DETERMINING STRESSORS AND COPING METHODS UTILIZED BY STUDENT REGISTERED NURSE ANESTHETISTS

by

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Abstract

Stress is a health issue that plagues many individuals, with a common occurrence in the SRNA. The purpose of this study was to determine stressors and coping methods utilized by the SRNAs enrolled in the combined Rhode Island College (RIC)/Saint Joseph's Hospital School of Nurse Anesthesia (SJHSNA) program. The theory of Stress, Appraisal, and Coping by Lazarus and Folkman (1984) was used to guide this survey design. Following review and approval by Rhode Island College IRB, 17 participants completed a modified version of a self-assessment tool created by Anthony Chipas CRNA, PhD and Dennis McKenna CRNA, MSNA (Chipas & McKenna, 2011). Elevated stress levels were consistent with similar studies (Chipas et al., 2012), but unlike previous studies, more positive coping skills were reported. Education on stress and positive coping should begin as early as the interview process for future SRNA candidates and continue throughout their career in anesthesia. More research is needed to determine effective coping mechanisms that could be utilized by a large population. A closer look at substance abuse among CRNAs is also needed to establish prevention plans.

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Determining Stressors and Coping Methods Utilized by Student Registered Nurse Anesthetists

Background/Statement of the Problem

Stress is a common occurrence and affects both the physical and mental health of many individuals (Panda, 2014). Merriam-Webster (2019) defines stress as "a physical, chemical, or emotional factor that causes bodily or mental tension and may be a factor in disease causation." It is the second most common occurring health problem, particularly related to work and is described as a threat to an organism's homeostasis (Panda, 2014). According to Chipas and McKenna (2011), not all stress is bad, and some is needed for motivation and to produce higher performance levels (Griffin et al., 2017). There is a fine line between healthy and unhealthy stress and individuals must recognize their own limitations and seek out appropriate coping methods that work for them.

Cumulative stress can lead to burnout (Aafreen et al., 2018), substance abuse (Bozimowski et al., 2014), poor health conditions, and even suicide (Chipas et al., 2012). Early detection is important to identify and treat overwhelming stress effectively before it has a negative impact (Chipas et al.). It is never too late to get help and treat the consequences of stress, because left untreated, the long-term impact of stress can lead to hypertension, cardiovascular disease, infertility, and even some forms of cancer (Panda, 2014). Yaribeygi et al. (2017) described the impact of stress as involving nearly every system in the human body. Alarming for students, stress has a negative effect on memory and learning (Yaribeygi et al.).

For graduate nursing students, transitioning from the role of the bedside nurse to that of a student learning a new advanced practice role can be extremely stressful. Students entering a program may have already begun to establish their lives by starting a family, buying a house, and planning for their future. School can put unforeseen stress on numerous life events if effective coping methods aren't utilized. Uranga (2015) described that student nurse anesthetists (SRNAs) have an immediate increase in stress levels from the very first classroom lecture, most likely resulting from the pressure of having patients' lives placed in their hands. Other stressors include financial burden from loss of income and program costs, extensive coursework, relocation, and limited available time to spend with family and friends (Stone, 2012).

Ways of coping with stress can be both positive and negative. Jahan et al. (2016) summarized positive ways of coping for graduate students in general, including regular exercise, meditation, structured time-outs, and learning new strategies to better combat stress. In a study regarding stress in medical students (Jahan et al.), one-third of students found that better time management, emotional support, family/friend support, and good sleep added to stress reduction. Negative coping methods included overeating, smoking, consuming excessive amounts of alcohol, and increased agitation towards others. In an earlier study by Chipas and McKenna (2011) that specifically pertained to stress and burnout in SRNAs, positive coping methods included exercise, reading, spending time with pets, seeking help and support from others, and connecting with one's spiritual side. Negative coping included sleeping excessive amounts to abusing drugs and alcohol (Chipas & McKenna).

Finding the right coping method can help students with management of stress. Optimism, positivism, and belief in oneself is a helpful triad that can be used to mitigate stress (Uranga, 2015). It is important to promote wellness in every aspect of the student's life, including physical, mental, and social well-being (Griffin et al., 2017). Conner (2015) stressed the importance of social support and increasing the self-efficacy of the student to promote success within the program.

The purpose of this study was to determine stressors and coping methods utilized by the SRNAs enrolled in the combined RIC/SJHSNA program. Next, the review of the literature will be presented.

Literature Review

Stress: Definition and Defining Characteristics

Stress is a common occurrence in many individuals throughout the world and has been studied extensively for years. According to Lazarus and Folkman (1984), stress occurs when an individual perceives an outside stimulus as harmful. It takes into account the characteristics of the person and the severity of the environmental stimulus. Certain stressors such as a tornado, military combat, death of a loved one, etc. would cause similar reactions from individuals; however, day to day stressors can be perceived very differently from person to person. Stress has been characterized as any negative external stimulus that disrupts an organism's internal balance or homeostasis (Stephens & Wand, 2012) and as an environmental event that distracts a person from operating at an optimal state (Oken et al., 2015).

The main response system to stress within the human body, as well as other mammals, is the hypothalamic-pituitary-adrenal (HPA) axis (Stephens & Wand, 2012). This system is regulated to respond promptly to stress by increasing stress hormones, glucocorticoids and primary cortisol in humans, and then returning to a normal state just as quickly. A negative-feedback system is used by the HPA axis to limit prolonged activation of stress hormones, because too little or too much exposure to cortisol can be damaging to the body and a person's overall well-being. When an individual is exposed to prolonged and cumulative stress, cortisol levels remain high, putting the individual at risk for neuropsychiatric and metabolic disorders (Stephens & Wand). Stressors can be defined as psychogenic or neurogenic (Anisman & Merali, 1999). A psychogenic stressor is psychological, and examples include divorce, death of a loved one, work, etc. A neurogenic stressor needs a physical stimulus such as a headache, abdominal pain, surgery, etc. Stress can initially cause depressive and/or anxiety symptoms (Anisman & Merali); however clearly identifying symptoms of stress for every individual is nearly impossible (Amirkhan et al., 2018). Characteristics that can determine the severity of the stress include degree to which the stressor can be managed or eliminated, predictability of the onset of a stressor, length of exposure to the stressor, and the timing and frequency of the stressor (Anisman & Merali, 1999).

In a longitudinal study designed by Amirkhan et al. (2018), 440 adults were recruited from a courthouse and an aquarium within a community. Of the 440, 408 (93%) completed on-site surveys and 161 (40%) completed and returned follow-up surveys one week later. Participants were given a checklist with 35 listed somatic symptoms and another checklist consisting of 35 behavioral symptoms. Somatic symptoms identified by the participants included but were not limited to appetite change, weight change, low sex drive, cold sores, nausea, vomiting, headache, muscle aches, racing heart, and swollen glands. Behavioral symptoms included nervousness, difficulty making decisions, drinking more coffee, losing focus, impatience, cancelling, making more mistakes, and pacing back and forth. The authors found behavioral symptoms were evident almost immediately following a stressor, while somatic symptoms could take hours to days to surface.

Stress and Impact on Health

Stress can have both positive and negative effects on the body. Without any type of stress, the ability to respond to future stressors would be lost; therefore, some exposure to stress is useful to promote learning and maintain cognitive function (Oken et al., 2015). Negative sequalae of stress can range from physical, emotional, behavioral, and cognitive symptoms (Panda, 2014), leaving hardly any part of the body untouched.

The "flight-or-fight" response is a well-known theory that was first introduced in the 1920s by Walter Cannon in an attempt to characterize the response of the sympathetic nervous system (SNS) and endocrine system to stress (Cherry, 2019). The response results in either running from the threatening event (flight) or confronting the stressor (fight).

The SNS is activated by an immediate threat to the individual (Patnaik, 2014). Catecholamines are then released by the adrenal glands, which in turn increases blood pressure, heart rate, and breathing rate. Pupils become dilated, skin becomes flush or pale, muscles become tense, and the mind becomes alert (Cherry, 2019). Following the discontinuation of the threat, whether by running from or resolving it, the body can take 20-60 minutes to return to homeostasis by the overtake of the parasympathetic system.

The long-term effects of chronic stress on the nervous system has been studied for over five decades (Yaribeygi et al., 2017). It has been shown to cause atrophy of the brain and a reduction in brain weight. Increased stress hormones can cause memory disorders and can also interfere with learning. However, in some instances, stress can do the opposite and improve memory and learning, the deciding factor being the amount of time exposed to stress (Yaribevgi et al.).

Cardiovascular effects of stress usually begin with an increase in heart rate and blood pressure, increasing oxygen demand, and eventually putting the patient at risk for a myocardial infarction. According to Steptoe and Kivimäki (2013), chronic stress throughout early life and adulthood can put an individual at an increased risk of 40-60% for developing coronary heart disease (CHD) and atherosclerosis later in life. Stress can also elicit bad behavior such as smoking, which will also have a negative impact on the heart long term.

