flow, clarity, readability and or applicability of the survey items to them as a recent graduate. As mentioned previously, when an item was added, modified, or removed from the faculty member survey instrument, the same was done for the recent graduate survey instrument to keep the instruments congruent. There were no item additions or deletions based on feedback from recent graduates.

In addition, part six of the recent graduate survey that asks participants to indicate a frequency of participation was updated with the item changes made under each outcome. The item, "Attend national professional organization meetings" was unintentionally omitted by the researcher from the survey instrument. The items, "From what institution did you receive your entry-level degree?" and "Type of entry-level

degree received" were removed from the instrument. New items were added as individual demographic items to obtain this information.

Following revisions and modifications, the Professional Socialization: Influences and Outcomes: Recent Graduate Survey instrument contained the following items in seven parts: demographic items (7), professional development (6), scholarly activity/critical inquiry (9), professional ethics (5), and professional and social responsibility (11). Part six of the survey to assess recent graduate frequency of participation in activities related to the outcomes was updated with the item changes. There was a total of 30 items in part six. Part seven, which focused on groups and the influence they had on the development of attitudes and beliefs related to the four outcomes of professional development, scholarly activity/critical inquiry, professional ethics, and professional and social responsibility remained unchanged. The five groups that recent graduates were asked to rate included faculty members, clinical instructors, professional leaders, patients and/or clients, and peers.

Instrument Measure Quality

In Table 4 all summed scaled descriptive statistics, indicators of normality (skewness and kurtosis), and summed scale reliabilities are shown. All means and standard deviations appeared within normal ranges. All scales were normally distributed, with the exception of scholarly activity/critical inquiry – frequency and professional and social responsibility – frequency, where the skewness and kurtosis were greater than one.

The activity items for each of the four outcomes on both instruments were combined for comparison during data analysis. Prior to combining the items into summed scales, internal reliabilities for the scales were run separately for both recent graduates

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Table 4. Descriptive Statistics for Instrument Summed Scale Scores.

Scale	N	Possible Range	Actual Range	M(SD)	Skewness	Kurtosis	Cronbach's Alpha
Professional Development – Importance	556	6 – 24	7 – 24	18.71(2.86)	-0.357	0.406	.67
Professional Development – Preparation	566	6 – 24	7 – 24	19.34(3.46)	-0.521	-0.080	.84
Professional Development – Frequency	330	6 – 24	7 – 24	15.30(2.90)	0.201	0.092	.65
Scholarly Activity/Critical Inquiry – Importance	543	9 – 36	12 – 36	25.20(5.21)	-0.124	-0.385	.88
Scholarly Activity/Critical Inquiry – Preparation	540	9 – 36	9 – 36	27.21(5.50)	-0.391	-0.101	.90
Scholarly Activity/Critical Inquiry – Frequency	326	9 – 36	9 – 36	17.59(4.35)	1.139	2.057	.82
Professional Ethics – Importance	520	5 – 20	7 – 20	17.86(2.30)	-1.129	1.216	.80
Professional Ethics – Preparation	518	5 – 20	5 – 20	16.88(2.96)	-0.915	1.097	.86
Professional Ethics – Frequency	320	5 – 20	5 – 20	13.78(2.62)	-0.296	1.180	.58
Professional and Social Responsibility – Importance	490	11 – 44	15 – 44	30.86(6.23)	-0.017	-0.377	.88
Professional and Social Responsibility – Preparation	480	11 – 44	11 – 44	32.82(7.12)	-0.180	-0.509	.91
Professional and Social Responsibility – Frequency	317	10 – 40	10 – 40	18.20(4.94)	2.013	5.336	.81
Faculty Members Influence	320	4 – 16	4 – 16	13.28(2.65)	-0.940	0.903	.90
Clinical Instructor Influence	320	4 – 16	4 – 16	12.85(2.85)	-0.792	0.436	.91
Professional Leaders Influence	320	4 – 16	4 – 16	8.83(3.68)	0.302	-0.787	.97
Patients and/or Clients Influence	319	4 – 16	4 – 16	11.91(3.63)	-0.675	-0.460	.93
Peer Influence	316	4 – 16	4 – 16	12.22(2.98)	-0.588	0.209	.95

Note. Frequency and influence scales apply only to recent graduate sample

and faculty members and were found to be very similar across the groups. After combining the items into summed scales, the internal reliabilities were run again. Scale reliabilities were all good or very good with the exception of three: professional development – importance (.67), professional development – frequency (.65), and professional ethics – frequency (.58). While low, they did improve in this study from Dutton's 2001 study, where scale reliabilities for the same scales were reported as .60, .62, and .56 respectively. This may be something to explore in future research to continue improving reliabilities of the lower scale items.

Research Procedures

Approval from the Institutional Review Board (IRB) at the University of North Dakota was sought and obtained prior to initiation of the study (see Appendix D). All potential subjects received an electronic invitation by email to participate in the study. If individuals wished to participate, they clicked on an electronic link, which brought them to an informed consent to participate in the study. Each participant was asked to read and acknowledge the informed consent to participate prior to responding to questions. There was an electronic link on the informed consent that would show respondents a copy of the IRB approval letter, if they wished to see it prior to consent (see Appendix E for faculty member consent and Appendix F for recent graduate consent).

Survey Provider

Survey administration and data collection for both groups of participants was conducted utilizing Qualtrics**®**. This Web-based, password protected survey software was available for use by faculty, staff, and students at an upper Midwestern university. In addition to password protection, Qualtrics**®** utilizes Transport Layer Security (TLS)

encryption (HTTPS) and multiple data redundancies; Web browsers need to support 128-bit SSL encryption (Hite, 2011).

Faculty Member

Following IRB approval, an invitation to participate in the study was sent by email to 424 nurse anesthesia faculty members. Data collection took place over a three-week period, beginning in March 2013. A reminder email message was sent two weeks after the initial email message, and a final reminder email message was sent two days before the data collection period closed (see Appendix G). Compensation was not provided to participants. However, at the end of the survey, participants were given the option of sending an email message to the researcher with their name and email address to be entered into a drawing for one of ten $25 VISA**®** gift cards as an incentive for completing the survey. This drawing was optional and was not connected to their survey responses.

Recent Graduate

A separate application process and fee was required by the AANA to utilize their membership database for this study. Following IRB approval and subsequent approval by the AANA, an invitation to participate in the study was sent by the AANA to 4,999 CRNAs in the database. Data collection took place over a three-week period, beginning in April 2013. A reminder email message was sent two weeks after the initial email message and a final reminder email message was sent two days before the data collection period closed (see Appendix H). Compensation or incentives were not provided to participants.

Data Analysis

At the conclusion of data collection for each population, the data were downloaded from Qualtrics**®** into a Microsoft**®** Excel spreadsheet. Survey instrument code sheets were developed for the Professional Socialization: Influences and Outcomes Instrument for both faculty members and recent graduates. Following coding, the data were copied into Statistical Package for the Social Sciences (SPSS**®**) 20 predictive analytics software.

Missing Data

Missing data resulted from participants missing questions or not completing the entire survey. As previously mentioned, there were several participants whose surveys were excluded because of missing data. Those included participants who logged on and either did not enter any data or entered minimal data. All exclusions were made prior to data analysis. Any missing data from the remaining participant survey responses were accounted for within SPSS using the pairwise procedure.

Qualitative Survey Responses

Faculty member and recent graduate participant responses to the open-ended questions for each of the four outcomes (professional development, scholarly activity/critical inquiry, professional ethics, and professional and social responsibility) were reviewed and listed by outcome (see Appendix I).

Summary

This chapter outlined the research design, participants, study instruments, and the procedure for data collection and statistical analysis. The data were analyzed using SPSS**®** 20 and the results are outlined in the next chapter.

CHAPTER IV

RESULTS

The purpose of this quantitative research study was to better understand professional socialization in nurse anesthesia educational programs through an exploration of the attitudes and beliefs of nurse anesthesia faculty members and recent graduates. The following research questions guided this study:

1. Is there a difference between how faculty members and recent graduates:

   a. Perceive the importance of activities related to professional socialization as outcomes of nurse anesthesia educational programs?

   b. Rate overall preparation of recent graduates in activities related to professional socialization?

   c. Rate their overall satisfaction with professional socialization in nurse anesthesia education programs?

2. Is there a difference between faculty member ratings of recent graduate overall preparation in activities related to professional socialization according to:

   a. Cohort size?

   b. Instructional delivery method?

3. Is there a difference between recent graduate ratings of overall preparation in activities related to professional socialization according to:

a. Cohort size?

b. Instructional delivery method?

4. Is there a relationship between recent graduate rating of preparation in activities related to professional socialization and:

a. Overall satisfaction with professional socialization in their nurse anesthesia education?

b. Frequency of participation in activities related to professional socialization?

5. Who do recent graduates identify as being most and least influential in their professional socialization?

Explanation of Data Analysis

Provided in this chapter are the findings of the study and data analysis by research question. Frequencies, descriptive statistics, internal reliability, independent sample *t*-tests, correlations, and repeated-measures ANOVA (within subjects) were all computed utilizing SPSS® 20. Probability of a Type I error was maintained at .05 for all analyses.

Independent samples *t*-test. An independent samples *t*-test compares the differences between two independent groups. For this study, the test was conducted to determine what differences existed between groups of study participants (faculty members and recent graduates), cohort size, and instructional delivery method.

Correlation. Correlations are utilized to describe the relationships between two variables. A common type of correlation test, the Pearson correlation coefficient, was calculated for variables in this study. Correlations can range from -1.00 to 1.00, with each extreme indicating the strongest relationship (either negative or positive). A value of 0

would indicate no correlation or relationship (Morgan, Leech, Gloeckner, & Barrett, 2004). Correlations greater than .70 are considered strong, .30 to .70 are moderate, and less than .30 are considered weak (Cronk, 2008). This test was conducted to determine the relationship between different groups of participants, overall satisfaction, and frequency of activities.

Repeated-measures ANOVA. According to Cronk (2008), an analysis of variance (ANOVA) "is a procedure that determines the proportion of variability attributed to each of several components" (p. 65). The repeated-measures ANOVA is used when participants provide data for multiple levels of an independent variable or within subjects (Cronk, 2008). After an ANOVA statistical test is calculated and significance is found, it must be followed-up with a post hoc test to determine where the significance lies between the levels of the within subjects independent variable. The repeated-measures ANOVA was conducted in this study to determine the levels of influence by different individuals or groups as rated by recent graduate study participants.

Cohen's *d*. The Cohen's *d* is a commonly used measure of effect size. According to Morgan et al. (2004), effect size is defined as, "the strength of the relationship between the independent variable and the dependent variable" (p. 89). With large samples, it is important to differentiate between statistical and practical significance by examining effect size. A Cohen *d* value of .20 is considered small, .50 is medium, and .80 is considered strong (Morgan et al., 2004).

Research Questions

Research Question 1a: Is there a difference between how faculty members and recent graduates perceive the importance of activities related to professional socialization as outcomes of nurse anesthesia educational programs?

An independent samples *t*-test (two-tailed), with the Levene's test for equal variances, was conducted to compare faculty member participants and recent graduate participants ratings of importance for activities related to professional socialization outcomes of nurse anesthesia educational programs. Shown is Table 5 is the comparison of mean scores of faculty member and recent graduate participants. The *t*-tests for all of the outcomes were statistically significant. The faculty member participants' mean ratings of importance for the outcomes were significantly higher than the mean ratings of the recent graduate participants.

Table 5. Faculty Member and Recent Graduate Ratings of Importance for Outcomes.

Variable	N	*M*	SD	*M* diff	*t*	*df*	*p*	*d*
Professional Development				2.17	8.80	554	< .001	0.82
Faculty Members	171	20.20	2.56					
Recent Graduates	385	18.04	2.73					
Scholarly Activity/ Critical Inquiry				3.89	9.18[a]	385[a]	< .001	0.82
Faculty Members	170	27.88	4.31					
Recent Graduates	373	23.99	5.13					
Professional Ethics				1.23	6.54[a]	454[a]	< .001	0.58
Faculty Members	175	18.67	1.78					
Recent Graduates	345	17.44	2.43					
Professional and Social Responsibility				2.71	4.93[a]	388[a]	< .001	0.46
Faculty Members	166	32.66	5.39					
Recent Graduates	324	29.94	6.43					

Note. [a]The *t* and *df* were adjusted because variances were not equal.

Research Question 1b: Is there a difference between how faculty members and recent graduates rate overall preparation of recent graduates in activities related to professional socialization?

An independent samples *t*-test (two-tailed), with the Levene's test for equal variances, was conducted to compare faculty member participants ratings of recent graduate preparation and recent graduate participants ratings of preparation for activities related to professional socialization outcomes of nurse anesthesia educational programs. Shown in Table 6 is the comparison of mean scores of faculty member and recent graduate participants. The *t*-tests for the outcomes of professional development and scholarly activity/critical inquiry were statistically significant. The faculty member participants mean ratings of preparation of recent graduates for activities related to professional socialization were significantly higher than the mean ratings of the recent graduate participants for the outcomes of professional development and scholarly activity/critical inquiry.

Research Question 1c: Is there a difference between how faculty members and recent graduates rate their overall satisfaction with professional socialization in nurse anesthesia educational programs?

An independent samples *t*-test (two-tailed), with the Levene's test for equal variances, was conducted to compare faculty member and recent graduate participants ratings of overall satisfaction with professional socialization in nurse anesthesia educational programs. Shown in Table 7 is the comparison of mean scores of faculty member and recent graduate participants. The results of the test were not statistically significant. The faculty member participants' mean ratings of overall satisfaction were not significantly different from the mean ratings for recent graduate participants.

Table 6. Faculty Member Ratings of Recent Graduate Preparation and Recent Graduate Ratings of Preparation.

Variable	N	*M*	SD	*M* diff	*t*	*df*	*p*	*d*
Professional Development				0.80	2.54	564	.011	0.23
Faculty Members	173	19.90	3.47					
Recent Graduates	393	19.10	3.44					
Scholarly Activity/ Critical Inquiry				1.22	2.41	538	.016	0.23
Faculty Members	173	28.03	5.11					
Recent Graduates	367	26.82	5.63					
Professional Ethics				-0.02	-0.06	516	.951	0.00
Faculty Members	173	16.87	3.00					
Recent Graduates	345	16.88	2.95					
Professional and Social Responsibility				0.75	1.08	478	.279	0.11
Faculty Members	159	33.32	6.85					
Recent Graduates	321	32.57	7.24					

Table 7. Faculty Member and Recent Graduate Ratings of Overall Satisfaction With Professional Socialization.

Variable	N	*M*	SD	*M* diff	*t*	*df*	*p*	*d*
Overall Satisfaction				0.15	1.52	464	.129	0.15
Faculty Members	153	4.80	0.93					
Recent Graduates	313	4.65	1.02					

Research Question 2a: Is there a difference between faculty member ratings of recent graduate overall preparation in activities related to professional socialization according to cohort size?

Primary analysis. An independent samples *t*-test (two-tailed), with the Levene's

test for equal variances, was conducted to compare faculty member participants ratings of

recent graduate preparation for activities related to professional socialization and cohort

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size. Since there were not enough participants in the cells to compare groups, the groups were combined. Cohort one included participants with cohort sizes of less than 10 students to 25 students and cohort two included participants with 26 students to greater than 100 students. Shown in Table 8 is the comparison of faculty member participants' mean scores for the two cohorts. The results of the test were not statistically significant. The faculty member participants' mean ratings of recent graduate preparation for smaller cohort sizes were not significantly different for the mean ratings of larger cohort sizes.

