

Stress in the Student Registered Nurse Anesthetist's

Support Person: A Descriptive Study

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Abstract

An understanding of the stressors affecting support persons of Student Registered Nurse Anesthetists (SRNAs) could assist in the development of an intervention to mitigate that stress. A reduction in stress in support persons could thereby reduce stress in SRNAs through a crossover effect. A survey was administered at three Midwestern entry to practice nurse anesthesia programs which award a practice doctorate to identify the causes of stress in the SRNAs' support person. Overall stress in the past month was rated moderate, with work and household management related stress rated as the most stressful. Participants did not feel they could have been better prepared but indicated they would have preferred to attend a seminar to receive more information prior to the SRNA starting the program.

Introduction

Graduate school can be mentally challenging and time consuming. Doctoral study in nurse anesthesia is no exception and Student Registered Nurse Anesthetists (SRNAs) often find themselves occupied with didactic and clinical work, leaving little time to spend with family and friends. The long hours of studying and physical time away from home at clinical rotations contribute to stress. Stress can be defined as a physical, emotional, or mental response to an actual or perceived stimulus. While some stress has been shown to be beneficial, too much may result in negative outcomes such as depression, uncontrolled anxiety, other health issues, attrition from school, or an inability to pass the certification exam.^{1,2}

Research has been conducted into the varying factors influencing SRNAs' stress and the coping mechanisms used to mitigate that stress. Among the factors influencing stress are the fear of making errors in clinical and the inability to pass the certification exam following graduation.¹ Additional factors include financial strain, lack of time or sleep, relationship stress, and personal health issues or those of a loved one.^{2,3} To manage these stressors SRNAs report the use of exercise,¹ utilizing the College's stress management program,² and venting to classmates.² Graduate students in several studies also report relying upon a support person,^{4,5,6,7} be it a spouse, boy- or girl-friend, fiancé, fiancée, domestic partner, parent, grandparent, or cohabitant.

Although the support person may buffer the effects of stress felt by the SRNA,⁶ there is the potential for a crossover effect to occur instead.^{7,8} Through regular interactions the SRNA and support person may synchronize emotionally, affecting one another with either positive or negative emotions.⁸ Via this emotional contagion⁸ the school related stress felt by the SRNA may then negatively affect the support person. The support person's perceived stress is further elevated due to his/her own stressors, causing both exhaustion and work-family conflict to

increase.⁹ Without adequate moderators the crossover effect then ensues.⁸ The SRNA perceives not only his/her own stress, but that of the support person as well. A reduction in perceived stress in the support person is paramount to attenuate this effect and improve the SRNA's stress level.

The degree of and causes of stress in graduate students' support persons have both been examined, but neither has been studied in the support persons of SRNAs. This study aimed to identify the causes of stress in the SRNA's support person, as well as the degree of overall stress. A secondary purpose was to identify a potential intervention to mitigate that stress.

Methodology/Materials & Methods

Methodology

The support persons of SRNAs attending three Midwestern entry to practice doctoral nurse anesthesia programs were surveyed. These programs were chosen because they were 36 months in duration and included a cohort size of 12 to 22, with a total of 36 to 66 SRNAs in the program. Additionally, SRNAs were not required to travel great distances for clinical rotations or be separated from family for periods of time greater than one week.

Following IRB approval (see Appendix A) all SRNAs received an email forwarded by their Program Director which explained the purpose of the study and requested that the SRNA forward the email to a support person (see Appendix B). A link in the email connected the support person to the survey if they chose to participate.

The survey was secured with a password-protected private subscription account accessible only by the sole researcher of this study. The survey format required an answer to every question on each page to complete the survey. Completion of the survey was indicative of agreement to participate in the study. Contact information for mental health resources available at each college were provided at the end of the survey.

The Program Directors were asked to forward a follow-up email to the SRNAs in each program one month after the initial email. This email also requested the SRNA to notify their support person of the study. The survey link remained active for one month following the follow-up email and then became dysfunctional.

The Stress Survey

The stress survey consisted of demographic characteristic items and items related to perceived stress. Questions related to the overall stress level, individual stressors, and last sick day were adapted from a 2010 wellness and stress survey of SRNAs and Certified Registered Nurse Anesthetists.¹⁰

A peer group of eight SRNAs in the second year of a nurse anesthesia program assessed the survey questions for content and structure. Survey items included multiple choice, multiple select, and open-ended questions. Also included were items which required the participant to rate their stress (see Appendix C).