The gastrointestinal system can be heavily impacted by stress. Stress has been linked to diseases such as irritable bowel syndrome, Crohn's disease, and ulcerative colitis (Yaribevgi et al., 2017). Studies have shown stress can affect gastric acid secretion, GI inflammation, and the absorption process. New research is being done to understand the effect stress has on metabolic syndrome. Metabolic syndrome is defined by having three or more of the following factors: obesity, hypertension, hyperlipidemia, increased triglycerides, or low levels of high-density lipoprotein (HDL). According to Steptoe and Kivimaki (2013), recent studies have confirmed a link to stress and obesity.

Stress and Coping

Adaptation to stress is individualized and there are many ways to cope using positive mechanisms, as well as negative ones. Coping is defined by Lazarus and Folkman (1980) as "the cognitive and behavioral efforts made to master, tolerate, or reduce external and internal demands and conflicts among them" (p. 223). Lazarus and

Folkman separate coping into two types: problem-focused and emotion-focused. Problem-focused coping deals with changing the individual's interaction with the environment when a stressful event is presented. Emotion-focused coping deals with changing the individual's perception of the stressor since the person-environment interaction itself cannot be changed (Lazarus & Folkman).

Baqutayan (2015) studied the evolution of stress and coping mechanisms, and the different theories that describe their relationship. Ways of problem-focused coping include confrontative coping, seeking social support, and plan full problem-solving. Ways to use emotion-focused coping include self-control, seeking social support, distancing, positive appraisal, accepting responsibility, and escape/avoidance. While either of these can be used with a positive outcome, Baqutayan explained that depending on the situation, a negative effect could result. For instance, a student taking on a task full force (problem-solving) that is out of their scope of knowledge could result in negative feelings such as anger and disappointment. On the other hand, if the student used humor to joke about it or discussed their feelings with a friend, a positive outcome would occur (Baqutayan).

In a study by Patnaik (2014), some positive ways of coping with stress included time management, deep breathing, and optimism in order to bring the body back to a steady state. Ways to promote optimism included being social, positive self-talk, and positive emotion to combat stress. On the other hand, negative coping methods included escaping the problem, giving up before the stressor is relieved, and misuse of power to control others.

Measurement of Stress

Over the years, several tools have been designed to measure stressful events such as the Social Readjustment Rating Scale (SRRS) (Holmes & Rahe, 1967) and the Occupational Stress Indicator (Cooper, Sloan & Williams, 1988); however, they pertain to certain conditions, making them limited to certain groups of people (Taylor, 2015). In 1983, Cohen, Kamarck, and Mermelstein developed a global scale of stress named the Perceived Stress Scale (PSS), which has gained popularity since. Since its creation, three versions have been put into use: a 14-item form (PSS-14), 10-item form (PSS-10), and a 4-item form (PSS-4). Through trial and error, the PSS-10 has gained popularity and is the most widely used version (Taylor). The PSS consists of a self-report measure on a Likert-type scale with responses ranging from 1 (*never*) to 5 (*very often*) (Taylor).

Andreou et al. (2011) examined the reliability and validity of the PSS (versions -4, 10, and 14) in Greece. The study took place in hospitals, public services, and universities in four Greek cities between October 2009 and April 2010. Anonymous questionnaires were distributed with a letter explaining the purpose of the study, the researchers contact information, and the fact that all answers would be confidential. Nine hundred and forty-one individuals responded to the survey. The questionnaires consisted of the PSS-14, a 21 item Depression, Anxiety, and Stress scale (DASS-21), and a list of stress-related symptoms. The PSS-14 was also compared to the reliability and validity of the PSS-10 and PSS-4. Consistency and validity were noted between the PSS-14 and the PSS-10, while minimal results were presented for the PSS-4 due to the simplicity of this version and the inconsistent results among this group of participants. Results of the PSS were then compared to the DASS-21 and the stress symptoms checklist. Results of the three tests were consistent across the board and with each other. The more symptoms of stress identified, the more severe in the DASS stress subscale the individual fell into, strongly relating to the increase in the PSS score (Andreou).

Another measurement for stress is the combined tool of the Depression Anxiety Stress Scales-21 (DASS-21). Created in 1995 by Lovibond and Lovibond, the DASS-21 is a 21 item self-reporting questionnaire that measures depression (seven items), anxiety (seven items), and stress (seven items) in adults (Lovibond & Lovibond; as cited by Gomez et al., 2014). Gomez et al. examined the measurement and invariance among men and women using the DASS-21. To do so, 687 participants were recruited from the general community of Victoria and Tasmania, Australia. Four hundred and sixty women and two hundred and twenty-seven men were recruited from shopping centers and sporting and recreational clubs; while other participation was established through newspaper ads, flyers, radio ads, and word of mouth. Questionnaires were distributed and returned back to research assistants or mailed back in pre-paid envelopes. With the exception of three out of twenty-one items differing across sex, there was positive data to support the measurement and invariance among men and women using the DASS-21 and indicate the same scaling properties across genders. Comparable depression scores among men and women were also seen in this study, which is unusual due to the fact that much evidence points to higher levels among women than men (Gomez et al.).

Contributors to Stress in Graduate Students

Stress can encourage students to strive to do their best and succeed in their studies. However, excessive stress can also lead to health problems as previously

discussed. Perceived stress varies from individual to individual and can exert positive and negative effects depending on the person. Graduate students are three times more likely to suffer from depression and mental health disorders than the average American (Puri, 2019). For some, graduate school is the expected next step towards becoming an adult, while others pursue post baccalaureate studies to become more knowledgeable in a field they are passionate about (Puri).

In a study by Welle and Graf (2011), college students' stress and coping strategies were identified through a survey method in order to determine effectiveness of lifestyle habits. Exercise, having enough leisure time, strong social support, and greater than eight hours of sleep were listed as effective coping methods utilized. Having the appropriate resources available can alleviate some of the daily academic stress put on the student (Welle & Graf).

In a qualitative study by Sohail (2013), a questionnaire was distributed to 250 first year medical students of Allama Iqbal Medical College to determine the relationship between stress and academic performance, along with identification of stressors and coping strategies. One hundred twenty were returned and 12 students agreed to a personal interview. Over 70% (n =86) of students acknowledged having moderate stress, while over 20% (n =25) admitted to suffering from severe stress. Female medical students were identified as having higher stress levels than males. Stressors unanimously identified throughout the participants included lack of leisure time, excessive workload, and competitive nature regarding examinations. Alcohol intake, cigarette smoking, and internet chatting/texting friends were utilized as coping strategies. Overall, however, this study recognized that higher stress levels correlated with poor academic performance.

Grady et al. (2013) interviewed a mix of 17 graduate and doctorate students were interviewed in a focus group setting and data were collected to identify the social and stress experiences during their studies. Role strain was a common issue that arose throughout the focus groups. Prioritizing was a major hurdle many had to overcome in order to be successful in school and everyday life. Many were not prepared for what graduate school entailed, even though most excelled in their undergraduate studies. Mixed opinions were identified in regard to mentorships with their program. Some voiced it was beneficial, while others felt the mentor's concern leaned more towards the success of the program, rather than the student. Isolation was another common theme that arose during the focus groups. Students felt isolated from friends and family that weren't affiliated with university life. Another unanimous topic was financial strain. Many worried about funding semester to semester and worked multiple jobs to get by. This study identified three areas of improvement for graduate programs: strong mentorship programs focused on the student; encouraging social ties to combat isolation; and institutional financial support if possible, to decrease debt and lessen the financial burden placed on the graduate student (Grady et al.).

Contributors to Stress in SRNAs

Many studies have been conducted that identify the occurrence of stress and need for social support in SRNAs (Conner, 2015). In regard to nursing students in particular, stress can lead to sleep disturbances, high anxiety, and failure to complete the program. Conner performed a review of the literature and identified the challenges of going from a clinical expert in the field of nursing, to a novice in a new role as a SRNA. High levels of self-efficacy can increase academic performance, as well as improved student retention. Four characteristics of self-efficacy include confidence, capability, persistence, and strength in order to overcome the stressors of nurse anesthesia school and promote student retention. The skills and practice of anesthesia occur in a stressful environment and cannot be avoided. Most nurse anesthetist programs require full-time study and do not allow time for employment opportunities, resulting in financial strain. Time-consuming studies reduce time available for social supports that once relieved stress (Conner, 2015). Conner concluded the importance of strong social support and stress management for the SRNA's mental health and overall school performance.