Table 8. Cohort Size: Faculty Member Ratings of Recent Graduation Preparation.

Variable	N	*M*	SD	*M* diff	*t*	*df*	*p*	*d*
Professional Development				-0.25	-0.46	170	.643	0.07
Cohort One	108	19.82	3.46					
Cohort Two	64	20.08	3.49					
Scholarly Activity/ Critical Inquiry				0.48	0.60	170	.553	0.09
Cohort One	108	28.26	5.11					
Cohort Two	64	27.78	5.07					
Professional Ethics				-0.76	-1.61	171	.109	0.26
Cohort One	109	16.59	3.10					
Cohort Two	64	17.34	2.77					
Professional and Social Responsibility				0.75	0.66	156	.509	0.11
Cohort One	100	33.63	6.94					
Cohort Two	58	32.88	6.74					

Note. Cohort One = less than 10 to 25 students; Cohort Two = 26 to greater than 100 students.

Supplemental analysis. An additional independent samples *t*-test (two-tailed), with the Levene's test for equal variances, was conducted to compare faculty member

participant ratings of importance for activities related to professional socialization as outcomes and cohort size. The same adjusted cohorts used in the primary analysis for this research question were used for this analysis. Shown in Table 9 is the comparison of faculty member participants' mean scores for the two cohorts. There was statistical significance noted for the outcomes of scholarly activity/critical inquiry and professional and social responsibility. In these outcomes, faculty member participants from the smaller cohort sizes, less than 10 to 25 students, indicated higher mean ratings of importance of activities related to outcomes than the larger cohort sizes.

Table 9. Cohort Size: Faculty Member Ratings of Importance for Outcomes.

Variable	N	*M*	SD	*M* diff	*t*	*df*	*p*	*d*
Professional Development				0.42	1.04	168	.302	0.16
Cohort One	106	20.36	2.59					
Cohort Two	64	19.94	2.53					
Scholarly Activity/ Critical Inquiry				1.47	2.14	167	.034	0.35
Cohort One	110	28.37	4.32					
Cohort Two	59	26.90	4.18					
Professional Ethics				-0.15	-0.53	172	.596	0.08
Cohort One	109	18.61	1.83					
Cohort Two	65	18.75	1.70					
Professional and Social Responsibility				1.84	2.15	163	.033	0.34
Cohort One	103	33.36	5.28					
Cohort Two	62	31.52	5.45					

Note. Cohort One = less than 10 to 25 students; Cohort Two = 26 to greater than 100 students.

Research Question 2b: Is there a difference between faculty member ratings of recent graduate overall preparation in activities related to professional socialization according to instructional delivery method?

      Primary analysis. An independent samples *t*-test (two-tailed), with the Levene's test for equal variances, was conducted to compare faculty member participant ratings of recent graduate preparation in activities related to professional socialization and primary instruction delivery method. Since there were not enough participants in the cells to compare groups, the groups were combined. The first group included those participants who indicated a traditional primary instructional delivery method and the second group included those participants who indicated a blended/hybrid or online primary instructional delivery method. Shown in Table 10 is the comparison of faculty member participants' mean scores for the traditional and blended/hybrid or online groups. The results of the test were not statistically significant. The faculty member participants' mean ratings of preparation of recent graduates for the traditional instructional delivery method were not significantly different from the mean ratings of the blended/hybrid or online group.

      Supplemental analysis. An additional independent samples *t*-test (two-tailed), with the Levene's test for equal variances, was conducted to compare faculty member participant ratings of importance for activities related to professional socialization as outcomes related to professional socialization and instructional delivery method. The same adjusted groups used in the primary analysis for this research question were used for this analysis. Shown in Table 11 is the comparison of faculty member participants' mean scores for the traditional and blended/hybrid or online groups. The results of the test were not statistically significant. The faculty member participants' mean ratings of

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Table 10. Instructional Delivery Method: Faculty Member Ratings of Recent Graduate Preparation.

Variable	N	*M*	SD	*M* diff	*t*	*df*	*p*	*d*
Professional Development				-0.47	-0.83	171	.406	0.14
Traditional	118	19.75	3.53					
Blended/Hybrid or Online	55	20.22	3.34					
Scholarly Activity/ Critical Inquiry				-0.56	-0.65	171	.514	0.11
Traditional	121	27.87	5.39					
Blended/Hybrid or Online	52	28.42	4.40					
Professional Ethics				-0.68	-1.38	171	.169	0.23
Traditional	119	16.66	3.17					
Blended/Hybrid or Online	54	17.33	2.54					
Professional and Social Responsibility				2.03	1.76	157	.081	0.30
Traditional	108	33.97	6.72					
Blended/Hybrid or Online	51	31.94	6.98					

importance for outcomes for the traditional instructional delivery method were not

significantly different from the mean ratings of the blended/hybrid or online group.

Research Question 3a: Is there a difference between recent graduate ratings of overall preparation in activities related to professional socialization according to cohort size?

Primary analysis. An independent samples *t*-test (two-tailed), with the Levene's

test for equal variances, was conducted to compare recent graduate participant ratings of

preparation in activities related to professional socialization and cohort size. Since there

were not enough participants in the cells to compare groups, the groups were combined.

Cohort one included participants with cohort sizes of less than 10 students to 25 students,

and cohort two included participants with cohort sizes of 26 students to greater than 100

students. Shown in Table 12 is the comparison of recent graduate participants' mean

scores of the two cohorts. The results of the test were not statistically significant. The

recent graduate participants' mean ratings of overall preparation for the smaller cohort

size were not significantly different for the mean ratings for the larger cohort size.

Table 11. Instructional Delivery Method: Faculty Member Ratings of Importance for Outcomes.

Variable	N	M	SD	M diff	t	df	p	d
Professional Development				-0.78	-1.87	169	.063	0.31
Traditional	117	19.96	2.62					
Blended/Hybrid or Online	54	20.74	2.36					
Scholarly Activity/ Critical Inquiry				0.10	0.14	168	.891	0.02
Traditional	118	27.91	4.17					
Blended/Hybrid or Online	52	27.81	4.64					
Professional Ethics				-0.21	-0.70	173	.485	0.12
Traditional	122	18.61	1.86					
Blended/Hybrid or Online	53	18.81	1.58					
Professional and Social Responsibility				0.72	0.80	164	.427	0.13
Traditional	113	32.88	5.06					
Blended/Hybrid or Online	53	32.17	6.06					

Supplemental analysis. An additional independent samples *t*-test (two-tailed),

with the Levene's test for equal variances, was conducted to compare recent graduate

participant mean ratings of importance of activities related to professional socialization

Table 12. Cohort Size: Recent Graduate Ratings of Preparation.

Variable	N	*M*	SD	*M* diff	*t*	*df*	*p*	*d*
Professional Development				0.27	0.78[a]	364[a]	.436	0.08
Cohort One	209	19.22	3.19					
Cohort Two	184	18.95	3.70					
Scholarly Activity/ Critical Inquiry				0.56	0.95	365	.346	0.10
Cohort One	194	27.08	5.63					
Cohort Two	173	26.53	5.64					
Professional Ethics				-0.20	-0.61	343	.540	0.07
Cohort One	183	16.79	2.90					
Cohort Two	162	16.99	3.01					
Professional and Social Responsibility				-0.18	-0.22	319	.827	0.02
Cohort One	173	32.49	7.00					
Cohort Two	148	32.67	7.54					

Note. Cohort One = less than 10 to 25 students; Cohort Two = 26 to greater than 100 students.
[a]The *t* and *df* were adjusted because variances were not equal.

outcomes and cohort size. The same adjusted cohorts used in the primary analysis for this research question were used for this analysis. Shown in Table 13 is the comparison of recent graduate participants' mean scores of the two cohorts. The results of the test were statistically significant for the outcome of scholarly activity/critical inquiry. Recent graduate participants' mean ratings of importance for outcomes in the smaller cohort size were significantly higher than the mean ratings for the larger cohort size.

Research Question 3b: Is there a difference between recent graduate ratings of overall preparation in activities related to professional socialization according to instructional delivery method?

Primary analysis. An independent samples *t*-test (two-tailed), with the Levene's test for equal variances, was conducted to compare recent graduate participant ratings of

Table 13. Cohort Size: Recent Graduate Ratings of Importance for Outcomes.

Variable	N	*M*	SD	*M* diff	*t*	*df*	*p*	*d*
Professional Development				0.13	0.45	383	.655	0.05
Cohort One	207	18.10	2.59					
Cohort Two	178	17.97	2.89					
Scholarly Activity/ Critical Inquiry				1.28	2.14	371	.016	0.25
Cohort One	196	24.59	5.30					
Cohort Two	177	23.32	4.86					
Professional Ethics				0.22	0.85[a]	320[a]	.396	0.09
Cohort One	182	17.55	2.24					
Cohort Two	163	17.33	2.62					
Professional and Social Responsibility				1.05	1.47	322	.144	0.16
Cohort One	172	30.44	6.07					
Cohort Two	152	29.39	6.79					

Note. Cohort One = less than 10 to 25 students; Cohort Two = 26 to greater than 100 students.
[a]The *t* and *df* were adjusted because variances were not equal.

preparation in activities related to professional socialization and primary instructional delivery method. Since there were not enough participants in the cells to compare groups, the groups were combined. The first group included those participants who indicated a traditional primary instructional delivery method and the second group included those participants who indicated a blended/hybrid or online primary instructional delivery method.

Shown in Table 14 is the comparison of recent graduate participants' mean scores of traditional instructional delivery method and combined blended/hybrid or online instructional delivery method. The results of the test were statistically significant for the outcome of professional ethics. Recent graduate participants' mean ratings of preparation

Table 14. Instructional Delivery Method: Recent Graduate Ratings of Preparation.

Variable	N	*M*	SD	*M* diff	*t*	*df*	*p*	*d*
Professional Development				-0.74	-1.92	391	.055	0.22
Traditional	284	18.89	3.48					
Blended/Hybrid or Online	109	19.63	3.28					
Scholarly Activity/ Critical Inquiry				-0.36	-0.54	365	.588	0.06
Traditional	266	26.72	5.44					
Blended/Hybrid or Online	101	27.08	6.13					
Professional Ethics				-0.84	-2.39	343	.018	0.29
Traditional	249	16.65	2.98					
Blended/Hybrid or Online	96	17.49	2.78					
Professional and Social Responsibility				-1.01	-1.12	319	.264	0.14
Traditional	232	32.29	7.34					
Blended/Hybrid or Online	89	33.30	6.96					

for the blended/hybrid or online group was significantly higher than the mean ratings of the traditional group.

Supplemental analysis. An additional independent samples *t*-test (two-tailed), with the Levene's test for equal variances, was conducted to compare recent graduate participants mean ratings of importance for activities related to professional socialization outcomes and instructional delivery method. The same adjusted groups used in the primary analysis for this research question were used for this analysis. Shown in Table 15 is the comparison of recent graduate participants' mean scores of traditional instructional delivery method and combined blended/hybrid or online instructional delivery method.

Table 15. Instructional Delivery Method: Recent Graduate Ratings of Importance for Outcomes.

Variable	N	*M*	SD	*M* diff	*t*	*df*	*p*	*d*
Professional Development				-0.40	-1.29	383	.199	0.15
Traditional	278	17.93	2.78					
Blended/Hybrid or Online	107	18.33	2.58					
Scholarly Activity/ Critical Inquiry				-1.57	-2.68	371	.008	0.32
Traditional	268	23.54	5.29					
Blended/Hybrid or Online	105	25.11	4.52					
Professional Ethics				-0.70	-2.62[a]	206[a]	.009	0.30
Traditional	248	17.25	2.51					
Blended/Hybrid or Online	97	17.95	2.12					
Professional and Social Responsibility				-1.54	-1.95	322	.052	0.24
Traditional	233	29.51	6.48					
Blended/Hybrid or Online	91	31.05	6.19					

Note. [a]The *t* and *df* were adjusted because variances were not equal.

The results of the test were statistically significant for the outcomes of scholarly activity/critical inquiry and professional ethics. Recent graduate participants' mean ratings of importance for outcomes in the blended/hybrid or online group were significantly higher than the mean ratings for the traditional group.

Research Question 4a: Is there a relationship between recent graduate preparation in activities related to professional socialization and overall satisfaction with professional socialization in their nurse anesthesia education?

     Primary analysis. Pearson correlation coefficients were calculated examining the relationship between the total study sample participant's ratings of recent graduate

preparation in activities related to professional socialization and overall satisfaction. Shown in Table 16 are the Pearson correlation results. All of the coefficients were moderately positive and statistically significant. Participants in the study with higher ratings of recent graduate preparation in activities tended to have higher overall satisfaction with professional socialization in nurse anesthesia education.

Table 16. Correlation: Total Study Sample Ratings of Recent Graduate Preparation and Overall Satisfaction.

Variable	1	2	3	4	5
1. Overall Satisfaction	–				
2. Professional Development	.41*	–			
3. Scholarly Activity/ Critical Inquiry	.36*	.59*	–		
4. Professional Ethics	.33*	.48*	.50*	–	
5. Professional and Social Responsibility	.40*	.54*	.64*	.58*	–

* $p < 0.01$ level (two-tailed).

Supplemental analysis. Additional Pearson correlation coefficients were calculated for both recent graduate and faculty member participants examining the relationship between recent graduate participant overall satisfaction and their preparation in activities related to professional socialization. Shown in Table 17 are the Pearson correlation results for both groups of participants. Similar to what was found in the primary analysis of the total sample for this research question, all of the coefficients were moderately positive and statistically significant. Participants from both groups in the

Table 17. Correlation: Faculty Members Versus Recent Graduate Ratings of Preparation and Overall Satisfaction.

Variable	1	2	3	4	5
1. Overall Satisfaction	–	.42*	.43*	.45*	.41*
2. Professional Development	.40*	–	.66*	.50*	.60*
3. Scholarly Activity/ Critical Inquiry	.33*	.56*	–	.60*	.67*
4. Professional Ethics	.29*	.47*	.45*	–	.63*
5. Professional and Social Responsibility	.39*	.51*	.63*	.55*	–

Note. Top diagonal = faculty members; Bottom diagonal = recent graduates
* $p < 0.01$ level (two-tailed).

study that indicated higher ratings of recent graduate preparation tended to have higher overall satisfaction with professional socialization in nurse anesthesia education.

Z-score. A Fisher r-to-z transformation was calculated between the Pearson correlation coefficients of faculty members and recent graduate participants to assess for significant differences. There was no statistical significance found for the two-tailed Z-score between the correlation coefficients for faculty members and recent graduate participants.

Research Question 4b: Is there a relationship between recent graduate of preparation in activities related to professional socialization and frequency of participation in activities related to professional socialization?

Pearson correlation coefficients were calculated examining the relationship between recent graduate ratings of preparation in activities related to professional socialization and their frequency of participation in activities related to professional

socialization. Shown in Table 18 are the Pearson correlation results for recent graduate activities and ratings of preparation. All of the coefficients were positive and statistically significant. Weak to moderate correlations were noted between recent graduate ratings of preparation and frequency of participation in activities. The weakest correlation ($r = .36$) was noted between recent graduate preparation and frequency of participation in the outcome of professional development. The strongest correlation ($r = .54$) was noted for recent graduate preparation and frequency of participation in the outcome of professional and social responsibility. Recent graduates that indicated higher levels of preparation tended to have higher frequency of participation in activities related to the outcome.