Seven questions were used to collect demographic information. These included age, gender, employment status, and the last time the participant was sick. Also included were questions identifying the participant's relationship status with the SRNA, how long the SRNA had been in school, as well as how long the SRNA had attended a clinical rotation which required the SRNA to be away from home.

Participants were asked to rate their Overall Stress level in the past month on a scale with 1 representing low stress and 5 representing extreme stress. Participants were also asked to rate 9 individual stressors on the same scale. These stressors included work, the relationship with the SRNA, finances, and personal health or that of a loved one. Participants were also asked to rate stress related to childcare, pet care, household management, and lack of time. Additionally, they

were asked to identify life stressors that applied to them in the past month from a provided list. Some of these included: marriage, divorce, changing jobs, starting school (themselves), pregnancy, birth, military deployment, death of a loved one, or bankruptcy/financial distress.

Additional questions included selecting the aspect which surprised the participant the most since the SRNA started school and whether the participant felt he/she could have been better prepared. Each participant was also asked to indicate whether he/she had attended a seminar prior to the SRNA starting school. Additionally, each participant was asked whether he/she would have wanted to attend a seminar if he/she had not already attended one.

Three open-ended questions were included to allow unstructured responses. Each participant was asked to indicate the most stressful aspect related to the SRNA attending school and anything the participant felt could have prepared him/her better. The final question of the survey was an opportunity for the participant to provide further comments.

Data Analysis

Data from each initiated survey was transcribed into a spreadsheet. Each response was translated into a numerical value as assigned by the researcher prior to data collection. Frequencies for each demographic variable were then tabulated. Average stress ratings were computed for Overall Stress as well as for each individual stressor. Frequencies were calculated for each ordinal number on the stress scale (1, 2, 3, 4, or 5) for Overall Stress and for each of the 9 individual stressors. Additionally, the total number of life stressors selected from the provided list was tallied for each participant.

Chi-Square analyses were conducted for the statistical analysis of various factors. Participants were divided into two groups, those with low to moderate ratings (1, 2 or 3) of Overall Stress and those with high (4 or 5) Overall Stress ratings. The Overall Stress ratings of

participants who attended a seminar prior to the start of the program were compared to those who did not attend a seminar. The Overall Stress ratings of participants who felt prepared prior to the start of the program were compared to those who did not feel prepared. Overall Stress, as well as stress related to time, were examined in participants whose SRNA was in either the first, second, or third year of the program.

The data obtained through the open-ended questions were analyzed through qualitative analysis for content and major themes. Themes with emerging sub-categories were further analyzed, then categorized.

Results

Sixty-six surveys were initiated of the possible 160 participants. Eleven of the 66 participants did not complete the survey and an additional 3 participants indicated they were the SRNA themselves rather than a support person. These 14 surveys were discarded, and the data obtained from the remaining 52 surveys were analyzed.

Fifty percent (n=26) of participants were male and 50% (n=26) female. Most participants were aged 25-34 years old (78.9%, n=41), worked full-time (53.9%, n=28), were married to the SRNA (71.2%, n=37), and took their last sick day more than 2 years ago (36.5%, n=19) (see Table 1). According to the participants, the majority of the SRNAs had clinical rotations away from home for either 0 or 1 months (65.4%, n=34). Nineteen participants reported the SRNA was still in the first year of the program (36.5%), 19 in the second year (36.5%), and 14 in the third year (27.0%). Forty-two percent of participants reported 0-1 life stressors in the past month, 44.2% reported 2-3, 13.5% reported 4-5, and no participants reported more than 5 life stressors in the past month.