In a study conducted by Chipas and McKenna (2011), 28,000 invitations via email to a survey were distributed by Wanda Wilson CRNA, PhD, president of the American Association of Nurse Anesthetists (AANA) to CRNAs and SRNAs. Data were collected between February and May of 2008 with responses from 26.9% (n=7,537). Of the 7,537 responses, 15% (n=1131) were from SRNAs. Student stress levels averaged 7.2 on a 10-point Likert scale and 4.7 for the established CRNA. The major stressors identified by the SRNAs were starting school (75.4%, n=853), moving (43.8%, n=495), and quitting a job (43.8%, n=495). Other stressors included death of a loved one (20.6%, n=233), personal illness/injury (12.7%, n=144), caretaker for a loved one (8.8%, n=100), and bankruptcy (9.7%, n=129).

A later study from Chipas et al. (2012) followed up with 121 practicing CRNAs that participated as SRNAs in the earlier study and indicated their stress levels decreased to a mean score of 4.6 from 7.2. This descriptive study by Chipas et al. was designed to identify and understand the stress exuded by SRNAs. A study-specific questionnaire was created from a modified survey tool used in a prior study by the senior author. The survey

was distributed via e-mail to 1,374 associate members of the AANA enrolled in programs throughout the country. The known stressors identified by students included starting school after being out for some time, quitting a job, and a reduction in income. Chipas et al. further identified birth of a child (5%, n=69), death of a family member (13%, n=179), divorce (2.5%, n=34), marriage (12.2%, n=168), and personal injuries (9.4%, n=129) as forms of stress specific to the SRNA in their study. The mean stress level of the SRNA was 7.2 on a 10-point Likert- scale.

Stress and the COVID-19 Pandemic

Coronavirus (COVID-19) was first detected in Wuhan, China in December 2019 (Sahu, 2020). Since then, it has spread rapidly around the world and was declared a pandemic by the World Health Organization (WHO) in March 2020. As of August 22, 2020, there were 22,812,491 confirmed cases and 795,132 deaths around the world associated with COVID-19 (WHO, 2020).

Many countries put plans in place to limit and stop the spread of COVID-19 including travel restrictions, social-distancing, business closures, self-isolation, and working from home (Sahu, 2020). Early research suggested that the elderly population was greatly at risk, with minimal effect on the pediatric population. However, it became clear that stopping the spread of the virus among children and young adults was needed to reduce the spread even further (Sahu).

According to Sahu (2020), research exists to support closure of schools and universities in order to break the chain of transmission. In March 2020, over 150 countries closed their schools and universities, affecting over 80% of students nationwide. Universities moved quickly to transition classes to online and canceling workshops, sports events, and other various campus activities (Sahu).

Sahu (2020) outlined the challenges that college students must face during this unforeseen time. Since it is not unusual for a student to move away from home to attend college, students worried about not only their well-being, but also the well-being of their friends and families hundreds and thousands of miles away. Many final exams and graduations were postponed. Not only did the graduates of this academic year face an obstacle with limited employment opportunities, future graduates will continue to face challenges due to the global recession caused by COVID-19 (Sahu).

In a survey design study, Odriozola-González et al. (2020) examined the emotional physiological symptoms of college students and faculty at a Spanish university due to COVID-19. An online survey of 66 multiple choice questions was distributed to the students and workers of the university. The survey utilized two scales: the DASS-21 and the Impact of Event Scale (IES), which is a 4-point Likert type scale that assesses subjective stress associated with a traumatic life event. Two subscales are included in the IES tool: avoidance and intrusion. Questions consisted of demographic data, present and past psychiatric treatment and medications, personal experience during quarantine, personal and social relationships during quarantine, personal concerns for family and friends, and economic concerns during the pandemic. Of the 2,530 participants, higher depression, anxiety, and stress scores were seen in students as opposed to faculty with mean values and standard deviations of 5.52 ± 4.92 for depression, 3.34 ± 3.87 for anxiety and 6.81 ± 4.72 for stress. According to the IES tool, 12.5% (n=317) showed severe symptoms, while 75% (n=1,898) showed mild to moderate. Although showing lower avoidance and intrusion scores compared to undergraduates, Master's level students scored higher on both compared to faculty. Higher physiological impact scores were seen on the IES compared to the DASS-21 anxiety and depression scores. This is most likely due to the fact that the IES addresses event specific questions, such as COVID-19's impact on the individual, as opposed to the non-specific questions about general anxiety and depression asked by the DASS-21 (Odriozola-González et al.).

Coping Methods of SRNAs

It is very well documented in the literature that SRNAs have a higher than average stress level compared to other graduate students due to the competitive nature of the program and the changes and challenges that accompany it (Chipas et al., 2012). Similar to the general population, SRNAs display both positive and negative coping methods.

The Chipas et al. (2012) study identified exercise was a significant source of stress relief for nurse anesthesia students. The more frequent and consistently the students exercised, the lower their overall stress was. The most beneficial amount of exercise that was linked to lower stress levels in the SRNAs were daily (n=59) and several times a week (n=372), both with a mean stress score of 6.7 out of 10. Many students identified positive activities that limited thinking and allowed their minds to rest such as listening to music, playing with pets, cleaning the house, watching television, and meditating. Others would use humor and positive support from peers to alleviate stress (Chipas et al.).

On the other hand, negative coping mechanisms included giving up on oneself, gossiping to let unpleasant feelings out, turning to drugs and alcohol, and expressing inappropriate negative feelings. Chipas et al. (2012) reported a significant 47.3% (n=554) of SRNAs suffered from depression (stress vs. depression P < .05). Many students reported help was sought in an attempt to lessen their stress. Approximately 17% (n=183) of those surveyed reported taking prescription medication in order to deal with their daily stressors associated with school. An alarming 21.2% (n=245) reported thoughts of suicide at some point throughout the program. Of the 1,374 students surveyed, 6.3% (n=60) reported knowing another individual who committed suicide during their program. Recommendations included recognizing stress early on and implementing stress reduction techniques before harmful symptoms arise. Encouraging physical activity was also mentioned as a way to combat stress.

Unfortunately, with limited time available to concentrate on oneself and overall wellness, negative coping mechanisms can arise. In a cross sectional, retrospective study by Bozimowski et al. (2014), surveys were sent to nurse anesthesia program directors inquiring about known substance misuse among the 2,439 students enrolled over a five-year span. Of the 23 program directors that responded to the survey, 14 acknowledged at least one incidence of substance misuse by a student and two programs identified two incidences over the past five years. Clearly nurse anesthesia programs are intense but recognizing warning signs of negative coping and securing resources ahead of time would be beneficial for the overall health and success of the students.

Next, the theoretical framework that guided this study will be explained.

Theoretical Framework

The theory of Stress, Appraisal, and Coping by Lazarus and Folkman (1984) was used to guide this study. Originally developed by Lazarus in 1966, many revisions have taken place since, including taking a closer look at positive emotions produced during the stress process (Folkman & Moskowitz, 2007). This theory focuses on how the person interprets and handles stress, as opposed to other theories such as Selye's theory, which directs the focus to the body's physiological response to stress (McEwen & Wills, 2019). Stress can be viewed as the relationship between the person and their environment, not a particular external stimulus (Krohne, 2002). Two key components that are outlined within the theory are appraisal and coping (Lazarus & Folkman, 1984).

Understanding appraisal is important in order to differentiate harmful and harmless situations. It is the immediate emotional reaction to a situation leading to a chain of cognitive activities and complex thoughts in order to react to the initial threat (Lazarus & Folkman, 1984). Appraisal is divided into three categories: primary; secondary; and reappraisal (McEwen & Wills, 2019). According to Lazarus and Folkman (1984), primary appraisal can be irrelevant, benign-positive, or stressful. Irrelevant appraisal typically has no effect on the individual. Benign-positive appraisals are associated with positive emotions such as joy and happiness. Stressful appraisals are associated with feelings of threat and challenge. Secondary appraisal deals with the individual's response to the stressor and evaluates if the coping method used is working. Reappraisal is re-evaluating the appraisal once new information has been obtained (Lazarus & Folkman). Specific patterns of appraisal can lead to different types of stress. Harm, threat, and challenge are types of physiological stress that can elicit certain emotions, showing the close relationship between stress and emotions (Krohne, 2002).

In order to tackle the emotions created by the appraised stress, the individual must use the process of coping (McEwen & Wills, 2019). As with appraisals, coping is further divided into two categories: problem-focused and emotion-focused (McEwen & Wills). Problem-focused coping deals with changing the person-environment interaction causing the stress, whereas emotion-focused coping is directed at regulating the distress within the individual since the harmful or challenging interaction cannot be altered (Lazarus & Folkman, 1984).

Successful coping will then lead to adaption by the individual. The three areas of an individual affected by adaption include health, physiological well-being, and social functioning. All of these areas are intertwined and when one is affected, the others will also be affected (McEwen & Wills, 2019). Positive coping methods in response to stress can thus lead to adaption, allowing the individual to survive and flourish (Lazarus & Folkman, 1984).