Table 18. Correlation: Recent Graduate Ratings of Preparation and Frequency of Participation.

Variable	1	2	3	4	5	6	7	8
Preparation								
1. Professional Development	–							
2. Scholarly Activity/Critical Inquiry	.56*	–						
3. Professional Ethics	.47*	.45*	–					
4. Professional and Social Responsibility	.51*	.63*	.55*	–				
Recent Graduate Activities								
5. Professional Development	.36*	.31*	.33*	.38*	–			
6. Scholarly Activity/Critical Inquiry	.28*	.38*	.28*	.40*	.56*	–		
7. Professional Ethics	.22*	.23*	.54*	.38*	.43*	.48*	–	
8. Professional and Social Responsibility	.18*	.22*	.22*	.45*	.50*	.56*	.44*	–

$* p < .01$ level (two-tailed).

Supplemental analysis. Shown in Table 19 is the reported frequency of participation for activities related to professional socialization by recent graduates. The following are some interesting results that should be highlighted.

Professional development. For the outcome of professional development, the majority (91.9%) of participants indicated that they never or occasionally enrolled in course work for an advanced degree. In contrast, 73.5% of participants indicated that they are either often or very often pursuing continuing education courses, which are required for re-certification every two years.

Scholarly activity/critical inquiry. For the outcome of scholarly activity/critical inquiry, less than 15% of participants indicated that they often or very often participated in activities such as clinical research (6.3%), submission of research articles (4.8%), conference presentations (5.4%), or journal club participation (13.8%). In contrast, over half of participants indicated that they often or very often are reading peer-reviewed journals related to anesthesia (66%), applying recent literature to a clinical question or case (65.1%), and discussing current literature with colleagues (61.2%). Interestingly, only 39.5% of participants indicated that they are often or very often conducting literature searches related to a clinical question of a case.

Professional ethics. For the outcome of professional ethics, most participants (83.7%) indicated that they often or very often engage in discussing the nature of proposed interventions, material risks of harm or complications, reasonable alternatives, and goals of anesthesia with each patient. Additionally, over 90% of participants indicated that they often or very often refrain from discussion of a patient's care with those not involved or without prior written consent (90.7%) and delegate only those tasks

Table 19. Recent Graduate Frequency of Participation in Activities Related to Professional Socialization.

Item	Never		Occ.		Often		Very Often	
	N	%	N	%	N	%	N	%
Professional Development								
1. Cont Education	2	0.6	86	25.9	141	42.5	103	31.0
2. Peer Review	93	28.0	147	44.3	65	19.6	27	8.1
3. Professional Self-Assess	54	16.3	138	41.7	95	28.7	44	13.3
4. Seek Advice	3	0.9	28	8.4	111	33.3	191	57.4
5. Professional Goals	3	0.9	79	23.8	147	44.3	103	31.0
6. Advanced Degree	285	85.6	21	6.3	11	3.3	16	4.8
Scholarly Activity/Critical Inquiry								
7. Read Peer Review Article	5	1.5	108	32.5	135	40.7	84	25.3
8. Conduct Literature Search	54	16.4	145	44.1	84	25.5	46	14.0
9. Apply Literature	13	3.9	103	30.9	151	45.3	66	19.8
10. Discuss Literature	7	2.1	122	36.6	143	42.9	61	18.3
11. Clinical Research	237	71.2	75	22.5	15	4.5	6	1.8
12. Submit Research Article	290	87.1	27	8.1	11	3.3	5	1.5
13. Present at Conference	281	84.4	34	10.2	12	3.6	6	1.8
14. Journal Club Participation	218	65.7	68	20.5	30	9.0	16	4.8
15. E-mail Discussion	232	69.9	64	19.3	23	6.9	13	3.9
Professional Ethics								
16. Consult Code of Ethics	215	66.2	77	23.7	21	6.5	12	3.7
17. Discuss with Patient	17	5.2	36	11.1	83	25.5	189	58.2
18. Confidentiality	12	3.7	18	5.6	83	25.6	211	65.1
19. Delegate Tasks	6	1.9	15	4.6	90	27.9	212	65.6
20. Report Misconduct	186	57.8	56	17.4	30	9.3	50	15.5
Professional and Social Responsibility								
21. Attend Meetings	79	24.5	132	40.9	71	22.0	41	12.7
22. Hold Org. Position	275	85.1	20	6.2	11	3.4	17	5.3
23. AANA Member	2	0.6	4	1.2	18	5.6	300	92.6
24. Clinical Instructor	118	36.5	67	20.7	59	18.3	79	24.5
25. Contact Legislator	147	45.5	104	32.2	49	15.2	23	7.1
26. Community Org	249	77.1	49	15.2	15	4.6	10	3.1
27. Community Screening	249	77.1	52	16.1	16	5.0	6	1.9
28. Volunteer Mission	259	80.4	35	10.9	15	4.7	13	4.0
29. Secure Add. Services	288	89.4	19	5.9	9	2.8	6	1.9
30. Voluntary Service Org	225	69.9	56	17.4	25	7.8	16	5.0

Note. Valid percent is presented (missing values excluded)

for which support personnel have adequate education, training, and experience (93.5%).

Over half of participants (57.8%) indicated that they have never reported colleagues

engaged in known or suspected misconduct.

Professional and social responsibility. For the outcome of professional and social

responsibility, the majority of participants (92.6%) indicated they very often maintain

membership in the American Association of Nurse Anesthetists (AANA). Over one-third

(34.7%) of participants indicated that they often or very often attend district or state

professional organization meetings and some (8.7%) indicated that they often or very

often hold a position at the district, state, or national level of the professional

organization. Almost half of the participants (42.8%) indicated that they often or very

often serve as a clinical instructor for students.

Research Question 5: Who do recent graduates identify as being most and least influential in their professional socialization?

Recent graduate participants were asked to indicate the level of influence for the

outcomes of professional development, scholarly activity/critical inquiry, professional

ethics, and professional and social responsibility for each of the following groups

(agents): faculty member, clinical instructor, professional leader, patient/client, and peer.

Shown in Table 20 are: a summary of study participants, summed scale and individual

means, standard deviations, and ranges for each individual outcome and summed scale.

As a measure of internal consistency between items for the summed influence scales, a

Cronbach's alpha coefficient is also shown.

To evaluate the level of influence for each summed scale, a repeated-measures

ANOVA (within subjects), with Greenhouse-Geisser correction, was conducted to assess

whether there were differences in the average ratings influence for the different groups.

Results indicated that recent graduate participants did rate the influence differently for

each group, F (3.38, 1044.83) = 132.46, $p <$.001, partial eta^2 = .30. Prior to using the

Table 20. Recent Graduate Ratings of Group Influence on Development of Attitudes and
Beliefs Related to Outcomes of Professional Socialization.

Variable	N	M(SD)	Actual Range	Cronbach's Alpha
Faculty Member Influence	320	13.28(2.65)	4 – 16	.90
Professional Development	321	3.37(0.72)	1 – 4	
Scholarly Activity/Critical Inquiry	321	3.36(0.72)	1 – 4	
Professional Ethics	321	3.26(0.79)	1 – 4	
Professional and Social Responsibility	320	3.30(0.80)	1 – 4	
Clinical Instructor Influence	320	12.85(2.85)	4 – 16	.91
Professional Development	321	3.30(0.78)	1 – 4	
Scholarly Activity/Critical Inquiry	320	3.13(0.82)	1 – 4	
Professional Ethics	321	3.20(0.81)	1 – 4	
Professional and Social Responsibility	321	3.22(0.80)	1 – 4	
Professional Leader Influence	320	8.83(3.68)	4 – 16	.97
Professional Development	320	2.24(0.98)	1 – 4	
Scholarly Activity/Critical Inquiry	320	2.11(0.92)	1 – 4	
Professional Ethics	321	2.17(0.95)	1 – 4	
Professional and Social Responsibility	321	2.30(1.00)	1 – 4	
Patient/Client Influence	319	11.91(3.63)	4 – 16	.93
Professional Development	319	3.00(0.97)	1 – 4	
Scholarly Activity/Critical Inquiry	320	2.80(1.00)	1 – 4	
Professional Ethics	320	3.05(1.00)	1 – 4	
Professional and Social Responsibility	320	3.06(1.00)	1 – 4	
Peer Influence	316	12.22(2.98)	4 – 16	.95
Professional Development	320	3.10(0.81)	1 – 4	
Scholarly Activity/Critical Inquiry	320	3.04(0.79)	1 – 4	
Professional Ethics	318	3.03(0.80)	1 – 4	
Professional and Social Responsibility	318	3.06(0.79)	1 – 4	

summed influence scales for analysis, the repeated-measures ANOVA test was first

conducted for each individual group and outcomes. The results were all significant, and

the pattern was highly consistent; therefore the analysis for the summed scales was

conducted.

Since the repeated-measures ANOVA was significant, pairwise comparisons were

conducted to determine where the significant difference existed between the groups.

Shown in Table 21 are the results of the test. To keep the overall significance level at .05,

a post-hoc bonferroni correction was conducted. The bonferroni correction was .0125

(.05/4). Statistical significance was present at all levels.

Table 21. Repeated Measures ANOVA Pairwise Comparisons for Influence.

Influence Comparisons	Mean Difference	Std. Error	p	95% CI Lower Bound	95% CI Upper Bound
Faculty Member vs. Clinical Instructor	0.46	0.17	.008	0.12	0.79
Faculty Member vs. Professional Leader	4.53	0.22	.000	4.10	4.97
Faculty Member vs. Patient/Client	1.43	0.24	.000	0.96	1.90
Faculty Member vs. Peer	1.11	0.20	.000	0.72	1.51

Shown in Figure 2 are the mean summed scale ratings of group influence by

recent graduate participants. The most influential groups (agents) were the faculty

members and the least influential group was professional leaders.
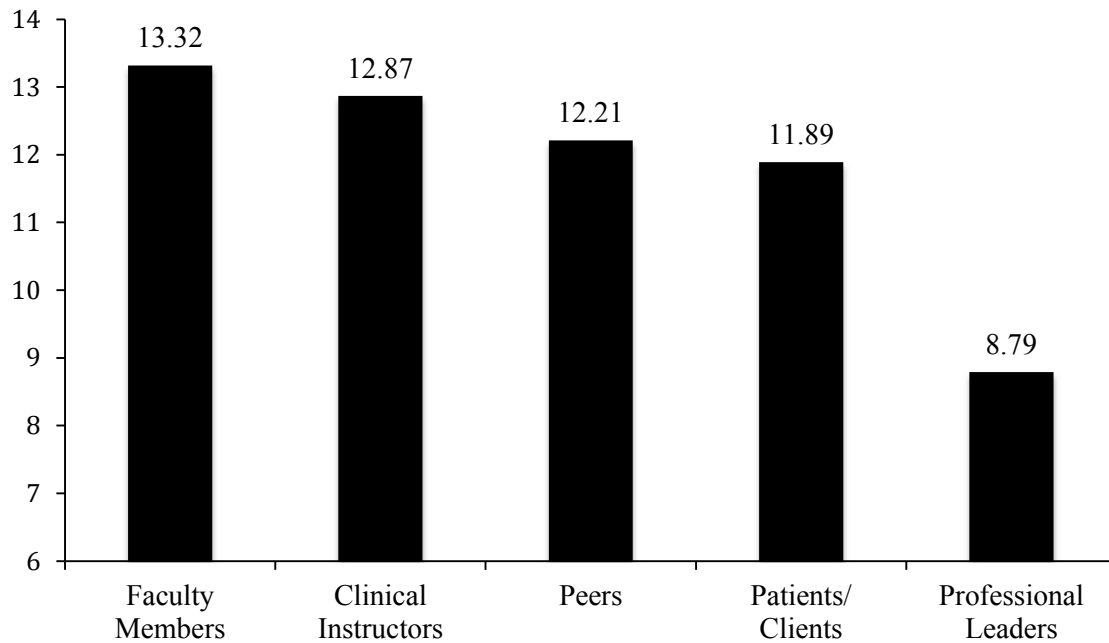
Figure 2. Mean Summed Scale Ratings of Influence for Recent Graduates.

Qualitative Responses

After participants indicated ratings of importance and preparation for activities related to professional socialization outcomes, they were given an opportunity to respond to an open-ended question that asked if they had any other activities they believed reflected the outcomes: professional development, scholarly activity/critical inquiry, professional ethics, and professional and social responsibility. The qualitative responses for both groups of participants are provided in Appendix I. Responses are presented as they were entered by the participant. No alterations were made to spelling or grammar.

During analysis, two patterns in the qualitative responses were noted. First, the faculty member participants gave more responses to the open-ended questions as compared to the recent graduate participants. Second, the number of qualitative responses provided by both groups of participants decreased the further they progressed into the

survey. In the next section, relevant responses are listed, categorized by participant group and outcomes.

Faculty Members

  Professional development. A number of responses by faculty members in this first section were items that were already included in the instrument in subsequent sections. These items included activities such as scholarly writing, attending association meetings, political awareness, serving on committees (department, state, and national), state nurse anesthesia association and AANA membership, research, and precepting students.

  Several participants noted the importance of being involved with education and the mentorship of nurse anesthesia students. One respondent commented:

> *Share their knowledge with the SRNA, our future! Be professional models in their work environments.*

  Another participant responded focusing on the importance of communication and leadership:

> *Professional interdisciplinary communication - using appropriate medical terminology and addressing clinically relevant issues in professional fashion; Leadership behaviors – presenting ourselves as professionals, moving the profession forward by actions, representing our field well.*

  Three participants responded with examples of specific types of professional development activities:

> *A class on professional development with emphasis on marketing the student, business of anesthesia and graduating full service providers.*

> *Portfolio development*

> *Participation in QA/QI projects.*

One participant commented on learning styles and professional development:

> *I think SRNAs need to be taught how to learn in different environments, settings, and methods. The future of professional development will not be entirely CEU based as is present.*

Scholarly activity/critical inquiry. Participants responded with the following examples of activities that are important for this outcome:

> *Address QA-QI initiatives in their institution. Participate in other scholarly activities as defined by the literature. Development of educational tools (Apps, programs, etc).*

> *Ongoing bench research, data mining, and [putting]out ones research.*

> *Our degree focus is adult education and leadership. I believe it is important for students to know the processes and requirements for obtaining CE credit through AANA, including workshop planning.*

One respondent commented on participation in e-mail discussion lists as an activity for this outcome:

> *Professional e-mail discussion lists as they presently exist are not a professional venue. The majority of discussion is tearing down a group or a person within our profession. It is embarrassing to read the discussion list.*

Professional ethics. Participants responded with the following examples of activities that are important for this outcome:

> *Legal preparation*

> *Analyzing self conduct and receiving critique.*

> *Not perpetuating erroneous information by verbal or written means; Accepting responsibility for errors in patient care and using the incidence to teach others how to avoid errors; Report incidences honestly, major and minor, which occurred in the managements of a patient's anesthetic to improve our profession's excellent record of safe and effective patient care.*

There were several comments regarding activities for the outcome of professional ethics. The following are two examples:

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Wonder how many programs address ethics education and apply it to practical situations so graduate CRNAs would know how to seek support and address ethical dilemmas.

This is the weakest part of our program, and the same is true of many programs. We need to add better case scenario discussions of the ethical dilemmas in anesthesia.

Professional and social responsibility. Participants responded with the following examples of activities for the outcome of professional and social responsibility:

Active engagement in wellness activities.

Understanding historical precedents and perspectives related to the practice of anesthesia and the role of these in having shaped our current practice.

Ability to collaborate with other health care providers regarding patient care.