The average Overall Stress rating was 3.1 on a 1 to 5 scale, with 1 being low stress and 5 being extreme stress. Overall Stress was rated a 3 by 44% of participants (n=23). Over 19% rated it a 4 (n=10), and almost 12% rated it a 5 (n=6). Only 7% rated Overall Stress in the past month a 1 (n=4) whereas 17% rated it a 2 (n=9) (see Table 2). When comparing the average stress rating in the specific categories, work related stress and stress related to time were rated highest at 3.2 and 3.0, respectively (n=52). An average stress rating of 2.8 was reported for both stress related to household management as well as to financial stress (n=52). The average stress rating related to taking care of a child was 2.7 (n=35), whereas the average stress rating related to a relationship with the SRNA was 2.3 (n=51). Stress related to taking care of a pet was found to have an average stress rating of 2.1 (n=43). An average stress rating of 1.7 was reported for both stress related to personal health and to a loved one's health (n=48).

Work related stress was reported by all but 4 participants. Over 30% (n=16) reported their work stress at 4, and 9% (n=5) reported a 5 for their stress level. Almost 8% (n=4) reported their work related stress at 1, 19% (n=10) rated it a 2, and 25% (n=13) rated it a 3.

Almost all participants reported having stress related to their relationship with the SRNA (n=51). Thirty-six percent (n=19) reported their relationship stress at a 2, 25% (n=13) reported a 3 for their stress level, and 23% (n=12) rated it at a 1. Over 9% (n=5) rated their relationship stress at a 4, but only 3% (n=2) rated it as a 5.

Fifteen percent (n=8) of participants reported a stress rating of 4 for stress related to finances, and 15% (n=8) reported a 5. A stress rating of 1 was reported by 21% (n=11) of participants, 25% (n=13) reported a 2, and 23% (n=12) reported a 3.

Stress related to time and household management was reported by all participants. Fifteen percent of participants (n=8) reported a stress level of 1 for stress related to time. Twenty-three

percent (n=12) reported a 2, 25% (n=13) reported a 3, 23% (n=12) reported a 4, and 13% (n=7) reported a 5. Fifteen percent of participants (n=8) also reported a stress level of 1 for stress related to household management. Nineteen percent (n=10) reported a 2, 44% (n=23) reported a 3, 15% (n=8) reported a 4, and almost 6% (n=3) reported a 5.

Participants reported stress related to personal health and that of a loved one as the lowest stress level. Over 57% (n=30) of participants reported a stress rating of only 1 related to personal health and 19% (n=10) reported a 2. Almost 6% (n=3) rated it as a 3, and almost 8% (n=4) rated it as a 4. Only 2% (n=1) reported stress related to personal health a 5. Fifty percent (n=26) of participants reported a stress rating of 1 related to the health of a loved one, and 25% (n=13) rated it a 2. Over 15% (n=8) reported a stress rating of 3, and only 2% (n=1) rated it a 4. No participants reported a stress rating of 5 related to a loved one's health.

Seventeen percent (n=9) of participants indicated stress related to caring for pets was not applicable and it was assumed that these participants did not own pets at the time of the survey. Over 32% (n=17) reported a stress rating of a 1, 25% (n=13) rated it a 2, 15% (n=8) rated it a 3, and 2% (n=1) rated it a 4. Almost 8% (n=4) reported stress related to caring for pets a 5.

Approximately a third of participants (n=17) indicated that stress related to caring for children was not applicable and it was assumed these participants did not have children in the home. Thirty-one percent of the remaining 35 participants (n=11) rated their stress related to caring for children a 1, 6% (n=2) rated it a 2, 34% (n=12) rated it a 3, 17% (n=6) rated it a 4, and 11% (n=4) rated it a 5. When Overall Stress was examined in this population, 34% (n=12) reported a high Overall Stress rating in the past month compared to 24% (n=4) of those participants without children ($p=0.4305$). For stress related to time, 37% (n=13) of participants with children also reported a high stress rating compared to 35% (n=6) of those without children.

The amount of time dedicated to studying was selected by 38.5% (n=20) of participants as being the most surprising aspect since the SRNA started nurse anesthesia school (see Table 3). The stress level of the student was selected by 30.8% (n=16) as being the most surprising, and time away from home for clinical was selected by 15.4% (n=8). Only 1.9% (n=1) selected the cost of the program as being the most surprising. An additional 13.5% (n=7) of participants reported something other than the survey-provided responses. These participants were required to explain why they chose “other”. Explanations included being surprised by the SRNA’s initial stress levels, that the SRNA manages the stress from the program well, and that the participant felt prepared. Another participant responded that the question was not applicable.