Next, the methods of the study will be discussed.

Method

Purpose

The purpose of this study was to determine stressors and coping methods utilized by the SRNAs enrolled in the combined RIC/SJHSNA program.

Design

This study utilized a survey design.

Sample and Site

Students enrolled in the Rhode Island College (RIC)/SJHSNA who had completed NURS 517: Foundational Principles of Nurse Anesthesia were included. Exclusion criteria included students enrolled in the SJHSNA program who had not yet completed NURS 517: Foundational Principles of Nurse Anesthesia.

Procedures

Institutional Review Board (IRB) approval from RIC was obtained. Students meeting the inclusion criteria were informed of the survey via email and invited to participate via an IRB approved informational letter. Participants were e-mailed a link to an online survey website, Survey Monkey, where the surveys were completed anonymously. No IP addresses were collected.

Measurement

The survey utilized a self-assessment tool created by Anthony Chipas CRNA, PhD and Dennis McKenna CRNA, MSNA while conducting a research study of stress in nurse anesthesia (Chipas & McKenna, 2011). The survey (Appendix A) is separated into sections that first identified the participants' demographics, followed by stress manifestations including symptoms, recent life changes, and satisfaction with work and home life. Self-assessments of stress levels and coping are also identified. Since the survey was distributed through the AANA and to all its members, the AANA requested the addition of an assessment for chronic illnesses among the participants. Data from this study were consistent with results from prior studies identifying stress levels among nurse anesthesia providers (Chipas & McKenna), validating its credibility.

Since the survey addressed both CRNAs and SRNAs, the questions were reviewed for those that were more pertinent to SRNAs and their stress experience while in a nurse anesthesia program. Questions regarding employment as a CRNA were omitted, as well as questions about program details, since all participants will be from the same program. Certain demographics were not used to keep participants anonymous since the study sample was small. The self-assessment sections on stress levels and coping did not need modification since this information pertains to both students and CRNAs alike. A section on the impact of COVID was inserted at the end of the survey; these questions were piloted by the author (Appendix B).

Data Analysis

Results were analyzed using basic descriptive statistics (Ali & Bhaskar, 2016).

Next, the results will be presented.

Results

The survey was e-mailed to 19 possible participants; 17 participants completed the online survey between June 6th, 2020 and June 12^{th,} 2020, with a response rate of 89%. Table 1 below illustrates the demographic portion of the survey.

Table 1

Demographics (N=17)

1. Marital Status	Married/ Partnership	Married/ Partnership with children or others at home	Divorced	Divorced with children or others at home	Single	Single with children or others at home	
Status	52.9% n=9	23.53% n=4	0%	0%	17.65% n=3	5.88% n=1	
2. When was your last vacation?		0-3 Months	4-6 Months	7-11 Months	1-2 Years >2 Years		
		23.53% n=4	23.53% n=4	0%	35.29% n=6	17.65% n=3	
3. When was your last sick day?		1-3 months	4-6 months	7-11 months	1-2 years	> 2 years	
		17.65% n=3	35.29% n=6	5.88% n=1	17.65% n=3	23.53% n=4	
		0-2	3-5	6-8	9-10	>10	
4. On avera sick days o	ge, how many o you use per	35.29%	41.18%	23.53%	00/	00/	
У	ear?	n=6	n=7	n=4	0%	0%	

The majority of participants were either married or married with children or others at home. Almost half (47.06%) had taken a vacation in the last six months, while

the other half (52.94%) had not taken one in over a year. All participants took eight or less sick days per year, with half taking one in the last six months.

Table 2 on the next page addresses participants' stress symptoms and how often they occurred.

Table 2

Stress Symptoms and Frequency (N=17)

	Weekly	Monthly	Intermitten t	Not at all
Agitation/anxious/irritable	64.71% n=11	35.29% n=6	5.88% n=1	0%
Annoyed by trivial things	64.71% n=11	11.76% n=2	23.53% n=4	0%
Avoid interactions with others	47.06%	17.65%	23.53%	11.76%
	n=8	n=3	n=4	n=2
Cravings/compulsions	41.18%	11.76%	17.65%	23.53%
	n=7	n=2	n=3	n=4
Decreased ability to concentrate	64.71%	5.88%	23.53%	5.88%
	n=11	n=1	n=4	n=1
Decreased work accomplishments	47.06%	17.65%	11.76%	23.53%
even though working hard	n=8	n=3	n=2	n=4
Digestive problems (including	35.29%	11.76%	11.76%	41.18%
heart burn/GERD)	n=6	n=2	n=2	n=7
Frequent back or neck	52.94%	11.76%	11.76%	23.53%
spasms/pain	n=9	n=2	n=2	n=4
Headaches	52.94%	17.65%	17.65%	11.76%
	n=9	n=3	n=3	n=2
Impatient with others	52.94%	29.41%	11.76%	5.88%
	n=9	n=5	n=2	n=1
Mood swings	29.41%	23.53%	23.53%	23.53%
	n=5	n=4	n=4	n=4
Nervousness/tremors	5.88%	35.29%	35.29%	23.53%
	n=1	n=6	n=6	n=4
Sad/discouraged	35.29%	23.53%	23.53%	11.76%
	n=6	n=4	n=4	n=2
Sleep disturbances/insomnia/	47.06%	23.53%	23.53%	5.88%
oversleeping	n=8	n=4	n=4	n=1
Too busy for things I used to do	58.82%	11.76%	23.53%	5.88%
	n=10	n=2	n=4	n=1

Responses showed weekly occurrences of the following symptoms in the majority of the participants: agitation/anxious/ irritable (64.71%); annoyed by trivial things (64.71%); avoid interactions with others (47.06%); cravings/compulsions (41.18%); decreased ability to concentrate (64.71%); decreased work accomplishments

even though working hard (47.06%); impatience with others (52.94%); and too busy for things they used to enjoy (58.82%). Mood swings and sadness were seen in one-third of the participants. Physical symptoms included digestive problems (35.29%), frequent back or neck spasms/pain (52.94%), headaches (52.94%), and sleep disturbances (47.06%).

Table 3 on the next page outlines significant life events that occurred over the past year.

Table 3

Significant Life Events that Occurred in the Past Year (N=16)

Salary /benefits decreased	50%
······································	n=8
Birth of a shild	6.25%
Difti of a clinu	n=1
Military deployment significant other/friend	6.25%
wintary deployment -significant other/fifend	n=1
Military daployment self	6.25%
wintary deployment -sen	n=1
Rontzeuntov (financial origin	12.5%
Dankruptcy /mancial crisis	n=2
	25%
Caring for debilitated /chronically ill loved one	n=4
	12.5%
Death of a family member /close friend	n=2
Manie a Arabania	12.5%
Marriage /legal union	n=2
Moyad	12.5%
Ivioveu	n=2
Drognong	6.25%
Pregnancy	n=1
Danson ol illnoss on inium	12.5%
Personal liness or injury	n=2
Quitaich	6.25%
	n=1

As seen in Table 3, in order to pursue a career in anesthesia, 50% of the participants had accepted a decrease in income and/or benefits. A quarter had also been caring for a chronically ill loved one. Twelve and a half percent of participants had experienced a personal injury/illness, moved, got married, or have gone through a financial crisis. Twelve participants rated their stress level six or greater, with another 35.29% (n=6) reporting a seven. Eighty-eight percent of respondents attributed 70% or greater of the stress to school. Approximately 76% (n=13) did not feel empowered to make changes at school; however, 58.82% (n=10) did feel empowered to make changes

in their personal life. Seventy percent (n=12) were either satisfied or extremely satisfied with their choice of career in anesthesia with mixed results regarding satisfaction with life outside of school.

Table 4 on the next page illustrates the participants' ways of coping and how frequently they were used.