There were several comments regarding activities for the outcome of professional and social responsibility:

Advocating for the profession and professional involvement are dwindling with CRNAs under age 35 in my opinion. They do not see the benefit for either.

Learn about adult education and humane treatment for SRNAs during clinical education.

Socialize and encourage students to think far beyond their role as intraoperative technicians. Encourage, education, and socialize students to envision their role more broadly, beyond anesthesia, especially in this ever changing era of health care reform.

One participant commented on distance education and online learning:

Distance education and online learning especially during clinical rotations while students are away from the primary educational institution and primary faculty leads to decreased acculturation to the profession.

In addition, a participant commented on the activity of serving as a clinical instructor for nurse anesthesia students:

Recent grads should have developed their own security as a sole provider before "staffing" SRNAs. Too often recent grads are placed in a position of mentoring before they are secure in their own practice. In my opinion, recent grads should not serve as clinical preceptors until they have at a minimum one year of experience as a CRNA, and only after they request to do so and have received formal instruction on the role of the preceptor.

A similar comment was made by a faculty member participant for the outcome of professional development, where the following was submitted:

Developing skills as a preceptor and mentor.

Recent Graduates

Professional development. A number of responses by recent graduates in this first section were items that were already included in the instrument in subsequent sections. These items include activities such as professional association involvement, political awareness, precepting of nurse anesthesia students, publications. Participants also responded with the following examples of activities that are important for this outcome:

Developing a working relationship with CRNAs in the clinical area.

Feedback as a rookie CRNA from experienced peers and supervisors.

Team building.

Scholarly activity/critical inquiry. The following are examples of participant responses for activities related to the outcome of scholarly activity/critical inquiry:

Publication of teaching materials (books, CEUs, etc).

Attending CME conferences and completing CMEs.

The last comment for the outcome of scholarly activity/critical inquiry is particularly salient to the topic of professional socialization for those who have just graduated:

> *As I graduated less than 1 year ago, items that I may consider "not important" at this time are solely because it's important to establish my footing as a new grad and learn as much as I can to provide a safe and appropriate anesthetic while continuing to integrate new clinical knowledge. While the items may be "not important" now, they will be important at some time in the future.*

Professional ethics. The following are examples of participant responses for activities related to the outcome of professional ethics:

> *Discussion, role play, and review of potential clinical situations that put the CRNA in ethical dilemmas (for CRNA training programs).*

> *Become involved in your local facility with the ethics board.*

Professional and social responsibility. The following are examples of participant responses for activities related to the outcome of professional and social responsibility:

> *Educating nurses about nurse anesthesia.*

> *Prior to my anesthesia education, I worked for an insurance company as a case manager, so although I was well aware of how to work with an insurer, that experience did not come from my anesthesia program.*

CHAPTER V

DISCUSSION

The primary purpose of this chapter is to discuss the findings of this study that explored the attitudes and beliefs of nurse anesthesia faculty members and recent graduates from across the United States (U.S.). Data was collected using an online survey that was administered to a convenience sample of 178 faculty members and 399 recent graduates. The conceptual framework utilized for the study was the Weidman, Twale, and Stein (2001) Graduate Socialization Framework.

This chapter is organized to first present a summary of major findings, organized according to the research questions set forth in Chapter I. A discussion of the findings with reflection on the literature, limitations of the study, and recommendations follow.

Summary of Major Findings

Research Question 1a. Is there a difference between how faculty members and recent graduates perceive the importance of activities related to professional socialization as outcomes of nurse anesthesia educational programs? This study demonstrated that there was a significant difference in how faculty members and recent graduates perceived the importance of activities related to professional socialization as outcomes of nurse anesthesia educational programs. Faculty members rated the importance of activities for the outcomes of professional development, scholarly activity/critical inquiry, professional ethics, and professional and social responsibility as higher than recent graduates.

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Research Question 1b. Is there a difference between how faculty members and recent graduates rate overall preparation of recent graduates in activities related to professional socialization? Again, this study demonstrated there was a significant difference between how faculty members and recent graduates rated the overall preparation of recent graduates in activities related to professional socialization for the outcomes of professional development and scholarly activity/critical inquiry. For these outcomes, faculty members rated recent graduate preparation higher than did recent graduates.

Research Question 1c. Is there a difference between how faculty members and recent graduates rate their overall satisfaction with professional socialization in nurse anesthesia educational programs? This study demonstrated that there was no significant difference between the ratings of overall satisfaction with professional socialization in nurse anesthesia education programs between faculty members and recent graduates. On average, both groups of participants indicated some sort of agreement with the statement that they were satisfied with the practices utilized in nurse anesthesia educational programs to professionally socialize students into the profession.

Research Question 2a. Is there a difference between faculty member ratings of recent graduate overall preparation in activities related to professional socialization according to cohort size? This study demonstrated that there were no significant differences between faculty member ratings of recent graduation overall preparation between smaller cohort sizes (less than 10 to 25 students) and larger cohort sizes (26 to greater than 100 students) for any of the outcomes. It was found, however, that faculty member ratings of importance in outcomes related to professional socialization were

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significantly different for two outcomes when compared with cohort size. For the outcomes of scholarly activity/critical inquiry and professional and social responsibility, faculty members of smaller cohort sizes (less than 10 to 25 students) indicated higher ratings of importance in activities related to professional socialization than did faculty members of larger cohort sizes (26 to greater than 100 students).

Research Question 2b. Is there a difference between faculty member ratings of recent graduate overall preparation in activities related to professional socialization according to instructional delivery method? The study demonstrated no significant differences with how faculty members rated recent graduate overall preparation based on whether they utilized a traditional primary instructional delivery method or a blended/hybrid or online method. When instructional delivery method was compared with faculty member ratings of importance of the outcome, there were again, no statistical differences.

Research Question 3a. Is there a difference between recent graduate ratings of overall preparation in activities related to professional socialization according to cohort size? The study demonstrated no significant differences between recent graduate ratings overall preparation in activities related to professional socialization between smaller cohort sizes (less than 10 to 25 students) and larger cohort sizes (26 to greater than 100 students) for any outcomes. It was found, however, when recent graduate ratings of importance of the outcome were compared to cohort size, a significant difference was found for the outcome of scholarly activity/critical inquiry. Recent graduates of larger cohort sizes (26 to greater than 100 students) rated the importance of the outcome higher than those in smaller cohort sizes (less than 10 to 25 students).

Research Question 3b. Is there a difference between recent graduate ratings of overall preparation in activities related to professional socialization according to instructional delivery method? The study demonstrated a significant difference between recent graduates ratings of overall preparation in professional socialization activities and the primary type of instructional delivery method utilized during their educational program. For the outcome of professional ethics, recent graduates who utilized either a blended/hybrid or online instructional delivery method during their program rated activities in this outcome higher than recent graduates who only used a traditional instructional delivery method.

Additionally, when recent graduate ratings of importance for professional socialization outcomes were compared with instructional delivery method, significant differences were found for the outcomes of scholarly activity/critical inquiry and professional ethics. Recent graduates who utilized a blended/hybrid or online instructional delivery method during their program rated the importance higher for these two outcomes than did recent graduates who only used a traditional instructional delivery method.

Research Question 4a. Is there a relationship between recent graduate preparation in activities related to professional socialization and overall satisfaction with professional socialization in their nurse anesthesia education? This study demonstrated several significant relationships between recent graduate preparation and overall satisfaction. When considered together as a group, faculty members and recent graduates with higher overall satisfaction with professional socialization in nurse anesthesia educational programs tended to have higher ratings of recent graduate preparation. Similarly, when

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each group was considered separately, the same relationship exists; higher overall satisfaction of professional socialization was associated with higher ratings of recent graduate preparation.

Research Question 4b. Is there a relationship between recent graduate of preparation in activities related to professional socialization and frequency of participation in activities related to professional socialization? This study demonstrated a significant relationship between recent graduate ratings of preparation in activities related to professional socialization and their frequency of participation in those activities. Recent graduates with higher ratings of preparation tended to be associated with higher frequencies of participation.

Research Question 5. Who do recent graduates identify as being most and least influential in their professional socialization? This study demonstrated that recent graduates perceive faculty members as the most influential in their professional socialization, followed by clinical instructors, and peers. Professional leaders had the lowest perceived influence by recent graduates.

Discussion

Outcome Importance, Preparation, and Frequency of Participation

While faculty members rated the importance of outcomes related to professional socialization significantly higher than recent graduates, it should be noted that both groups rated the importance in the top half of the scale (i.e., for faculty members the mean was 20.20 and for recent graduates the mean was 18.04). These findings are consistent with Dutton's (2001) findings and are reassuring, given the pivotal role that faculty members play such a critical role in the professional socialization process

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(Crocker & Brodie, 1974; Bragg, 1976; Weidman et al., 2001). While the finding of high ratings of importance of outcomes related to professional socialization does not demonstrate how the recent graduate acquired their attitudes and beliefs, the findings may indicate that whatever methods and techniques were employed by their educational programs were successful. It may also be that methods and techniques that were not intentionally planned also contributed to the professional socialization process (Waugaman & Aron, 2003).

While not supported with empirical data, it is possible students may have been unintentionally exposed to different methods and techniques through interactions with others (i.e., clinical preceptors, classmates, or patients) during their clinical experiences unbeknownst to the educational program. Future research should be conducted to further explore this finding. It is logical that the best preparation in any outcome would come from repetitive student exposure to a combination of positive intentional and unintentional activities.

Cohort size. The number of participants in the faculty member group who indicated their average program cohort size was greater than 50 students was small (N=14). The average program cohort size for recent graduates was larger (N=53). For group comparisons, new cohort sizes were calculated to include a small cohort (less than 10 to 25 students) and a large cohort (26 to greater than 100 students). When importance of outcomes related to professional socialization was compared to cohort size, both faculty members and recent graduates from small cohorts rated the importance of scholarly activity/critical inquiry higher than did participants from large cohorts. Examples of activities within this outcome included reading peer-reviewed journals,

conducting literature searches, participating in clinical research, and presenting at conferences. While there is no empirical data to support this, it is possible that programs with smaller cohort sizes have more time and flexibility to engage students in activities related to scholarly activity/critical inquiry. Another possibility is there may be an increased emphasis placed on activities for this outcome by faculty members in certain programs. Future research should be conducted to further explore this finding given that cohort size is an important topic for both on-campus and online courses; particularly when the quality of student-faculty member interactions may be affected. A perceived lack of professional socialization is a possibility when the student perceives a lack of interaction, professionalism, satisfaction, and connectedness (Burruss et al., 2009).

Connecting cohort size, preparation, and frequency. Overall, both faculty members and recent graduates rated preparation as being important, but faculty members rated the overall recent graduate preparation significantly higher than did recent graduates for the outcomes of professional development and scholarly activity/critical inquiry. This finding contrasts with Dutton's (2001) finding, where recent graduates rated their own preparation as being the highest and greater than both faculty members and clinicians. Although not supported with empirical data, it is possible that while faculty members believe that recent graduates are prepared for activities within the outcomes, the recent graduate lacks the confidence to believe they are prepared. Since professional socialization continues beyond the educational program, future longitudinal research should be conducted to examine the attitudes and beliefs of Certified Registered Nurse Anesthetists over time.

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In the current study, when ratings of preparation for both faculty members and recent graduates were compared with cohort size, there were no significant differences found for any of the outcomes. When examining the frequencies of participation in activities for the outcome of scholarly activity/critical inquiry, they show mixed results. For example, over half the participants indicated they often or very often are reading peer-reviewed journals (66%), applying recent literature to a clinical question or case (65.1%), and discussing literature with colleagues (61.2%). In contrast, over 80% of the participants indicated that they never or occasionally participate in clinical research (93.7%), present at a conference (94.6%), or participate in a professional e-mail discussion list (89.2%). Maintenance of membership in the AANA had a particularly high frequency of participation for recent graduates. Almost 93% indicated that they very often maintain their membership in the AANA. This finding is consistent with the AANA membership rate that consistently exceeds 90% (AANA, 2012).

There seemed to be disconnects between recent graduates' rating of importance and frequency in certain outcome-related activities, similar to what Dutton (2001) found. There are several reasons why the recent graduate may not be participating as frequently in certain activities. First, they may not perceive that they are well prepared in certain activities. Second, recent graduates may not be employed as a CRNA at a facility that conducts clinical research. Third, CRNAs typically will present at meetings that they are also attending. This frequency is also low; only 32.7% of participants indicating that they often or very often attend district or state professional meetings. With respect to participating in a professional e-mail discussion list, recent graduates may either not see the value in participating or they may be unable to find a list that suits their professional

needs. One reason may be how e-mail discussion lists are conducted. A faculty member participant commented on participation in e-mail discussion lists as follows:

> *Professional e-mail discussion lists as they presently exist are not a professional venue. The majority of discussion is tearing down a group or a person within our profession. It is embarrassing to read the discussion list.*

Instructional delivery method. The number of participants in each group who indicated their primary instructional delivery method was online was very small (i.e., four faculty members and two recent graduates). Because there were not enough participants for an online cohort in either group, they were combined. However, when interpreting these results, it is important for the reader to consider the majority of the participants indicated a blended/hybrid instructional delivery method.

When importance of outcomes related to professional socialization was compared to primary instructional delivery method, there were no significant outcomes that were consistent for both faculty members and recent graduates. However, there was significance found among recent graduates for the importance of the scholarly activity/critical inquiry and professional ethics outcomes. Recent graduates rated the importance higher in the blended/hybrid or online instructional delivery method group than the traditional instructional delivery method group.

Connecting instructional delivery, preparation, and frequency. In addition to rating higher levels of importance for the professional ethics outcome, recent graduates also rated their preparation significantly when a blended/hybrid or online instructional delivery method was utilized in their program. While recent graduates did not indicate a higher rating of importance for the outcome of scholarly activity/critical inquiry with a blended hybrid or online delivery method, they did rate overall preparation significantly

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higher. These findings are not surprising, given the dramatic growth of distance education throughout higher education (including nurse anesthesia programs). These results may be indicative of more programs using hybrid or web-enhanced courses in addition to their face-to-face courses. For courses that use online learning in distance education, smaller class sizes may have the benefits of more student-faculty interaction, increased connectedness, and increased student satisfaction (Burruss et al., 2009; Russell & Curtis, 2013).

There was more of a direct connection found for the outcome of professional ethics. Recent graduates indicated higher ratings of importance and higher ratings of preparation when a blended/hybrid or online instructional delivery method was used. Higher frequencies of participation were noted for this outcome. Over 80% of participants indicated that they often or very often discuss proposed interventions, risks of complications, alternatives, and goals with patients (83.7%); maintain confidentiality by not discussing patient information with others not involved in the patient's care (93.7%); and delegate tasks to appropriately trained personnel (93.5%). This finding was not surprising, since many of the activities related to professional ethics are utilized daily in clinical practice. Nurse anesthesia students, regardless of instructional delivery method, are exposed to these types of activities very early in their clinical experiences, and it continues throughout their training. While not supported with empirical data, it is possible that faculty members who utilized a blended/hybrid or online instructional delivery method were able to place greater emphasis on activities related to this outcome.

Not all frequencies of participation for the outcome of professional ethics were high. For example, approximately 25% of participants indicated that they have often or

very often reported a colleague engaged in known or suspected misconduct. These findings are consistent with Dutton's (2001) findings. While one could assume this may be a result of misconduct being under-reported, which is possible, it may also indicate that recent graduates have not faced this scenario.

Preparation and satisfaction. Overall, faculty members and recent graduates both indicated some sort of agreement when they were asked about overall satisfaction with practices utilized in nurse anesthesia programs to professionally socialize students. The mean overall ratings fell between somewhat agree and agree for both groups (i.e., for faculty members the mean was 4.80 and for recent graduates it was 4.65). There was no significant difference found between the groups on the *t*-test. However, both faculty members and recent graduates who indicated higher overall satisfaction tended to have higher ratings of recent graduate preparation.

Influences

Recent graduate participants in the study were asked to indicate a level of influence on the development of their attitudes and beliefs as recent graduates for the following groups: faculty members, clinical instructors, professional leaders, patients and/or clients, and peers. Findings of the current study found the most influential group to be faculty members, which is consistent with Dutton's (2001) findings. Furthermore, this finding is consistent with the existing literature, wherein faculty members assume a pivotal role in the professional socialization process (Crocker & Brodie, 1974; Bragg, 1976; Waugaman et al., 2011).

Clinical instructors were found to be the next most influential group in this study. While not supported in this study, literature does exist that indicates clinical instructors

and nurse preceptors may play a more important role than faculty members (MacLellan, Lordly, & Gingras, 2011). It was not surprising that both faculty members and clinical instructors were found to be significantly influential in this study. Nurse anesthesia educational programs have both didactic and clinical components; students spend significant amounts of time with both faculty members and clinical instructors.

Professional leaders were rated as least influential by recent graduate participants, as Dutton found in her 2001 study. It is important to note that this lack of influence may be secondary to a lack of interaction or contact between students and professional leaders. While students may see or briefly meet professional leaders at an association meeting, it is unlikely that the interactions will have a significant impact on the professional socialization process for those students.

Qualitative Responses

Participants were given the opportunity, through open-ended survey questions, to share additional activities they felt reflected the outcomes of professional development, scholarly activity/critical inquiry, professional ethics, and professional and social responsibility. When the qualitative responses were compared between faculty members and recent graduates, three themes emerged: political advocacy, service, and clinical education. These are important mainstays of the nurse anesthesia profession. Both groups of participants submitted comments that activities should include involvement with state and national professional associations, involvement with the political process, and clinical precepting of students.

In the context of professional socialization, these three themes are equally important and should be woven throughout educational program curricula and cultivated

over time following graduation. These comments are examples of behaviors that are developed during the process of professional socialization, where the goal is the establishment of a professional identity (Bragg, 1976; Weidman et al., 2001) and a commitment to the profession (Saarmann et al., 1992; Weidman et al., 2001; Waugaman et al., 2011).

Limitations

The researcher acknowledges that this study had several limitations. First, the cross-section design only offers a brief glimpse into the attitudes and beliefs of the participants. Richer data may be achieved with a longitudinal study. Second, there was a low response rate from faculty members and recent graduates from programs with larger cohort sizes and programs that use only an online instructional delivery method. Their participation may have influenced the results.

A third limitation of this study related to the self-selection of participants. Individuals who were sent an invitation to participate decided for themselves whether or not to complete a survey. While it is currently a popular method for research data collection, the electronic format of the survey utilized in this study may have discouraged participation for some individuals. Lastly, the length of the survey may have lessened enthusiasm for some to either finish or fully complete the survey.

Recommendations

A number of recommendations for program administrators, faculty members, and clinical educators within nurse anesthesia educational programs have evolved from this research and literature review. In addition, recommendations for future research are suggested.

Nurse Anesthesia Educational Programs

Academic component. The findings of this study, supported by the existing literature, make it clear that faculty members play a pivotal and influential role in the professional socialization process (Crocker & Brodie, 1974; Bragg, 1976; Weidman et al., 2001; Waugaman et al., 2011). Faculty members and program administrators should ensure that intentional methods and techniques to promote the socialization process are woven throughout the curricula. It is important that each program is assessed to determine what other influential factors or groups exist that may affect the socialization process. Cultural needs of students must be considered, as inattention to these needs may cause unintended barriers to the socialization process for those students (Waugaman & Lu, 1999; Condon & Sharts-Hopko, 2010).

If distance education is being used to deliver either a course or significant portions of the curriculum, faculty members and program administrators need to be cognizant of the importance of communication and quality faculty-student interactions; both of which should be intentionally planned and carried out (Johnson, 2003; Mancuso-Murphy, 2007; Stavredes, 2011).

Clinical component. Given that nurse anesthesia students spend a significant amount of time in the clinical environment, program administrators and faculty members should seek clinical educators who possess attitudes, values, and beliefs that are consistent with those of the educational program with respect to professional socialization. Additional education may be required for the clinical educators regarding professional socialization and the important role they play in the process. There may be nurse anesthetists serving as clinical preceptors, and they are unaware of the significant

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influence they may have on the socialization process for students as educators and role models. Additional continuing education topics that may be offered include improving communication and mentoring, both of which may help to improve the socialization process.

Future Research

The first recommendation for future research is to further explore professional socialization within nurse anesthesia educational programs. The current study was focused on identifying attitudes and beliefs of two groups, faculty members and recent graduates, involved in the process. However, the design of the study did not focus on the collection of actual methods and techniques or examples. A qualitative or mixed methods study may be more appropriate for this purpose. What are current best practices for professional socialization within our profession? Are these methods and techniques different based on program size or if a distance education curriculum is utilized? Answers to these questions might enhance the professional socialization process for all educational programs.

The second recommendation is to explore the attitudes and beliefs of other socializing agents that have the opportunity to influence students within nurse anesthesia programs. While faculty members were perceived by recent graduates in this study as having the most influence in professional socialization outcomes, clinical instructors and peers were also rated highly. If our desire is to get a comprehensive overview of professional socialization in our educational programs, we must consider the influence that others, aside from faculty members, may have on the process. This is particularly important, since nurse anesthesia students spend significant time in multiple health care

facilities during clinical experiences that can be long distances from the academic

program.

APPENDICES

Re: Professional Socialization Survey Instrument Question
Lisa Dutton [lldutton@stkate.edu]
Sent: Monday, May 14, 2012 11:44 AM
To: Buettner, Kevin

Kevin,

Thank you for your e-mail. As long as it is credited appropriately, I am happy to grant permission for you to use and modify my survey. Best of luck to you on your dissertation.

Thanks,
Lisa

On Fri, May 11, 2012 at 1:54 PM, Buettner, Kevin <kevin.buettner@email.und.edu> wrote:

> Good Afternoon Dr. Dutton:
>
> I am currently a student in the Teaching and Learning doctoral program at the University of North Dakota and I have decided to pursue the topic of Professional Socialization of Graduate Students (specifically Nurse Anesthesia) for my doctoral dissertation. The Nurse Anesthesia profession has not published much research on this topic, so there is a definite gap in the literature. In addition, a number of our education programs (like many other professions) are using a distance/online model and I am curious as to what potential impact that is having with respect to professional socialization of our students as compared to our traditional on-campus programs.
>
> As I was exploring the literature, I came across a survey instrument that, as I found out yesterday, is in use for a current study being conducted by Dr. Jeff Snodgrass and Dr. Jyothi Gupta. Dr. Snodgrass was kind enough to respond to my email message and informed me that their instrument is actually a modified version of the one you used in your 2001 Study, "Professional Socialization in Physical Therapy: Influences and Perceived Outcomes." He also graciously provided me with your email address.
>
> The purpose of this email is to ask for your written permission to use and modify your 2001 survey instrument for the purposes of my dissertation research.
>
> Please let me know if you have any questions. I look forward to hearing from you.

Professional Socialization: Influences and Outcomes
Faculty Survey (Modified from Dutton, 2001) Codebook

DEMOGRAPHIC VARIABLES

Name	Item
ID	Random number identifying each participant.
fac_age	What is your age?
fac_gender	What is your gender? (1) Male (2) Female
fac_educ	What is the HIGHEST level of education you have completed? (1) Diploma/Certificate in Anesthesia (2) Associate Degree (3) Bachelor's Degree (4) Master's Degree (5) JD (6) Practice Doctorate (DNP or DNAP) (7) Research Doctorate (PhD or DNSc) (8) Other1: (9) Other2:
fac_memb	How many years have you been a member of the American Association of Nurse Anesthetists (AANA)? (1) Less than 1 year (2) 1 to 5 years (3) 6 to 10 years (4) 11 to 15 years (5) 16 to 20 years (6) More than 20 years (7) I am not currently a member of the AANA
fac_cert	Are you currently a Certified Registered Nurse Anesthetist? (1) Yes (2) No
fac_emp	Indicate your current employment status as a nurse anesthesia faculty member: (1) Full Time (On average greater than 32 hours per week) (2) Part Time (On average less than 32 hours per week) (3) Retired (4) I am not currently employed as a nurse anesthesia faculty member.
fac_exp	How many years of experience do you have as a nurse anesthesia faculty member? (1) Less than 1 year (2) 1 to 2 years (3) 3 to 5 years (4) 6 to 8 years (5) 9 to 10 years

	(6) 11 to 15 years (7) 16 to 20 years (8) More than 20 years
fac_cohort	In the past 2 years, how many students on average are admitted to each COHORT in the nurse anesthesia educational program where you are a faculty member? (1) Less than 10 students (2) 10-25 students (3) 26-50 students (4) 51-75 students (5) 76-100 students (6) Greater than 100 students
fac_pridm	Reflecting on the courses you have taught during the past 2 years, which of the following best describes your PRIMARY instructional delivery method? (1) Traditional (On-campus, face-to-face) (2) Blended/Hybrid (Uses a combination of online and face-to-face delivery) (3) Online (Most to all content is delivered online with minimal face to face meetings)
fac_percidm	You indicated that you typically teach using a BLENDED or an ONLINE instructional delivery method. What PERCENT of time do you use each of the following learning environments? (Total must add to 100%) (1) Online Asynchronous (2) Online Synchronous, Primary Text Based (3) Online Synchronous, Interactive Video (4) Other (Please specify)

You will now be asked a series of questions in 4 areas related to professional socialization:

- Professional Development
- Scholarly Activity/Critical Inquiry
- Professional Ethics
- Professional and Social Responsibility

When you are asked questions about RECENT GRADUATES, this refers to graduates of YOUR educational program in the past 3 years.

PROFESSIONAL DEVELOPMENT
In your opinion, how important are the following PROFESSIONAL DEVELOPMENT activities as possible outcomes of entry-level nurse anesthesia education?

fac_pdout	
Name	**Item**
fac_pdout_1	Pursue continuing education courses. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_pdout_2	Participate in peer review activities. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_pdout_3	Engage in formal professional self-assessment. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_pdout_4	Seek the advice of a more experiences clinician. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_pdout_5	Set professional goals. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_pdout_6	Pursue an advanced degree (e.g. DNP, DNAP, PhD). (1) Not Important (2) Somewhat Important (3) Important (4) Very Important

How well prepared do you believe recent graduates are to participate in the following PROFESSIONAL DEVELOPMENT activities?

fac_pdpart	
Name	**Item**
fac_pdpart_1	Pursue continuing education courses. (1) Not Prepared (2) Somewhat Prepared (3) Prepared (4) Well Prepared

fac_pdpart_2	Participate in peer review activities.
	(1) Not Prepared
	(2) Somewhat Prepared
	(3) Prepared
	(4) Well Prepared
fac_pdpart_3	Engage in formal professional self-assessment.
	(1) Not Prepared
	(2) Somewhat Prepared
	(3) Prepared
	(4) Well Prepared
fac_pdpart_4	Seek the advice of a more experiences clinician.
	(1) Not Prepared
	(2) Somewhat Prepared
	(3) Prepared
	(4) Well Prepared
fac_pdpart_5	Set professional goals.
	(1) Not Prepared
	(2) Somewhat Prepared
	(3) Prepared
	(4) Well Prepared
fac_pdpart_6	Pursue an advanced degree (e.g. DNP, DNAP, PhD).
	(1) Not Prepared
	(2) Somewhat Prepared
	(3) Prepared
	(4) Well Prepared

Are there other activities you believe reflect PROFESSIONAL DEVELOPMENT in nurse anesthesia? Please describe them below.

Participant ID	Professional Development Activity

SCHOLARLY ACTIVITY/CRITICAL INQUIRY

In your opinion, how important are the following SCHOLARLY ACTIVITY/CRITICAL INQUIRY activities as possible outcomes of entry-level nurse anesthesia education?

fac_saciout	
Name	**Item**
fac_saciout_1	Read peer reviewed journal articles related to anesthesia. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_saciout_2	Conduct a literature search related to a recent clinical question or case. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_saciout_3	Apply recent literature to a clinical question or case. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_saciout_4	Discuss current literature with colleagues. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_saciout_5	Participate in clinical research. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_saciout_6	Submit research articles or abstracts to peer-reviewed journals. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_saciout_7	Present at a state, regional, or national conference. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_saciout_8	Participate in a journal club. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important

fac_saciout_9	Participate in a professional e-mail discussion list.
	(1) Not Important
	(2) Somewhat Important
	(3) Important
	(4) Very Important

How well prepared do you believe recent graduates are to participate in the following SCHOLARLY ACTIVITY/CRITICAL INQUIRY activities?

fac_sacipart	
Name	**Item**
fac_sacipart_1	Read peer reviewed journal articles related to anesthesia.
	(1) Not Prepared
	(2) Somewhat Prepared
	(3) Prepared
	(4) Well Prepared
fac_sacipart_2	Conduct a literature search related to a recent clinical question or case.
	(1) Not Prepared
	(2) Somewhat Prepared
	(3) Prepared
	(4) Well Prepared
fac_sacipart_3	Apply recent literature to a clinical question or case.
	(1) Not Prepared
	(2) Somewhat Prepared
	(3) Prepared
	(4) Well Prepared
fac_sacipart_4	Discuss current literature with colleagues.
	(1) Not Prepared
	(2) Somewhat Prepared
	(3) Prepared
	(4) Well Prepared
fac_sacipart_5	Participate in clinical research.
	(1) Not Prepared
	(2) Somewhat Prepared
	(3) Prepared
	(4) Well Prepared
fac_sacipart_6	Submit research articles or abstracts to peer-reviewed journals.
	(1) Not Prepared
	(2) Somewhat Prepared
	(3) Prepared
	(4) Well Prepared

fac_sacipart_7	Present at a state, regional, or national conference. (1) Not Prepared (2) Somewhat Prepared (3) Prepared (4) Well Prepared
fac_sacipart_8	Participate in a journal club. (1) Not Prepared (2) Somewhat Prepared (3) Prepared (4) Well Prepared
fac_sacipart_9	Participate in a professional e-mail discussion list. (1) Not Prepared (2) Somewhat Prepared (3) Prepared (4) Well Prepared

Are there other activities you believe reflect SCHOLARLY ACTIVITY/CRITICAL INQUIRY in nurse anesthesia? Please describe them below.