Table 4

	Very Frequently	Frequently	Occasionally	Rarely	Very rarely	Never
Turning to schoolwork	23.53% n=4	52.94% n=9	11.76% n=2	5.88% n=1	5.88% n=1	0%
Doing household projects	11.76% n=2	17.65% n=3	29.41% n=5	23.53% n=4	11.76% n=2	5.88% n=1
Doing things to make the situation better	5.88% n=1	23.53% n=4	58.82% n=10	11.76% n=2	0%	0%
Getting emotional support from others	5.88% n=1	35.29% n=6	41.18% n=7	11.76% n=2	0%	5.88% n=1
Using alcohol or other drugs to make myself better	0%	23.53% n=4	29.41% n=5	11.76% n=2	11.76% n=2	23.53% n=4
Trying to see things in a more positive light	11.76% n=2	35.29% n=6	52.94% n=9	0%	0%	0%
Criticizing myself	5.88% n=1	29.41% n=5	58.82% n=10	5.88% n=1	0%	0%
Making jokes about things	35.29% n=6	41.18% n=7	17.65% n=3	5.88% n=1	0%	0%
Doing things to think less movies, tv, etc	11.76% n=2	52.94% n=9	23.53% n=4	5.88% n=1	0%	5.88% n=1
Going out with family/ friends	5.88% n=1	11.76% n=2	41.18% n=7	29.41% n=5	17.65% n=3	0%
Meditating	5.88% n=1	11.76% n=2	29.41% n=5	0%	5.88% n=1	47.06% n=8
Exercising	17.65% n=3	35.29% n=6	11.76% n=2	5.88% n=1	11.76% n=2	17.65% n=3
Listening to music	23.53% n=4	29.41% n=5	35.29% n=6	5.88% n=1	5.88% n=1	0%
Playing with my favorite pet	29.41% n=5	11.76% n=2	23.53% n=4	11.76% n=2	0%	23.53% n=4
Reading	5.88% n=1	11.76% n=2	11.76% n=2	23.53% n=4	17.65% n=3	29.41% n=5
Having sex	5.88% n=1	17.65% n=3	29.41% n=5	17.65% n=3	23.53% n=4	5.88% n=1
Sleeping	0%	47.06% n=8	29.41% n=5	17.65% n=3	5.88% n=1	0%

Ways and Frequency of Coping Methods Utilized (N=17)

Turning to schoolwork as well as doing things to think less were frequently used ways of coping in 52.94% (n=9) of participants. Sleeping was used in 47.06% (n=8) . When asked how frequently the participant exercised, 17.65% (n=3) said daily, 35.29% (n=6) said several times per week, while 29.41% (n=5) stated infrequently. When asked

about whether he/she had a current personal physician, 76.47% (n=13) said "yes," with 35.29% (n=6) having seen the doctor in the last 3 months. Approximately 53% (n=9) had seen a dentist within the past 11 months, while 47.06% (n=8) admitted it has been over a year.

Table 5 below addresses chronic illnesses that the participants suffered from.

Table 5

Chronic Illnesses Suffering From (N=12)

Chronic pain (including back and joint)	25% n=3
Depression	41.67% n=5
GERD (digestive disorders)	16.67% n=2
Hypertension	8.33% n=1
Latex allergy	8.33% n=1
Obesity (BMI>25)	25% n=3
Panic Disorders	8.33% n=1
Stroke	8.33% n=1
Other (please specify)	16.67% n=2

Among the participants surveyed, depression was identified by 41.17% (n=5). Chronic pain and obesity (BMI >25) were acknowledged by 25% (n=4) of participants. When asked to specify other chronic illnesses in the write-in section, one participant responded "anxiety," while another replied "headaches/migraines." Approximately 48% (n=8) of participants reported feeling down, depressed, and/or hopeless within the past month and 58.82% (n=10) experienced little interest or pleasure in doing things. While no participant reported thinking of suicide, 25.53% (n=4) of participants knew a CRNA/SRNA that had committed suicide in the last two years. Five (29.41%) had sought professional help for stress in the past, yet only 17.65% (n=3) were being treated for stress at the time of the survey. Three (17.65%) had a family history of ETOH/chemical dependence. When asked if the participant used prescription drugs now or in the past, 17.65% (n=3) replied "yes"; write-in answers included benzodiazepine and antidepressants.

Table 6 below outlines classes of medication that were being used by participants to manage stress and to sleep.

Table 6

Alcohol	63.64% n=7
Antidepressants	18.18% n=2
Benzodiazepines	36.36% n=4
Beta Blockers	9.09% n=1
Over the counter sleep aids	45.45% n=5
Prescription sleep aids	9.09% n=1
SSRIs	9.09% n=1

Classes of Medications Used to Manage Stress and/or Sleep (N=11)

Of the 11 responses, the classes of medications most frequently used were alcohol 63.64% (n=7), over the counter sleep aids 45.45% (n=5), benzodiazepines 36.36 (n=4), and antidepressants 18.18% (n=2).

Table 7 on the next page summarizes contributors to stress that participants faced during COVID-19 pandemic.
Table 7

Financial concerns	29.41% n=5
Health of self	23.53% n=4
Health of a loved one	35.29% n=6
Deferment of graduation	41.18% n=7
Other (please specify)	47.06% n=8

Contributors to Added Stress During COVID-19 (N=17)

Four (23.53%) participants reported a stress level of eight at the time of the pandemic and 23.53% (n=4) reported a level ten (extreme stress), with a mean score of 7.2. Neutral satisfaction levels related to how the program handled COVID were reported by seven (41.18%) and 35.29% (n=6) were dissatisfied. Write in's for Table 7 included lack of communication from program, deployment, lack of study time with children at home, poor online transitioning, and achieving desirable grades.

Next, summary and conclusions will be presented.

Summary and Conclusions

Normal day to day stressors can evoke different responses from different individuals and essentially leave no part of the body unaffected. Not all stress is bad; some occurrences are needed to expose and teach an individual to prepare for future stressful events (Oken et al., 2015). Learning how to cope with stress is important, whether it be in positive or negative ways (Jahan et al., 2016). Some positive coping mechanisms include staying optimistic, performing deep breaking exercises, and being aware of time management, while negative coping includes giving up before the stress is relieved and escaping the stressor all together (Patnaik, 2014).

If left untreated, chronic stress can lead to heart problems, infertility, and even some types of cancer (Panda, 2014). Stress can also be linked to cognitive and GI symptoms (Yaribeygi et al., 2017). Since stress is the second most common health problem (Panda, 2014), several tools have been designed over the years to measure it, some gaining in popularity more than others. The 10 item PSS is the most widely used version of its kind (Taylor, 2015) and often current research uses the DASS-21 for its range of questions covering anxiety, depression, and stress (Gomez et al., 2014).

Although stress varies from person to person, whether it be job, home life, or unforeseen events, graduate students were three times more likely to develop depression than the average American. Specific to nurse anesthesia programs, the majority require full-time attendance, necessitating that the SRNA to reduce work and thus income and replace them with time consuming studies (Stone, 2012). It has been documented that nurse anesthesia students have elevated stress levels and the need for social support is high (Conner, 2015).

With the detection of COVID-19 and safety parameters put in place by many countries, school closures were seen almost immediately. The impact that the pandemic had on people is important to understand, especially in individuals with already high stress levels, such as students. More research is needed to fully grasp the impact the pandemic has had on so many populations including the SRNA.

The purpose of this study was to determine stressors and coping methods utilized by the SRNAs enrolled in the combined RIC/SJHSNA program. The theory of Stress, Appraisal, and Coping by Lazarus and Folkman (1984) was the theoretical framework that guided this study. Focusing on how a person interprets and handles stress, two key components of this theory are appraisal and coping (Lazarus & Folkman). Appraisal is the initial emotional reaction to the situation or threat to the individual and coping is how the individual deals with the situation. This study attempted to identify types of stressors SRNAs in the SJHSNA program face and coping methods they use.

After IRB approval was granted, a recruitment e-mail was sent out to potential participants. A modified version of a self-assessment tool created by Chipas and McKenna (2011) was utilized. The modified survey included sections on demographics, stress symptoms and frequency, coping methods, and frequency. A small pilot section on COVID-19 was added by this author. Seventeen SRNAs completed the online survey after reviewing the IRB approved consent document, both of which were administered anonymously through Survey Monkey.

Similar to prior research (Chipas et al. 2012), results show that SRNAs tended to have a high level of stress while enrolled in a nurse anesthesia school. Of the seventeen participants, twelve (70.6%) reported above average stress on a daily basis, with school being the cause of that stress over 88% of the time. Symptoms of stress tended to present as negative sequelae among the students. Common physical symptoms were back/neck pains, sleeping disturbances, headaches, and digestive problems; emotional symptoms seen in the majority of students included agitation & anxiety 64.71% (n=11), impatience 52.94% (n=9), sadness 35.29% (n=6), and mood swings 29.41% (n=5). Major life events had occurred across the participants, adding to the stress.

Mostly positive ways of coping methods were reported by participants, although due to limitations in the study method, it was not assessed whether the approach used actually worked to relieve the stressor or was just attempted. Positive coping methods included turning to schoolwork, sleeping, and doing activities that didn't require much thinking. Although no thoughts of suicide were reported, feelings of sadness and hopelessness were alarmingly identified in roughly half the participants. Alcohol was most commonly used to combat stress, while benzodiazepines, antidepressants, and over the counter sleep aids were reported.

While the COVID-19 pandemic caused a lot of unknowns for the world, the SJHSNA students faced their own set of unknowns. Concerns included finances, health of oneself/loved ones, and if graduation would be postponed.

A small sample size was one limitation of this study. Original plans were to measure stress and coping in St. Joseph Hospital School of Nurse Anesthesia students who had already begun clinical; however, the unforeseen pandemic caused the author to modify the inclusion criteria in order to achieve a larger sample size. The COVID-19 questions were piloted by the author and not tested for reliability.

Next, the recommendations and implications for advanced nursing practice will be discussed.

Recommendations and Implications for Advanced Nursing Practice

Anesthesia is a high stress profession, so it is not surprising that the stress begins in school. Although some stress is good for motivation and an increase in performance levels (Griffin et al., 2017), Tunajek (2006) questioned how much stress is actually motivational and how much is counterproductive to learning. Financial and lifestyle changes occur frequently in the SRNA transitioning from full-time nurse to full-time student. It would be helpful to ensure that potential students are informed of these potential changes so that an educated decision can be made before accepting enrollment in a CRNA program.

Stress is the second most common occurring health problem (Panda, 2014). Management of stress and education on positive coping methods should begin as early as possible since stress in the nurse anesthesia profession is high, with the highest being in the SRNA (Chipas et al., 2012). Assessing students' mental and emotional health is just as important as frequent assessments of academic performance. Maintaining a close relationship with each student would be helpful in recognizing warning signs of negative coping early and assisting the student to be comfortable enough to come forward when in distress. It would also be beneficial to incorporate a mental health questionnaire to every end of semester meeting between the student and administrator. Resources should be made available and encouraged during what many students consider a high stress time in their life as well as during the stress of transitioning into practice.

Communication and an open-door policy should be established not only between faculty and students in the educational setting, but also between employers and

employees, especially during transition into practice. Stone (2012) identified that the biggest stressor in the senior SRNA is being able to competently perform as a new graduate CRNA. Since coping mechanisms are learned over time, negative coping may prevail in individuals lacking needed education and support related to using positive coping strategies. This is another reason to start education on stress and coping in the student early in their schooling so it can be carried throughout school and into their transition as a CRNA.

An alarmingly common negative coping mechanism among anesthesia providers is substance use (Wright et al., 2012). The number one occupational factor leading to substance use in anesthesia providers is stress, with frequent access to medication coming in second (Wright et al.). Early detection of such negative coping mechanisms is vital to patient safety and the safety of the anesthesia provider. Of course, early education for students and new graduates on consequences of negative coping skills and substance use is one of the most important factors shown to reduce incidences in providers; however research has shown many inconsistencies between program to program on this topic (Wright et al.). That being said, it is vital to address stress and substance abuse early on during the orientation period as a CRNA. Since it is such a high stress job, being aware of the warning signs and knowing about resources available may help an individual or even a colleague.

Clear and accessible resources should be made available to students as well as CRNAs. Policies should also be established to ensure immediate recognition, treatment, and recovery. Substance use can be a touchy subject, but it should be taken seriously and the only way to do that is making it a familiar topic in the workplace. Anesthesia

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providers should be educated on warning signs of potential abuse in themselves and others. Policies should be put in place that makes the individual comfortable enough to come forward and accept help, knowing their job is not in jeopardy as long as they follow an individualized treatment plan. Individual peer support and support groups should be readily available.

Even though stress in the SRNA is well documented (Chipas et al., 2012), there does not seem to be much follow-up and/or resolution to the problem. Further research is needed to identify if coping mechanisms used by students are helpful or harmful to the individual and if negative coping was identified. Proactive steps should be taken early on to incorporate more positive coping into everyday life before stress becomes unbearable to the individual. Chipas et al. (2012) identified concern that the high stress in SRNAs is not fully appreciated and recommended consistent education on stress and coping before it leads to emotional disorders. Since stress can be considered subjective and varies from individual to individual, Stone (2012) suggested additional research to identify effective approaches to combat stress that will be beneficial for a large number of the population.

Further research is also needed in regard to CRNA substance abuse. According to Wright et al. (2012), nurse anesthetists are most likely grouped into substance abuse among nursing professions and not seen as equal offenders in the anesthesia profession. As nurse anesthetists have the same access to opiates, propofol, ketamine, benzodiazepines, and similar habit-forming medications as anesthesiologists (Wright), they are at equal risk as their anesthesia counterparts in developing an addiction. Additional studies should be conducted that look at substance use in both anesthesiologists and nurse anesthetists to get a more accurate picture of who it affects.

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Appendix A

Stress in Nurse Anesthesia Survey created by Chipas and McKenna (2011)

1. Demographics
Dear AANA member or Associate member,
STRESS and its effects on practitioner/student wellness are threats that can have undesirable outcomes in both our personal and professional lives. All of us have the ability to adapt to everyday pressures to a point, after which we experience stress that may manifest itself in many ways including changes in our health.
In 2008, the AANA conducted their first assessment of practitioner stress and wellness. This survey provided a baseline from which to work. As a component of the Wellness Program, the AANA Wellness Committee would like to again assess stress levels and the overall wellness of the AANA membership. This survey is being performed through SurveyMonkey an electronic instrument that will administer and analyze the data. We do not have the ability to track data on individuals. Data will be analyzed in the aggregate, therefore, your responses will not be individually identifable. Participation in this survey is strictly voluntary.
Findings from this survey will be used to target wellness initiatives specific to our members. Please help us by completing this survey which will take approximately 15 minutes. Your responses are confidential and important to help us implement initiatives to make life better for CRNAs and students. This survey has been approved by the Institutional Review Board for Human Research of the Medical University of South Carolina.
Thank you,
Terry Wicks CRNA Chairperson Wellness Committee
Tony Chipas CRNA, PhD Professor/Director Division of Anesthesia for Nurses Medical University of South Carolina
1. Did you participate in the stress and wellness survey in 2008?
⊖ Yes
Can't remember
2. If you took the survey in 2008, what was your certification status?
O Student
CRNA/Graduate nurse anesthetist
O Not currently recertified
3. If you took the survey in 2008, has your overall stress level changed?
Decreased
O No change

4	Hae	VOUR	health	changed	in	the	lact	vear?
-	1143	your	neurun	unungeu		cinc.	1431	years

O Yes, for the better

 \bigcirc Yes, for the worse

O No. remained unchanged

If yes, how?

2. Demographics
5. Which one of the following most accurately describes your primary professional role? (Select one)
O Partner/Owner anesthesia group
O Hospital/Department Administrator
O Chief CRNA
O Program/Assistant Program Director
O Student/Resident
6. What is your primary practice setting?
Anesthesia care team
O Hospital employee
O Military
O Specialty group - nurse anesthetists only
Solo Practice
O Educator
O Other
If Other (please specify)
7. If you work with students (in education), what is your primary role?
8. In which state do you work?
State:



13. Marital status:

O Married/Partnership
Married/Partnership (children or others at home)
Divorced
Divorced (children or others at home)
Single (children or others at home)
- 14 Paco/Ethnicity
Native Hawaiian or other Pacific Islander
White (Non-Hispanic)
15. How many years have you been working in anesthesia?
◯ < 1 year
O 1 - 5 years
0 6 - 10 years
O 11 - 15 years
0 16 - 20 years
Q 21 - 25 years
O ≥ 25 years
16. What is your BMI?
0>55

17. When was your last vacation?

O - 3 months ago

O 4 - 6 months ago

O 7 - 11 months ago

O 1 - 2 years ago

O > 2 years ago

18. When was your last sick day?

O - 3 months ago

O 4 - 6 months ago

O 7 - 11 months ago

O 1 - 2 years ago

O > 2 years ago

19. On average, how many sick days do you use per year?

O 0-2 O 3-5

0 6 - 8

- 0 9 10
- O > 10



23. PLEASE ANSWER ONLY IF YOU ARE A STUDENT. If you are in a front-loaded program,
are you primarily in?
O Didactic
O Not front loaded
24. If you have reached the clinical phase of your program, where did you find the most
stress? PLEASE ANSWER ONLY IF YOU ARE A STUDENT
O Didactic
O Both equal
Not vet in clinical phase
25. How many hours of substance abuse education do you receive in your nurse
anestnesia program? PLEASE ANSWER ONLY IF YOU ARE A STUDENT
O 2 - 3 hours
4 - 5 hours
6 - 7 hours
O > 7 hours

4. Stress Symptoms

26. Stress can be manifested in many ways. Some are more obvious than others. Please mark the frequency that each condition or feeling occurs to you during the last year.