Participant ID	Scholarly Activity/Critical Inquiry Activity

PROFESSIONAL ETHICS
In your opinion, how important are the following PROFESSIONAL ETHICS activities as possible outcomes of entry-level nurse anesthesia education?

fac_peout	
Name	**Item**
fac_peout_1	Consult the American Association of Nurse Anesthetists (AANA) Code of Ethics for direction in an ethical dilemma. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_peout_2	Discuss the nature of proposed interventions, material risks of harm or complications, reasonable alternatives, and goals of anesthesia with each patient. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important

fac_peout_3	Refrain from discussing information related to the nurse anesthetist-patient relationship with anyone not involved in the patient's care without prior written consent. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_peout_4	Delegate only those tasks for which support personnel have adequate education, training, and experience. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_peout_5	Report colleagues engaged in known or suspected misconduct. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important

How well prepared do you believe recent graduates are to participate in the following PROFESSIONAL ETHICS activities?

fac_pepart	
Name	**Item**
fac_pepart_1	Consult the American Association of Nurse Anesthetists (AANA) Code of Ethics for direction in an ethical dilemma. (1) Not Prepared (2) Somewhat Prepared (3) Prepared (4) Well Prepared
fac_pepart_2	Discuss the nature of proposed interventions, material risks of harm or complications, reasonable alternatives, and goals of anesthesia with each patient. (1) Not Prepared (2) Somewhat Prepared (3) Prepared (4) Well Prepared
fac_pepart_3	Refrain from discussing information related to the nurse anesthetist-patient relationship with anyone not involved in the patient's care without prior written consent. (1) Not Prepared (2) Somewhat Prepared (3) Prepared (4) Well Prepared

fac_pepart_4	Delegate only those tasks for which support personnel have adequate education, training, and experience. (1) Not Prepared (2) Somewhat Prepared (3) Prepared (4) Well Prepared
fac_pepart_5	Report colleagues engaged in known or suspected misconduct. (1) Not Prepared (2) Somewhat Prepared (3) Prepared (4) Well Prepared

Are there other activities you believe reflect PROFESSIONAL ETHICS in nurse anesthesia? Please describe them below.

Participant ID	Professional Ethics Activity

PROFESSIONAL AND SOCIAL RESPONSIBILITY

In your opinion, how important are the following PROFESSIONAL AND SOCIAL RESPONSIBILITY activities as possible outcomes of entry-level nurse anesthesia education?

fac_psrout	
Name	Item
fac_psrout_1	Attend district or state professional organization meetings. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_psrout_2	Attend national professional organization meetings. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_psrout_3	Hold a position (including committee assignments) at the district, state, or national level of the professional organization. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important

fac_psrout_4	Become a member of the AANA. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_psrout_5	Serve as a clinical instructor for nurse anesthesia students. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_psrout_6	Contact a state or national legislator regarding a health care issue. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_psrout_7	Present anesthesia and health related educational programs to community organizations. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_psrout_8	Participate in community screening activities related to health and wellness. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_psrout_9	Participate in a volunteer mission abroad. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_psrout_10	Work with an insurer to secure additional treatments and/or services for a patient or client. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important
fac_psrout_11	Participate in voluntary service organizations and/or advocacy groups. (1) Not Important (2) Somewhat Important (3) Important (4) Very Important

How well prepared do you believe recent graduates are to participate in the following PROFESSIONAL AND SOCIAL RESPONSIBILITY activities?

fac_psrpart	
Name	**Item**
fac_psrpart_1	Attend district or state professional organization meetings. (1)　　Not Prepared (2)　　Somewhat Prepared (3)　　Prepared (4)　　Well Prepared
fac_psrpart_2	Attend national professional organization meetings. (1)　　Not Prepared (2)　　Somewhat Prepared (3)　　Prepared (4)　　Well Prepared
fac_psrpart_3	Hold a position (including committee assignments) at the district, state, or national level of the professional organization. (1)　　Not Prepared (2)　　Somewhat Prepared (3)　　Prepared (4)　　Well Prepared
fac_psrpart_4	Become a member of the AANA. (1)　　Not Prepared (2)　　Somewhat Prepared (3)　　Prepared (4)　　Well Prepared
fac_psrpart_5	Serve as a clinical instructor for nurse anesthesia students. (1)　　Not Prepared (2)　　Somewhat Prepared (3)　　Prepared (4)　　Well Prepared
fac_psrpart_6	Contact a state or national legislator regarding a health care issue. (1)　　Not Prepared (2)　　Somewhat Prepared (3)　　Prepared (4)　　Well Prepared
fac_psrpart_7	Present anesthesia and health related educational programs to community organizations. (1)　　Not Prepared (2)　　Somewhat Prepared (3)　　Prepared (4)　　Well Prepared

fac_psrpart_8	Participate in community screening activities related to health and wellness. (1) Not Prepared (2) Somewhat Prepared (3) Prepared (4) Well Prepared
fac_psrpart_9	Participate in a volunteer mission abroad. (1) Not Prepared (2) Somewhat Prepared (3) Prepared (4) Well Prepared
fac_psrpart_10	Work with an insurer to secure additional treatments and/or services for a patient or client. (1) Not Prepared (2) Somewhat Prepared (3) Prepared (4) Well Prepared
fac_psrpart_11	Participate in voluntary service organizations and/or advocacy groups. (1) Not Prepared (2) Somewhat Prepared (3) Prepared (4) Well Prepared

Are there other activities you believe reflect PROFESSIONAL AND SOCIAL RESPONSIBILITY in nurse anesthesia? Please describe them below.

Participant ID	Professional and Social Responsibility Activity

SATISFACTION

Name	Item
fac_oversat	Overall, I am satisfied with the practices utilized in nurse anesthesia educational programs to professionally socialize students into the profession. (1) Strongly Disagree (2) Disagree (3) Somewhat Disagree (4) Somewhat Agree (5) Agree (6) Strongly Agree

Appendix C
Professional Socialization: Influences and Outcomes
Recent Graduate Survey (Modified from Dutton, 2001) Codebook

DEMOGRAPHIC VARIABLES

Name	Item
ID	Random number identifying each participant.
rg_age	What is your age?
rg_gender	What is your gender? (3) Male (4) Female
rg_educ	What is the HIGHEST level of education you have completed? (10) Diploma/Certificate in Anesthesia (11) Associate Degree (12) Bachelor's Degree (13) Master's Degree (14) JD (15) Practice Doctorate (DNP or DNAP) (16) Research Doctorate (PhD or DNSc) (17) Other1: (18) Other2:
rg_grad	How long has it been since you graduated from your nurse anesthesia program? (5) Less than 1 year (6) 1 to 3 years (7) 3 to 5 years (8) Greater than 5 years
rg_cohort	How many students were admitted to each COHORT in the nurse anesthesia educational program where you are a faculty member? (7) Less than 10 students (8) 10-25 students (9) 26-50 students (10) 51-75 students (11) 76-100 students (12) Greater than 100 students
rg_pridm	Reflecting on the courses you completed during your nurse anesthesia educational program, what was the PRIMARY instructional delivery method? (4) Traditional (On-campus, face-to-face) (5) Blended/Hybrid (Uses a combination of online and face-to-face delivery) (6) Online (Most to all content is delivered online with minimal face to face meetings)

rg_percidm	You indicated that either a BLENDED or an ONLINE instructional delivery method was used in your nurse anesthesia educational program. What PERCENT of time did you use each of the following learning environments? (Total must add to 100%) (5) Online Asynchronous (6) Online Synchronous, Primary Text Based (7) Online Synchronous, Interactive Video (8) Other (Please specify)

You will now be asked a series of questions in 4 areas related to professional socialization:

- Professional Development
- Scholarly Activity/Critical Inquiry
- Professional Ethics
- Professional and Social Responsibility

When you are asked questions about RECENT GRADUATES, this refers to graduates of YOUR educational program in the past 3 years.

PROFESSIONAL DEVELOPMENT
In your opinion, how important are the following PROFESSIONAL DEVELOPMENT activities as possible outcomes of entry-level nurse anesthesia education?

rg_pdout	
Name	**Item**
rg_pdout_1	Pursue continuing education courses. (5) Not Important (6) Somewhat Important (7) Important (8) Very Important
rg_pdout_2	Participate in peer review activities. (5) Not Important (6) Somewhat Important (7) Important (8) Very Important
rg_pdout_3	Engage in formal professional self-assessment. (5) Not Important (6) Somewhat Important (7) Important (8) Very Important
rg_pdout_4	Seek the advice of a more experiences clinician. (5) Not Important (6) Somewhat Important (7) Important (8) Very Important

rg_pdout_5	Set professional goals.
	(5) Not Important
	(6) Somewhat Important
	(7) Important
	(8) Very Important
rg_pdout_6	Pursue an advanced degree (e.g. DNP, DNAP, PhD).
	(5) Not Important
	(6) Somewhat Important
	(7) Important
	(8) Very Important

As a recent graduate, how well prepared were you to participate in the following PROFESSIONAL DEVELOPMENT activities?

rg_pdpart	
Name	**Item**
rg_pdpart_1	Pursue continuing education courses.
	(5) Not Prepared
	(6) Somewhat Prepared
	(7) Prepared
	(8) Well Prepared
rg_pdpart_2	Participate in peer review activities.
	(5) Not Prepared
	(6) Somewhat Prepared
	(7) Prepared
	(8) Well Prepared
rg_pdpart_3	Engage in formal professional self-assessment.
	(5) Not Prepared
	(6) Somewhat Prepared
	(7) Prepared
	(8) Well Prepared
rg_pdpart_4	Seek the advice of a more experiences clinician.
	(5) Not Prepared
	(6) Somewhat Prepared
	(7) Prepared
	(8) Well Prepared
rg_pdpart_5	Set professional goals.
	(5) Not Prepared
	(6) Somewhat Prepared
	(7) Prepared
	(8) Well Prepared

rg_pdpart_6	Pursue an advanced degree (e.g. DNP, DNAP, PhD).
	(5) Not Prepared
	(6) Somewhat Prepared
	(7) Prepared
	(8) Well Prepared

Are there other activities you believe reflect PROFESSIONAL DEVELOPMENT in nurse anesthesia? Please describe them below.

Participant ID	Professional Development Activity

SCHOLARLY ACTIVITY/CRITICAL INQUIRY

In your opinion, how important are the following SCHOLARLY ACTIVITY/CRITICAL INQUIRY activities as possible outcomes of entry-level nurse anesthesia education?

rg_saciout	
Name	**Item**
rg_saciout_1	Read peer reviewed journal articles related to anesthesia.
	(5) Not Important
	(6) Somewhat Important
	(7) Important
	(8) Very Important
rg_saciout_2	Conduct a literature search related to a recent clinical question or case.
	(5) Not Important
	(6) Somewhat Important
	(7) Important
	(8) Very Important
rg_saciout_3	Apply recent literature to a clinical question or case.
	(5) Not Important
	(6) Somewhat Important
	(7) Important
	(8) Very Important
rg_saciout_4	Discuss current literature with colleagues.
	(5) Not Important
	(6) Somewhat Important
	(7) Important
	(8) Very Important

rg_saciout_5	Participate in clinical research.
	(5) Not Important
	(6) Somewhat Important
	(7) Important
	(8) Very Important
rg_saciout_6	Submit research articles or abstracts to peer-reviewed journals.
	(5) Not Important
	(6) Somewhat Important
	(7) Important
	(8) Very Important
rg_saciout_7	Present at a state, regional, or national conference.
	(5) Not Important
	(6) Somewhat Important
	(7) Important
	(8) Very Important
rg_saciout_8	Participate in a journal club.
	(5) Not Important
	(6) Somewhat Important
	(7) Important
	(8) Very Important
rg_saciout_9	Participate in a professional e-mail discussion list.
	(5) Not Important
	(6) Somewhat Important
	(7) Important
	(8) Very Important

As a recent graduate, how well prepared were you to participate in the following SCHOLARLY ACTIVITY/CRITICAL INQUIRY activities?

rg_sacipart	
Name	**Item**
rg_sacipart_1	Read peer reviewed journal articles related to anesthesia.
	(5) Not Prepared
	(6) Somewhat Prepared
	(7) Prepared
	(8) Well Prepared
rg_sacipart_2	Conduct a literature search related to a recent clinical question or case.
	(5) Not Prepared
	(6) Somewhat Prepared
	(7) Prepared
	(8) Well Prepared

rg_sacipart_3	Apply recent literature to a clinical question or case. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared
rg_sacipart_4	Discuss current literature with colleagues. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared
rg_sacipart_5	Participate in clinical research. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared
rg_sacipart_6	Submit research articles or abstracts to peer-reviewed journals. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared
rg_sacipart_7	Present at a state, regional, or national conference. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared
rg_sacipart_8	Participate in a journal club. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared
rg_sacipart_9	Participate in a professional e-mail discussion list. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared

Are there other activities you believe reflect SCHOLARLY ACTIVITY/CRITICAL INQUIRY in nurse anesthesia? Please describe them below.

Participant ID	Scholarly Activity/Critical Inquiry Activity

PROFESSIONAL ETHICS

In your opinion, how important are the following PROFESSIONAL ETHICS activities as possible outcomes of entry-level nurse anesthesia education?

rg_peout	
Name	**Item**
rg_peout_1	Consult the American Association of Nurse Anesthetists (AANA) Code of Ethics for direction in an ethical dilemma. (5) Not Important (6) Somewhat Important (7) Important (8) Very Important
rg_peout_2	Discuss the nature of proposed interventions, material risks of harm or complications, reasonable alternatives, and goals of anesthesia with each patient. (5) Not Important (6) Somewhat Important (7) Important (8) Very Important
rg_peout_3	Refrain from discussing information related to the nurse anesthetist-patient relationship with anyone not involved in the patient's care without prior written consent. (5) Not Important (6) Somewhat Important (7) Important (8) Very Important
rg_peout_4	Delegate only those tasks for which support personnel have adequate education, training, and experience. (5) Not Important (6) Somewhat Important (7) Important (8) Very Important
rg_peout_5	Report colleagues engaged in known or suspected misconduct. (5) Not Important (6) Somewhat Important (7) Important (8) Very Important

As a recent graduate, how well prepared were you to participate in the following PROFESSIONAL ETHICS activities?

rg_pepart	
Name	**Item**
rg_pepart_1	Consult the American Association of Nurse Anesthetists (AANA) Code of Ethics for direction in an ethical dilemma. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared
rg_pepart_2	Discuss the nature of proposed interventions, material risks of harm or complications, reasonable alternatives, and goals of anesthesia with each patient. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared
rg_pepart_3	Refrain from discussing information related to the nurse anesthetist-patient relationship with anyone not involved in the patient's care without prior written consent. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared
rg_pepart_4	Delegate only those tasks for which support personnel have adequate education, training, and experience. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared
rg_pepart_5	Report colleagues engaged in known or suspected misconduct. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared

Are there other activities you believe reflect PROFESSIONAL ETHICS in nurse anesthesia? Please describe them below.

Participant ID	Professional Ethics Activity

PROFESSIONAL AND SOCIAL RESPONSIBILITY

In your opinion, how important are the following PROFESSIONAL AND SOCIAL RESPONSIBILITY activities as possible outcomes of entry-level nurse anesthesia education?

rg_psrout	
Name	**Item**
rg_psrout_1	Attend district or state professional organization meetings. (5) Not Important (6) Somewhat Important (7) Important (8) Very Important
rg_psrout_2	Attend national professional organization meetings. (5) Not Important (6) Somewhat Important (7) Important (8) Very Important
rg_psrout_3	Hold a position (including committee assignments) at the district, state, or national level of the professional organization. (5) Not Important (6) Somewhat Important (7) Important (8) Very Important
rg_psrout_4	Become a member of the AANA. (5) Not Important (6) Somewhat Important (7) Important (8) Very Important
rg_psrout_5	Serve as a clinical instructor for nurse anesthesia students. (5) Not Important (6) Somewhat Important (7) Important (8) Very Important
rg_psrout_6	Contact a state or national legislator regarding a health care issue. (5) Not Important (6) Somewhat Important (7) Important (8) Very Important
rg_psrout_7	Present anesthesia and health related educational programs to community organizations. (5) Not Important (6) Somewhat Important (7) Important (8) Very Important

rg_psrout_8	Participate in community screening activities related to health and wellness.
	(5) Not Important
	(6) Somewhat Important
	(7) Important
	(8) Very Important
rg_psrout_9	Participate in a volunteer mission abroad.
	(5) Not Important
	(6) Somewhat Important
	(7) Important
	(8) Very Important
rg_psrout_10	Work with an insurer to secure additional treatments and/or services for a patient or client.
	(5) Not Important
	(6) Somewhat Important
	(7) Important
	(8) Very Important
rg_psrout_11	Participate in voluntary service organizations and/or advocacy groups.
	(5) Not Important
	(6) Somewhat Important
	(7) Important
	(8) Very Important

As a recent graduate, how well prepared were you to participate in the following PROFESSIONAL AND SOCIAL RESPONSIBILITY activities?

rg_psrpart	
Name	**Item**
rg_psrpart_1	Attend district or state professional organization meetings.
	(5) Not Prepared
	(6) Somewhat Prepared
	(7) Prepared
	(8) Well Prepared
rg_psrpart_2	Attend national professional organization meetings.
	(5) Not Prepared
	(6) Somewhat Prepared
	(7) Prepared
	(8) Well Prepared
rg_psrpart_3	Hold a position (including committee assignments) at the district, state, or national level of the professional organization.
	(5) Not Prepared
	(6) Somewhat Prepared
	(7) Prepared
	(8) Well Prepared

rg_psrpart_4	Become a member of the AANA. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared
rg_psrpart_5	Serve as a clinical instructor for nurse anesthesia students. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared
rg_psrpart_6	Contact a state or national legislator regarding a health care issue. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared
rg_psrpart_7	Present anesthesia and health related educational programs to community organizations. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared
rg_psrpart_8	Participate in community screening activities related to health and wellness. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared
rg_psrpart_9	Participate in a volunteer mission abroad. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared
rg_psrpart_10	Work with an insurer to secure additional treatments and/or services for a patient or client. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared
rg_psrpart_11	Participate in voluntary service organizations and/or advocacy groups. (5) Not Prepared (6) Somewhat Prepared (7) Prepared (8) Well Prepared

Are there other activities you believe reflect PROFESSIONAL AND SOCIAL RESPONSIBILITY in nurse anesthesia? Please describe them below.

Participant ID	Professional and Social Responsibility Activity

RECENT GRADUATE ACTIVITIES
As a recent graduate, how often do you engage in the following activities?

rga	
Name	**Item**
rga_1_pd	Pursue continuing education course. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_2_pd	Participant in peer review activities. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_3_pd	Engage in formal professional self-assessment. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_4_pd	Seek the advice to a more experienced clinician. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_5_pd	Set professional goals. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_6_pd	Enroll in course work for an advanced degree (e.g. DNP, DNAP, PhD). (1) Never (2) Occasionally (3) Often (4) Very Often

rga_7_saci	Read peer-reviewed journal articles related to anesthesia. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_8_saci	Conduct a literature search related to a clinical question or case. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_9_saci	Apply recent literature to a clinical question or case. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_10_saci	Discuss current literature with colleagues. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_11_saci	Participate in clinical research. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_12_saci	Submit research articles or abstracts to peer-reviewed journals. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_13_saci	Present at a state, regional, or national committee. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_14_saci	Participate in a journal club. (1) Never (2) Occasionally (3) Often (4) Very Often

rga_15_saci	Participate in a professional e-mail discussion list.
	(1) Never
	(2) Occasionally
	(3) Often
	(4) Very Often
rga_16_pe	Consult the American Association of Nurse Anesthetists (AANA) Code of Ethics for direction in an ethical dilemma.
	(1) Never
	(2) Occasionally
	(3) Often
	(4) Very Often
rga_17_pe	Discuss the nature of proposed interventions, material risks of harm or complications, reasonable alternatives, and goals of anesthesia with each patient.
	(1) Never
	(2) Occasionally
	(3) Often
	(4) Very Often
rga_18_pe	Refrain from discussing information related to the nurse anesthetist-patient relationship with anyone not involved in the patient's care without prior written consent.
	(1) Never
	(2) Occasionally
	(3) Often
	(4) Very Often
rga_19_pe	Delegate only those tasks for which support personnel have adequate education, training, and experience.
	(1) Never
	(2) Occasionally
	(3) Often
	(4) Very Often
rga_20_pe	Report colleagues engaged in known or suspected misconduct.
	(1) Never
	(2) Occasionally
	(3) Often
	(4) Very Often
rga_21_psr	Attend district or state professional organization meetings.
	(1) Never
	(2) Occasionally
	(3) Often
	(4) Very Often

rga_22_psr	Hold a position (including committee assignments) at the district, state, or national level of the professional organization. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_23_psr	Maintain membership in the AANA. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_24_psr	Serve as a clinical instructor of nurse anesthesia students. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_25_psr	Contact a state or national legislator regarding a health care issue. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_26_psr	Present anesthesia and health related educational programs to community organizations. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_27_psr	Participate in community screening activities related to health and wellness. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_28_psr	Participate in a volunteer mission abroad. (1) Never (2) Occasionally (3) Often (4) Very Often
rga_29_psr	Work with an insurer to secure additional treatments and/or services for a patient or client. (1) Never (2) Occasionally (3) Often (4) Very Often

rga_30_psr	Participate in voluntary service organizations and/or advocacy groups.
	(1) Never
	(2) Occasionally
	(3) Often
	(4) Very Often

What was the influence of *FACULTY MEMBERS* on the development of your attitudes and values related to:

rg_facinf_pd	Professional Development
	(1) No Influence
	(2) Minimal Influence
	(3) Moderate Influence
	(4) Significant Influence
rg_facinf_saci	Scholarly Activity/Critical Inquiry
	(1) No Influence
	(2) Minimal Influence
	(3) Moderate Influence
	(4) Significant Influence
rg_facinf_pe	Professional Ethics
	(1) No Influence
	(2) Minimal Influence
	(3) Moderate Influence
	(4) Significant Influence
rg_facinf_psr	Professional and Social Responsibility
	(1) No Influence
	(2) Minimal Influence
	(3) Moderate Influence
	(4) Significant Influence

What was the influence of *CLINICAL INSTRUCTORS* on the development of your attitudes and values related to:

rg_clinstinf_pd	Professional Development
	(1) No Influence
	(2) Minimal Influence
	(3) Moderate Influence
	(4) Significant Influence
rg_clinstinf_saci	Scholarly Activity/Critical Inquiry
	(1) No Influence
	(2) Minimal Influence
	(3) Moderate Influence
	(4) Significant Influence
rg_clinstinf_pe	Professional Ethics
	(1) No Influence
	(2) Minimal Influence
	(3) Moderate Influence
	(4) Significant Influence

rg_clinstinf_psr	Professional and Social Responsibility (1) No Influence (2) Minimal Influence (3) Moderate Influence (4) Significant Influence

What was the influence of *PROFESSIONAL LEADERS* (e.g. AANA President) on the development of your attitudes and values related to:

rg_prldinf_pd	Professional Development (1) No Influence (2) Minimal Influence (3) Moderate Influence (4) Significant Influence
rg_prldinf_saci	Scholarly Activity/Critical Inquiry (1) No Influence (2) Minimal Influence (3) Moderate Influence (4) Significant Influence
rg_prldinf_pe	Professional Ethics (1) No Influence (2) Minimal Influence (3) Moderate Influence (4) Significant Influence
rg_prldinf_psr	Professional and Social Responsibility (1) No Influence (2) Minimal Influence (3) Moderate Influence (4) Significant Influence

What was the influence of *PATIENTS AND/OR CLIENTS* on the development of your attitudes and values related to:

rg_ptclinf_pd	Professional Development (1) No Influence (2) Minimal Influence (3) Moderate Influence (4) Significant Influence
rg_ptclinf_saci	Scholarly Activity/Critical Inquiry (1) No Influence (2) Minimal Influence (3) Moderate Influence (4) Significant Influence
rg_ptclinf_pe	Professional Ethics (1) No Influence (2) Minimal Influence (3) Moderate Influence (4) Significant Influence

rg_ptclinf_psr	Professional and Social Responsibility (1) No Influence (2) Minimal Influence (3) Moderate Influence (4) Significant Influence

What was the influence of *PEERS* on the development of your attitudes and values related to:

rg_peerinf_pd	Professional Development (1) No Influence (2) Minimal Influence (3) Moderate Influence (4) Significant Influence
rg_peerinf_saci	Scholarly Activity/Critical Inquiry (1) No Influence (2) Minimal Influence (3) Moderate Influence (4) Significant Influence
rg_peerinf_pe	Professional Ethics (1) No Influence (2) Minimal Influence (3) Moderate Influence (4) Significant Influence
rg_peerinf_psr	Professional and Social Responsibility (1) No Influence (2) Minimal Influence (3) Moderate Influence (4) Significant Influence

SATISFACTION

Name	Item
rg_oversat	Overall, I am satisfied with the practices utilized in nurse anesthesia educational programs to professionally socialize students into the profession. (7) Strongly Disagree (8) Disagree (9) Somewhat Disagree (10) Somewhat Agree (11) Agree (12) Strongly Agree

Appendix D
Institutional Review Board Research Approval

U N I V E R S I T Y O F **UND** N O R T H D A K O T A

INSTITUTIONAL REVIEW BOARD
c/o RESEARCH DEVELOPMENT AND COMPLIANCE
DIVISION OF RESEARCH
TWAMLEY HALL ROOM 106
264 CENTENNIAL DRIVE STOP 7134
GRAND FORKS ND 58202-7134
(701) 777-4279
FAX (701) 777-6708

February 14, 2013

Kevin Buettner
Department of Nursing
Stop 9025

Dear Mr. Buettner:

We are pleased to inform you that your project titled, "Professional Socialization in Nurse Anesthesia Educational Programs" (IRB-201302-219) has been reviewed and approved by the University of North Dakota Institutional Review Board (IRB). <u>The expiration date of this approval is February 20, 2014.</u>

As principal investigator for a study involving human participants, you assume certain responsibilities to the University of North Dakota and the UND IRB. Specifically, any adverse events or departures from the protocol that occur must be reported to the IRB immediately. It is your obligation to inform the IRB in writing if you would like to change aspects of your approved project, prior to implementing such changes.

When your research, including data analysis, is completed, you must submit a Research Project Termination form to the IRB office so your file can be closed. A Termination Form has been enclosed and is also available on the IRB website.

If you have any questions or concerns, please feel free to call me at (701) 777-4279 or e-mail michelle.bowles@research.und.edu.

Sincerely,

Michelle L. Bowles, M.P.A., CIP
IRB Coordinator

MLB/jle

Enclosures

Appendix E
Faculty Member Survey
Participant Consent Form

Invitation to Participate and Informed Consent Form

Dear Nurse Anesthesia Faculty Member:

You are invited to participate in a research study titled, **"Professional Socialization in Nurse Anesthesia Educational Programs"**. The purpose of this study is to better understand professional socialization in nurse anesthesia educational programs in the United States through an exploration of the attitudes and beliefs of **nurse anesthesia faculty members and recent graduates.**

The information learned from this study should provide general benefits to nurse anesthesia faculty members, educational programs, and the profession even though it may not benefit you directly. I anticipate that the results of this study will be presented at a future professional meeting and also submitted for publication in a peer reviewed journal.

In this study, you will be asked to complete an electronic survey. Your participation in this study is voluntary and you are free to withdraw your participation from this study at any time. The survey should take approximately 10 minutes to complete. There are no costs to you for participating in this study, except the cost of your time, which I realize is valuable. Your participation would be greatly appreciated.

There are no known physical or financial risks known in this study. All of the responses in the survey will be recorded anonymously and stored in a password protected electronic format.

If you have questions regarding this study, you may contact me at (701) 777-4509 or kevin.buettner@und.edu. You may also contact my doctoral advisor, Dr. Myrna Olson at (701) 777-3188 or myrna.olson@und.edu.

The University of North Dakota Institutional Review Board has approved this research. A link to the IRB approval letter is located at the end of this informed consent. If you have any questions regarding your rights as a research subject, or if you have any concerns or complaints about the research, you may contact the University of North Dakota Institutional Review Board at (701) 777-4729.

Once the survey collection period has closed, there will be a drawing for **TEN *$25 VISA gift cards***. If you are interested in participating in this drawing, instructions will be displayed on your computer screen when you complete and submit your survey. This drawing is voluntary and will in no way be connected with your responses to this survey.

Thank you for your participation.

Sincerely,

Kevin Buettner, CRNA, MS
Doctoral Candidate
University of North Dakota

IRB Approval Letter

I have read, understood, and printed a copy (if I wish) of the above consent form and desire of my own free will to participate in this study.

◯ Yes

◯ No

Appendix F
Recent Graduate Survey
Participant Consent Form

Invitation to Participate & Informed Consent Form

Dear Certified Registered Nurse Anesthetist:

You are invited to participate in a research study titled, **"Professional Socialization in Nurse Anesthesia Educational Programs"**. The purpose of this study is to better understand professional socialization in nurse anesthesia educational programs in the United States through an exploration of the attitudes and beliefs of **nurse anesthesia faculty members and recent graduates**.

You are eligible to participate if you have graduated from a nurse anesthesia educational program no more than 3 years ago.

The information learned from this study should provide general benefits to nurse anesthesia faculty members, educational programs, and the profession even though it may not benefit your directly. I anticipate that the results of this study will be presented at a future professional meeting and also submitted for publication in a peer reviewed journal.

In this study, you will be asked to complete an electronic survey. Your participation in this study is voluntary and you are free to withdraw your participation from this study at any time. The survey should take approximately 10-15 minutes to complete. There are no costs to you for participating in this study, except the cost of your time, which I realize is valuable. Your participation would be greatly appreciated.

There are no known physical or financial risks known in this study. All of the responses in the survey will be recorded anonymously and stored in a password protected electronic format.

If you have questions regarding this study, you may contact me at (701) 777-4509 or kevin.buettner@und.edu. You may also contact my doctoral advisor, Dr. Myrna Olson at (701) 777-3188 or myrna.olson@und.edu.

The University of North Dakota Institutional Review Board has approved this research. A link to the IRB approval letter is located at the end of this informed consent. If you have any questions regarding your rights as a research subject, or if you have any concerns or complaints about the research, you may contact the University of North Dakota Institutional Review Board at (701) 777-4729.

Thank you for your participation.

Sincerely,

Kevin Buettner, CRNA, MS
Doctoral Candidate
University of North Dakota

IRB Approval Letter

I have read, understood, and printed a copy (if I wish) of the above consent form and desire of my own free will to participate in this study.

◯ Yes

◯ No

Appendix G
Faculty Member Initial and
Reminder Email Messages

From: Kevin Buettner
Sent: Month, Day, 2013
To: _____
Subject: You Are Invited to Complete a Survey on Professional Socialization

Dear Nurse Anesthesia Faculty Member:

You are invited to participate in a study about your attitudes and beliefs as a nurse anesthesia faculty member. The online survey can be completed anywhere you have Internet access and will take approximately 10 minutes. Your confidential responses will be used to better understand professional socialization in nurse anesthesia educational programs.

3 reasons to participate include:
1. To contribute to a better understanding of how students are currently socialized into our profession.
2. To help improve or enhance how students are socialized in the future.
3. To have your name entered in a drawing to win one of *TEN $25 VISA gift cards*.