Weekly Occurs at least once every week

Monthly Occurs at least once per month but not every week

Intermittent . . 3 or more times per year

N/A Not at all

	Weekly	Monthly	Intermittent	N/A
Agitation/Anxious/Irritable	0	0	0	0
Annoyed by trivial things	0	0	0	0
A∨oid interactions with others	0	0	0	0
Cardiac irregulatities/ Arrhythmias/Chest pain/Palpitations	0	0	0	0
Confusion	0	0	0	0
Cravings/Compulsions	0	0	0	0
Decreased ability to concentrate	0	0	0	0
Decreased work accomplishments even though working hard	0	0	0	0
Digestion problems (include heart burn/ GERD)	0	0	0	0
Dizziness	0	0	0	0
Eating disorders/over or under eating	0	0	0	0
Finger tapping/ Nail biting	0	0	0	0
Forget deadlines and appointments	0	0	0	0
Frequent back or neck spasms/pain	0	0	0	0
Frequent sick days	0	0	0	0
Frequently tardy	0	0	0	0
Headaches	0	0	0	0
Hives	0	0	0	0
Hypertension	0	0	0	0
Impatient with others	0	0	0	0
Impotence	O	O	0	Q
Increased boredom at work	Q	0	Q	Q
Infertility	Q	Q	Q	Q
Jaw pain	Q	Q	Q	0
Job performance sub-par	0	0	0	0

	0	0	0	0
Loss of Appetite	Ŏ	Ŏ	Ŏ	Ŏ
Low libido	0	0	0	0
Mood swings	0	0	0	0
Menstrual irregularities/ Amenorrhea	0	0	0	0
Mistakes at work	Q	Q	Q	Q
Nervousness/Tremors	0	Q	Q	Q
Nightmares/sweats	Q	Q	Q	0
Over use of alcohol	0	0	0	0
Rapid breathing/ Shortness of breath	0	0	0	0
Sad, discouraged	0	0	0	0
Sleep disturbances/ insomnia/over-sleeping	0	0	0	0
Smoke excessively	0	0	0	0
Teams I am in∨ol∨ed with don't work well	0	0	0	0
Teeth grinding	0	0	0	0
Thoughts of death or suicide	0	0	0	0
Too busy for things I used to do	0	0	0	0
Use of illegal substances	0	0	0	0
Use of prescription drugs not prescribed for me	0	0	0	0
Other	0	0	0	0
If Other listed (please specify)				

27. During the last year, have you had any of the following occur (please mark all that					
apply)?					
Salary/benefits decreased	Medical malpractice lawsuit				
Bankruptcy/ financial crisis	Military deployment - self				
Birth of a child	Military deployment - significant other/friend				
Caring for debilitated/chronically ill loved one	Moved				
Change jobs	Personal illness or injury				
Death of a spouse/partner/child	Pregnancy				
Death of a family member/close friend	Promotion				
Demotion	Quit a job				
Divorce	Regulatory audit (COA/JCAHO)				
Marital/Partner reconciliation	Retirement				
Marital/Partner separation	Started school				
Marriage/Legal union					
28. How would you rate your stress level on	an averane dav?				
	an average day.				
O.					
O,					
0 10 Extreme stress					

29. How much of your stress is from your job or school?
0 100%
O 90%
O 80%
O 70%
O 60%
O 50%
O 40%
O 30%
0 20%
O 10%
$\bigcirc \circ$
30. How satisfied are you with your job (place of employment)?
O Extremely satisfied
O Satisfied
O Neutral
O Dissatisfied
O Extremely dissatisfied
31. Do you feel empowered to make changes at your place of employment/school?
⊖ Yes
O №
Comments:
32. How satisfied are you with your career in anesthesia?
O Extremely satisfied
O Satisfied
O Neutral
O Dissatisfied
O Extremely dissatisfied

33. How satisfied are you with your life outside of work?

O Extremely satisfied

O Satisfied

O Dissatisfied

O Extremely dissatisfied

34. Do you feel empowered to make changes at your personal life?

O Yes

O No

Comments:

35. These items deal with ways you've been coping with the stresses in your life. Each item says something about a particular way of coping. We want to know to what extent you have been doing what the item says. How much or how frequently, not whether it seems to be working.

I've been:

turning to work.OOOOOdoing household projects.OOOOOOdoing things to make the situations better.OOOOOOgetting emotional support from others.OOOOOOOOusing alcohol or other drugs to make myself better.OO <th></th>	
doing household projects.OOOOdoing things to make the situations better.OOOOOgetting emotional support from others.OOOOOOusing alcohol or other drugs to make myself better.OOOOOOOgiving up trying to deal with it.OOO </td <td></td>	
doing things to make the situations better.OOOOgetting emotional support from others.OOOOOusing alcohol or other drugs to make myself better.OOOOOOgiving up trying to deal with it.OOOOOOOOOrefusing to believe these things happen.OOO <td></td>	
getting emotional support from others.OOOOusing alcohol or other drugs to make myself better.OOOOOgiving up trying to deal with it.OOOOOOOrefusing to believe these things happen.OOOOOOOOsaying things (gossip) to let my unpleasant feeling escape.OOO <td></td>	
using alcohol or other drugs to make myself better.OOOOgiving up trying to deal with it.OOOOOrefusing to believe these things happen.OOOOOsaying things (gossip) to let my unpleasant feeling escape.OOOOOgetting help or advise from healthcare professionals.OOOOOOtrying to see things in aOOOOOOO	
giving up trying to deal with it.OOOOrefusing to believe these things happen.OOOOOsaying things (gossip) to let my unpleasant feeling escape.OOOOOOgetting help or advise from healthcare professionals.OOOOOOOtrying to see things in aOOOOOOO	
refusing to believe these things happen. O O O O O saying things (gossip) to let my unpleasant feeling escape. O	
saying things (gossip) to let my unpleasant feeling escape. O O O O O getting help or advise from healthcare professionals. O O O O O O trying to see things in a O O O O O O O	
getting help or advise from healthcare professionals. O O O O O trying to see things in a O O O O O O	
trying to see things in a OOOOOO	
more positive light.	
criticizing myself.	
giving up on coping. O O O O	
making jokes about things.	
doing things to think less, OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO	
going out with O O O O O O O	
expressing my negative O O O O O	
trying to find comfort in my O O O O O	
meditating.	
exercising.	
listening to music. O O O O O	
playing with my favorite	
reading.	

having sex.	$\overline{0}$		-	-0	0	
sleeping.	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ
Other	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ
Other (please specify)	U	0	0	0	U	\smile
<u> </u>						
26 How froquently		voico?				
	y uu yuu exei	01361				
O Several times per week						
O Couple of times per mo	onth					
Infrequently						
0						
37. Do you have a	personal phy	sician?				
O Yes						
20 When wee the	lact time you	had a phys	iool2			
	iasi illie you	nau a pnys				
\bigcirc < 3 months						
O 3 - 6 months						
○ 7 - 11 months						
0 1 - 2 years						
O 3 - 4 years						
> 4 years						
U						

39. Do you suffer from any of the following chronic illnesses? (Mark all that apply to you)				
Carpal tunnel syndrome	Multiple Sclerosis			
Chronic pain (including back and joint)	Narcolepsy			
Depression	Obesity (BMI>25)			
Diabetes	Panic disorders			
Fibromyalgia	Rheumatoid arthritis			
GERD (Digestive disorders)	Seizure disorders			
Heart Disease	Stroke			
Hypertension	Substance misuse - illicit			
Latex allergy	Substance misuse - prescription			
Other	Systemic Lupus			
If other (please specify)				
40. When was the last time you went to the	e dentist?			
O 3 - 6 months				
7 - 11 months				
1 - 2 years				
O 3 - 4 years				
O > 4 years				
41. Are you now in recovery from chemica	l dependency(drug/ETOH addiction)?			
42. Do you have a family history of chemic	al dependency (drug/ETOH addiction)?			
O Yes				
O No				
43. During the last month, have you often been bothered by feeling down, depressed, or				
hopeless?				
O Yes				
O No				

50. Do you take any of the following classes of medications to help you manage stress or sleep? (Mark all that apply)
Alcohol
Antidepressants
Antihypertensives
Barbiturates
Benzodiazepines
Beta blockers
H2 blockers
MAOIs
Over the counter sleep aids
Opioids
Prescription sleep aids
Proton pump inhibitors
SSRIs
Other (please specify)
51. Do you have a wellness program at your place of work?
O Yes
O No
52. Are you aware of the AANA Wellness Program?
() Yes
Ŏ No
53. Have you used any resources from the AANA Wellness Program?
() Yes
O No
If yes, what were they and do you feel these helped?
54. Are there ways a wellness program can help you?
×

6. Thank you

Thank you for your participation. The AANA is here to serve and help protect our members.