To participate, simply click the link:
https://und.qualtrics.com/SE/?SID=SV_4VdAcg08Uht2wwR

The survey will be available for approximately 3 weeks. Reminders will be sent out as the closing date approaches.

Thank you for your time.

Sincerely,

Kevin Buettner, CRNA, MS
Doctoral Candidate
University of North Dakota
kevin.buettner@und.edu

Faculty Member Initial and Reminder Email Messages

<u>Nurse Anesthesia Faculty Member Second Email Message</u>

From: Kevin Buettner
Sent: Month, Day, 2013
To: _____
Subject: You Are Invited to Complete a Survey on Professional Socialization

Dear Nurse Anesthesia Faculty Member:

Two weeks ago, you were invited to participate in a study about your attitudes and beliefs as a nurse anesthesia faculty member. If you have already completed the survey, please accept my sincere thanks.

The online survey can be completed anywhere you have Internet access and will take approximately 10 minutes. Your confidential responses will be used to better understand professional socialization in nurse anesthesia educational programs.

3 reasons to participate include:
1. To contribute to a better understanding of how students are currently socialized into our profession.
2. To help improve or enhance how students are socialized in the future.
3. To have your name entered in a drawing to win one of *TEN $25 VISA gift cards*.

To participate, simply click the link:
https://und.qualtrics.com/SE/?SID=SV_4VdAcg08Uht2wwR

The survey will be available for approximately 1 more week. A final reminder will be sent out as the closing date approaches.

Thank you for your time.

Sincerely,

Kevin Buettner, CRNA, MS
Doctoral Candidate
University of North Dakota
kevin.buettner@und.edu

Faculty Member Initial and Reminder Email Messages

Nurse Anesthesia Faculty Member Last Email Message

From: Kevin Buettner
Sent: Month, Day, 2013
To: _____
Subject: Final Reminder – You Are Invited to Complete a Survey on Professional
               Socialization

Dear Nurse Anesthesia Faculty Member:

Almost three weeks ago, you were invited to participate in a study about your attitudes
and beliefs as a nurse anesthesia faculty member. If you have already completed the
survey, please accept my sincere thanks.

The online survey can be completed anywhere you have Internet access and will take
approximately 10 minutes. Your confidential responses will be used to better understand
professional socialization in nurse anesthesia educational programs.

3 reasons to participate include:
1. To contribute to a better understanding of how students are currently socialized into our
   profession.
2. To help improve or enhance how students are socialized in the future.
3. To have your name entered in a drawing to win one of *TEN $25 VISA gift cards*.

To participate, simply click the link:
https://und.qualtrics.com/SE/?SID=SV_4VdAcg08Uht2wwR

This will be your last opportunity to participate. The survey will close on **April 12, 2013.**

Thank you for your time.

Sincerely,

Kevin Buettner, CRNA, MS
Doctoral Candidate
University of North Dakota
kevin.buettner@und.edu

AANA
AMERICAN ASSOCIATION OF NURSE ANESTHETISTS

You Are Invited to Complete a Survey on Professional Socialization

Dear Certified Registered Nurse Anesthetist:

You are invited to participate in a study about your attitudes and beliefs as a graduate of a nurse anesthesia educational program in the past 3 years. The online survey can be completed anywhere you have Internet access and will take approximately 10-15 minutes. Your confidential responses will be used to better understand professional socialization in nurse anesthesia educational programs.

2 reasons to participate include:

1. To contribute to a better understanding of how students are currently socialized into our profession.
2. To help improve or enhance how students are socialized in the future.

To participate, simply click the link: https://und.qualtrics.com/SE/?SID=SV_9vheNullaqlDwr3

The survey will be available for approximately 3 weeks. Reminders will be sent out as the closing date approaches.

Note: **This invitation does not imply any endorsement of the survey research and/or its findings by the AANA.** The survey contents and findings are the sole responsibility of the individual conducting the survey.

Thank you for your time.

Sincerely,

Kevin Buettner, CRNA, MS
Doctoral Candidate
University of North Dakota
kevin.buettner@und.edu

Recent Graduate Initial and Reminder Email Messages

AANA⚕

AMERICAN ASSOCIATION OF NURSE ANESTHETISTS

You Are Invited to Complete a Survey on Professional Socialization

Dear Certified Registered Nurse Anesthetist:

Two weeks ago, you were invited to participate in a study about your attitudes and beliefs as a graduate of a nurse anesthesia educational program in the past 3 years. If you have already completed the survey, please accept my sincere thanks.

The online survey can be completed anywhere you have Internet access and will take approximately 10-15 minutes. Your confidential responses will be used to better understand professional socialization in nurse anesthesia educational programs.

2 reasons to participate include:

1. To contribute to a better understanding of how students are currently socialized into our profession.
2. To help improve or enhance how students are socialized in the future.

To participate, simply click the link: https://und.qualtrics.com/SE/?SID=SV_9vheNullaqlDwr3

The survey will be available for approximately 1 more week. A final reminder will be sent out as the closing date approaches.

Thank you for your time.

Note: **This invitation does not imply any endorsement of the survey research and/or its findings by the AANA.** The survey contents and findings are the sole responsibility of the individual conducting the survey.

Sincerely,

Kevin Buettner, CRNA, MS
Doctoral Candidate
University of North Dakota
kevin.buettner@und.edu

Recent Graduate Initial and Reminder Email Messages

AANA✠
AMERICAN ASSOCIATION OF NURSE ANESTHETISTS

You Are Invited to Complete a Survey on Professional Socialization

Dear Certified Registered Nurse Anesthetist:

Approximately three weeks ago, you were invited to participate in a study about your attitudes and beliefs as a graduate of a nurse anesthesia educational program in the past 3 years. If you have already completed the survey, please accept my sincere thanks.

The online survey can be completed anywhere you have Internet access and will take approximately 10-15 minutes. Your confidential responses will be used to better understand professional socialization in nurse anesthesia educational programs.

2 reasons to participate include:

1. To contribute to a better understanding of how students are currently socialized into our profession.
2. To help improve or enhance how students are socialized in the future.

To participate, simply click the link: https://und.qualtrics.com/SE/?SID=SV_9vheNuIIagIDwr3

This will be your last opportunity to participate. The survey will close on **May 3, 2013.**

Thank you for your time.

Note: **This invitation does not imply any endorsement of the survey research and/or its findings by the AANA.** The survey contents and findings are the sole responsibility of the individual conducting the survey.

Sincerely,

Kevin Buettner, CRNA, MS
Doctoral Candidate
University of North Dakota
kevin.buettner@und.edu

Appendix I
Qualitative Survey Responses

The following responses are presented how the participants entered them. There were no alterations made to spelling or grammar.

<u>Faculty</u>

Are there other activities you believe reflect PROFESSIONAL DEVELOPMENT in nurse anesthesia? Please describe them below:

Are you asking about CRNA new graduates in general or for my specific program in which I teach? I know about my students. I don't really know a lot about other programs students. I think SRNAs need to be taught how to learn in different environments, settings, and methods. The future of professional development will not be entirely CEU based as is present (2)

A class on professional development with emphasis On marketing the student, business of anesthesia and graduating full service providers (4)

Scholarly writing/publication (5)

Encourage student attendance at association meetings. Submit abstract for poster sessions. Engage in state "lobby" days (11)

Involvement in state/national professional organization (16)

Professional advocacy and involvement in professional association / understanding of CRNA value and contribution to healthcare (18)

Participate in nurse anaesthesia education; precept students; participation in dept committees; work with nursing to educate other nurses; write for publication; do presentations; work with state and national professional associations (21)

Participation in professional association meetings and activities (25)

Participation in National and State organizations. Visit with national and state legislators. Learning state and national political structure. Developing a political position (31)

Contributing to staff education, involvement in professional organizations, using education for community service (34)

Work in the professional organizations (36)

Qualitative Survey Responses Continued

Professional interdisciplinary communication- using appropriate medical terminology and addressing clinically relevant issues in professional fashion. / Leadership behaviors-presenting ourselves as prefessionals, moving the profession forward by actions, representing our field well (37)

Research (39)

AANA membership (41)

Political awareness (48)

Active in state/national & adjunct associations (50)

Portfolio development; active participation in state and national associations (55)

Membership in state or national nurse anesthesia associations / state or national professional association office holder / publish in peer reviewed journals (57)

Active within the AANA at state and national level (61)

Participate in the education of future nurse anesthetists (78)

I believe that part of professional development is the process of specializing. People naturally have areas they gravitate to (eg, regional anesthesia, OB, etc), but this should be a planned process, not just something they "fall into" because of clinical demand (82)

Attending state and national continuing education meetings (83)

Precepting students; Serving as adjunct or as instructor for course.; Active participation in professional organizations (serving on committees, etc) (91)

Engage in interactive self-reflective discussions with colleagues (93)

Scholarly work, research, publications, etc. (98)

Participation in PAC both monitarily and commitment of time (100)

Become mentors for student nurse anesthetists. Participate in the state nurse anesthesia association (106)

Developing skills as a preceptor and mentor. Becoming involved in professional organizational activities (120)

Qualitative Survey Responses Continued

Share their knowledge with the SRNA, our future! Be professional models in their work environment (123)

Participation in QA/QI projects; serving on professional committees (130)

The program was started two years ago and there have been no graduates thus far (132)

Involvement in local, district, state and national organizations (138)
Participate actively in the business of the state and national CRNA professional associations (145)

Participation in association activities, running for AANA and state committees, attending state and national meetings (153)

Identifying the student's leadership style. Developing student's interest and role in their state and national professional organization (165)

Participating in advanced writing activities (172)

Are there other activities you believe reflect SCHOLARLY ACTIVITY/CRITICAL INQUIRY in nurse anesthesia? Please describe them below:

Address QA/QI initiatives in their institution. Participate in other scholarly activities as defined by the literature. Development of educational tools (Apps, programs, etc) (2)

Ongoing bench research, data mining, and out ones research (31)

Professional e-mail discussion lists as they presently exist are not a professional venue. The majority of discussion is tearing down a group or a person within our profession. It is embarrassing to read the discussion list (109)

The program was established a few years ago therefore no students have graduated thus far (132)

Our degree focus is adult education and leadership. I believe it is important for students to know the processes and requirements for obtaining CE credit thru AANA, including workshop planning (165)

Qualitative Survey Responses Continued
Are there other activities you believe reflect PROFESSIONAL ETHICS in nurse anesthesia? Please describe them below:

Clinical preceptors telling students to never chart the truth in fear of a law suit!!!! I teach the correct way but I have been directly told by my students that there preceptors tell them you will be in a lawsuit and never chart a low blood pressure (4)

Wonder how many programs address ethics education and apply it to practical situations so Graduate CRNAs would know how to seek support and address clinical ethical dilemmas (18)

Analyzing self conduct and receiving critique (31)

Not perpetuating erroneous information by verbal or written means. / Accepting responsibility for errors in patient care and using the incidence to teach others how to avoid errors. / Report incidences honestly, major and minor, which occurred in the management of a patient's anesthetic to improve our profession's excellent record of safe and effective patient care (35)

Legal preparation (48)

This is the weakest part of our program, and the same is true of many programs. We need to add better case scenario discussions of the ethical dilemmas in anesthesia (82)

Use of cell phone in OR. Students have been reprimanded for taking pictures of body part even though there is no pt identification (106)

The program has been recently established therefore no one has graduated thus far (132)

Students should be able to identify the people and processes in their future employment situations that can assist when questions regarding Ethics and patient care or employment arise (165)

Are there other activities you believe reflect PROFESSIONAL AND SOCIAL RESPONSIBILITY in nurse anesthesia? Please describe them below:

Advocating for the profession and professional involvement are dwindling with CRNAs under age 35 in my opinion. They do not see the benefit for either (8)

Note concerning recent grad serving as clinical instructor: Recent grads should have developed their own security as a sole provider before "staffing" SRNAs.

151

Qualitative Survey Responses Continued

Too often recent grads are placed in a position of mentoring before they are secure in their own practice. In my opinion, recent grads should not serve as clinical preceptors until they have at a minimum one year of experience as a CRNA, and only after they request to do so and have received formal instruction on the role of a preceptor (16)

Learn about adult education and humane treatment for SRNAs during clinical education (32)

Distance education and online learning especially during clinical rotations while students are away from the primary educational institution and primary faculty leads to decreased acculturation to the profession (113)

Professional communication skills including the ability to present and debate issues effectively with other professionals, The ability to incorporate organizational goals into practice (including hospital mission statements etc). The ability to create and evaluate policy to support goals and outcomes, The ability to portray professionalism in the manner that we dress and act in public. The ability to respect others opinions and views even if we don't agree, the ability to question one's own practice and take responsibility for anesthesia outcomes, or to be accountable for outcomes. To exhibit strong work ethics (127)

Ability to collaborate with other health care providers regarding patient care (133)

Involvement in state organization committees and boards (134)

Socialize and encourage students to think far beyond their role as intraoperative technicians. Encourage, educate, and socialize students to envision their role more broadly, beyond anesthesia, especially in this ever changing era of health care reform. Our anesthesiologist competitors are way beyond us here..... Their role as critical care intensivist , pain medicine, peri operative physicians, and now exploring their role as the director of the surgical home! (142)

Active engagement in wellness activities (144)

Understanding historical precedents and perspectives related to the practice of anesthesia and the role of these in having shaped our current practice (162)

Recent Graduate

Are there other activities you believe reflect PROFESSIONAL DEVELOPMENT in nurse anesthesia? Please describe them below:

Qualitative Survey Responses Continued

The ability to acclimate quickly in a professional work environment as a new graduate and function as a competent, vigilant practioner (25)

Involvement in state and national association activities (36)

Being active in associations (state and federal), being savvy with the political process, understanding and implementing business/billing/quality improvement endeavors (96)

Pursuing anesthesia as a business model (122)

Developing a working relationship with CRNAs in the clinical area (160)

Clinical precepting of current nurse anesthesia students (164)

Publications (169)

Political involvement with the AANA (175)

Team building (233)

Feedback as a rookie CRNA from experienced peers and supervisors (335)

Understanding & influencing healthcare through government (372)

Are there other activities you believe reflect SCHOLARLY ACTIVITY/CRITICAL INQUIRY in nurse anesthesia? Please describe them below:

Publication of teaching materials (books/CEUs etc) (169)

Attending CME conferences and completing CMEs (175)

Side note: As I have graduated less than 1 year ago, items that I may consider "not important" at this time are solely because it's important to establish my footing as a new grad and learn as much as I can to provide a safe and appropriate anesthetic while continuing to integrate new clinical knowledge. While the items may be "not important" now, they will be important at some time in the future (207)

Are there other activities you believe reflect PROFESSIONAL ETHICS in nurse anesthesia? Please describe them below:

Discussion, role play & review of potential clinical situations that put the CRNA in ethical dilemmas (for CRNA training programs) (49)

Exposure to advanced skills such as use of ultrasound or regional anesthesia (139)

Qualitative Survey Responses Continued

Becoming involved in your local facility with the ethics board (175)

Are there other activities you believe reflect PROFESSIONAL AND SOCIAL RESPONSIBILITY in nurse anesthesia? Please describe them below:

Educating nurses about nurse anesthesia (49)

Meant to write in last section that we should be being taught to call out MDs on their list of responsibilities in non opt out states. If they are getting better income by hiring us, I should have been taught a way to insure that they fulfill their end of the bargain(being present for induction, emergence, prepping pt and all key points in between (169)

Prior to my anesthesia education, I worked for an insurance company as a case manager, so although I was well aware of how to work with an insurer -- that experience did not come from my anesthesia program (237)

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