Here are 10 ways to decrease stress. 1. Talk it out

- 2. Exercise
- Avoid false guilt
 Set realistic goals and priorities
 Avoid perfectionism
- 6. Maintain a sense of humor

- Maintain a series of number
 And losse. Set aside time to relax
 Live by the calendar, not the stopwatch
 Avoid overindulging in drugs, alcohol, caffeine and nicotine or food.
 Think positive

Thank you for your help and support Terry and Tony

Appendix B

Modified Survey

1. Demographics

1. Marital Status

>10

	Married/partnership					
	Married/partnership (with children or others at home)					
	Divorced					
	Divorced (with children or others at home)					
	Single					
	Single (with children or others at home)					
2.	When was your last vacation?					
	0-3 months					
	4-6 months					
	7-11 months					
	1-2 years					
	> 2 years					
з.	3. When was your last sick day?					
	0-3 months					
	4-6 months 🔵					
	7-11 months					
	1-2 years					
	> 2 years					
4. On average, how many sick days do you use per year?						
	0-2 🔵					
	3-5					
	6-8					
	9-10					

5. Expected graduation date:

December 2020	\bigcirc
December 2021	\bigcirc

2. Stress Symptoms

5. Stress can be manifested in many ways. Some are more obvious than others. Please mark the frequency that each condition or feeling occurs to you during the last year. Weekly Occurs at least once every week. Monthly Occurs at least once per month but not every week. Intermittent . . . 3 or more times per year.or Not at all

	Weekly	Monthly	Intermittent	Not at all
Agitation/Anxious/Irritable	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Annoyed by trivial things	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Avoid interactions with others	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Cardiac irregularities/	\frown	\frown	\bigcirc	\bigcirc
Arrhythmias/Chest pain/	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Palpitations				
Confusion	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Cravings/Compulsions	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Decreased ability to concentrate	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Decreased work accomplishments	\bigcirc	\bigcirc	$\widetilde{\bigcirc}$	\bigcirc
even though working hard	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Digestion problems	\bigcirc	\bigcirc	\bigcirc	\bigcirc
(include heart burn/ GERD)	\bigcirc	\sim	\bigcirc	\sim
Dizziness	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Eating disorders/over or	\bigcirc	\bigcirc	\bigcirc	\bigcirc
under eating	\bigcirc	\bigcirc	\sim	\bigcirc
Finger tapping/ Nail biting	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Forget deadlines and appointments	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Frequent back or neck spasms/pain	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Frequent sick days	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Frequently tardy	\bigcirc	\bigcirc	\bigcirc	\bigcirc
	Weekly	Monthly	Intermittent	Not at all
--	-----------------	------------	--------------	------------
Headaches	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Hives	\widetilde{O}	Ŏ	\bigcirc	Ŏ
Hypertension	Ŏ	Ŏ	Ŏ	Ŏ
Impatient with others	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Impotence	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Increased boredom at work	Ō	Ō	Ŏ	Ō
Infertility	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Jaw pain	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Job performance subpar	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Loss of Appetite	Q	Ŏ	Õ	Ŏ
Low libido	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Mood swings	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Menstrual irregularities/ Amenorrhea	\bigcirc	\bigcirc	\bigcirc	Ō
Mistakes at work	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Nervousness/Tremors	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Nightmares/sweats	\mathbb{X}	X	\boxtimes	X
Overuse of alcohol	ŏ	ŏ	ŏ	ŏ
Rapid breathing/ Shortness of breath	Ō	Ō	Ō	Ō
Sad, discouraged	Q	Q	Q	Q
Sleep disturbances/ insomnia/oversleeping	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Smoke excessively	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Teams I am involved with don't work well	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Teeth grinding	\bigcirc	Q	\bigcirc	\bigcirc
Thoughts of death or suicide	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Too busy for things I used to do	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Use of illegal substances	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Use of prescription drugs not prescribed for m	ne 🔵	\bigcirc	\bigcirc	\bigcirc
Other (Please specify below)	\bigcirc	\bigcirc	\bigcirc	\bigcirc

6. During the last year, have you had any of the following occur (please mark all that apply)?



7. How would you rate your stress level on an average day?

1 Low stress	\bigcirc	6	\bigcirc
2	\bigcirc	7	\bigcirc
3	\bigcirc	8	\bigcirc
4	\bigcirc	9	\bigcirc
5 Average stress	\bigcirc	10 Extr	eme stress 🔵

8. How much of your stress is from school?

100%	\bigcirc	50%	\bigcirc
90%	\bigcirc	40%	\bigcirc
80%	\bigcirc	30%	\bigcirc
70%	\bigcirc	20%	\bigcirc
60%	\bigcirc	10%	Ō
	0%		

9. Do you feel empowered to make changes at your school?

Yes 🔵	
No 🔵	
Comments:	

10. How satisfied are you with your career in anesthesia?

Extremely sa	atisfied
Satisfied	\bigcirc
Neutral	\bigcirc
Dissatisfied	\bigcirc
Extremely d	issatisfied

11. How satisfied are you with your life outside of work?

Extremely sati	sfied
Satisfied	\bigcirc
Neutral	\bigcirc
Dissatisfied	\bigcirc
Extremely diss	satisfied

12. Do you feel empowered to make changes at your personal life?

Yes	\bigcirc	
No	\bigcirc	
Com	ments:	

3. How You Handle Stress

13. These items deal with ways you've been coping with the stresses in your life. Each item says something about a particular way of coping. We want to know to what extent you have been doing what the item says. How much or how frequently, not whether it seems to be working.

I've been:

	Very Frequently	Frequently	Occasionally	Rarely	Very Rarely	Never
turning to work.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
doing household projects.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
doing things to make	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
the situations better.						
getting emotional support from others.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
using alcohol or other	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
drugs to make myself better.						
giving up trying to deal with it.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
refusing to believe these things happen.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
saying things (gossip) to let					_	
my unpleasant feeling escape.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	0
getting help or advise from						
healthcare professionals.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
trying to see things in a more positive light.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc

	Very Frequently	Frequently	Occasionally	Rarely	Very Rarely	Never
criticizing myself.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
giving up on coping.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
making jokes about things.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
doing things to think less, movies, TV.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
going out with family/friends.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
expressing my negative feelings.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
trying to find comfort in my	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
religion or spiritual beliefs.						
meditating.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
exercising.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
listening to music.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
playing with my favorite pet.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
reading.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
having sex.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
sleeping.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Other (please specify):						

14. How frequently do you exercise?

Daily	
Several times	per week
Weekly)
Couple of time	es per month
Infrequently	\bigcirc
15. Do you hav	ve a personal physician?
Yes	
No	
16. When was	the last time you had a physical?
< 3 months	\bigcirc
3-6 months	\bigcirc
7-11 months	\bigcirc
1-2 years	\bigcirc
3-4 years	\bigcirc
> 4 years	\bigcirc

Carpal tunnel syndrome	Chronic pain (including back and joint)	
Depression	Diabetes	
Fibromyalgia	GERD (Digestive disorders)	
Heart Disease	Hypertension	
Latex allergy	Multiple Sclerosis	
Narcolepsy	Obesity (BMI>25)	
Panic disorders	Rheumatoid arthritis	
Seizure disorders	Stroke	
Substance misuse-illicit	Substance misuse-prescription	
Systemic Lupus	If other (please specify):	

17. Do you suffer from any of the following chronic illnesses? (Mark all that apply to you)

18. When was the last time you went to the dentist?

< 3 months	\bigcirc
3-6 months	\bigcirc
7-11 months	\bigcirc
1-2 years	\bigcirc
3-4 years	\bigcirc

> 4 years

19. Do you have a family history of chemical dependency (drug/ETOH addiction)?



20. During the last month, have you often been bothered by feeling down, depressed, or hopeless?

Yes	\bigcirc
No	\bigcirc

21. During the last two months, have you often been bothered by little interest or pleasure in doing things?

Yes	\bigcirc
No	\bigcirc

22. Have you ever thought of committing suicide?



23. Do you know of a CRNA/SRNA who has committed suicide in the last 2 years?

Yes	\bigcirc			
No	\bigcirc			
If yes,	how?			

24. Have you ever sought professional help for stress?



25. Are you currently (within the last 6 months) being treated for stress or a stress related problem?

Yes	\bigcirc
No	\bigcirc

26. Do you now or have you ever used prescription drugs to help handle stress?

Yes	\bigcirc	
No	\bigcirc	
If yes,	specify	

27. Do you take any of the following classes of medications to help you manage stress or sleep? (Mark

all that apply)

Alcohol	Antidepressants	
Antihypertensives	Barbiturates	
Benzodiazepines	Beta blockers	
H2 blockers	MAOIs	
Over the counter sleep aids	Opioids	
Prescription sleep aids	Proton pump inhibitors	
SSRIs		

4. 2020 COVID-19 Pandemic

 1 Low Stress
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 5 Average stress
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28. How would you rate the degree of additional stress added from the global pandemic, COVID-19?

29. How satisfied are you with how your program handled your education and well-being during this difficult time?

Extremely satisfied

Dissatisfied

Satisfied

Neutral

Comments:

30. What contributed most to the additional stress?

Financial concerns

Health of self

Deferment of graduation

Other (please specify):