Over 73% (n=38) of participants reported they did not feel they could have been better prepared before the SRNA started school (see Table 4). Almost 87% (n=45) of participants did not attend a seminar prior to the SRNA beginning the program, but 69% (n=36) reported they would have elected to attend one if available. This latter question allowed a third response of “other,” but required the participant to further explain. Approximately 10% (n=5) of participants chose this answer. One participant reported having previously attended a meeting for stress management and drug use avoidance. Another participant stated they conducted online searches as well as talked to former SRNAs, while a third recommended the use of a pamphlet rather than a seminar to provide additional information.

Chi Square Analysis

Overall Stress levels were not statistically different for participants who attended a seminar prior to the SRNA starting the program compared to participants who did not attend a seminar ($p=0.3097$). One (1.9%) participant who attended a seminar reported high Overall Stress compared to 15 (28.8%) of those who did not attend a seminar. Moderate or low Overall Stress

was reported by 6 (11.5%) participants who attended a seminar compared to 30 (57.7%) who did not attend a seminar. The lack of statistical significance may be due to the small group size for those who did attend a seminar.

Overall Stress levels were not statistically different for participants who felt prepared prior to the start of the program compared to participants who did not feel prepared ($p=0.6391$). Eleven (29%) participants who felt prepared reported high Overall Stress compared to 5 (36%) of those who did not feel prepared. Moderate or low Overall Stress was reported by 27 (71%) who felt prepared compared to 9 (64%) who did not feel prepared.

Participants whose SRNA was in the third year of the program reported significantly greater Overall Stress than those participants whose SRNA was in either the first or second year of the program ($p=0.0438$). Eight (57%) participants whose SRNA was in the third year reported high Overall Stress compared to 4 (21%) of those in the second year, and 4 (21%) of those in the first year (see Table 5). Participants whose SRNA was in the second year of the program reported significantly less stress related to time than those participants whose SRNA was in either the first or third year of the program ($p=0.0125$). Seventeen (89%) participants whose SRNA was in the second year reported low/moderate Overall Stress compared to 9 (47%) of those in the first year, and 7 (50%) of those in the third year (see Table 6).

Emerging Themes

Four themes emerged for what the participant found to be most stressful related to the SRNA being in school. These themes included lack of time ($n=32$), caring for others ($n=16$), the stress level of the SRNA ($n=11$), and financial issues ($n=9$). The most often reported theme was lack of time, which was further categorized as the SRNA being away from home at a rural clinical site ($n=14$), lacking free time to spend with family ($n=13$), and the amount of time the

SRNA spent studying (n=5). Caring for others was the second most reported stressor, which was further categorized into household chores (n=8), caring for children (n=5), and caring for pets (n=3). Other reported stressors without a theme included an unpredictable schedule, unplanned requirements, lack of communication from the school, uncertainties concerning future relocation requirements, and the support person's own personal schedule.

Three themes emerged for what the participants felt could have prepared them better prior to the SRNA starting the program. These themes were the need for more information (n=16), financial preparation (n=6), and the opportunity to meet with others prior to the start of the program (n=5). The theme of more information was further categorized into more information about the program (n=5), clinical requirements (n=4), loans (n=4), and study requirements for SRNAs (n=3). Participants also indicated they would like to have met with other current SRNAs, CRNAs, or the families of SRNAs in their loved one's class prior to the SRNA starting the program. Additionally, 9 participants answered "N/A", 6 answered they felt prepared, 4 answered "nothing," and 4 answered "not sure." Uncategorized responses included having a daycare at the main clinical site, advice about coping with stress placed on the relationship between the support person and SRNA, and a better family support system.

Participants could provide additional comments in a non-required, open-ended question, but few participants provided one. Among the responses, the desire for a predictable routine was most often cited (n=3). Additional responses included allowing the SRNA to have half a day off each week, as well as the opportunity to meet with other families of SRNAs.

Discussion

Most of the support persons were younger than 35 years, married, and worked full-time. Additionally, most had not taken a sick day in over 2 years, which may be due to good health or

it could indicate that they worked through any illnesses to offset financial hardship. This latter explanation seems more likely as a significant portion of support persons reported high stress levels related to work but relatively few reported high stress related to personal health.

Furthermore, almost half of support persons reported having high levels of financial stress.

About a third of the support persons perceived high levels of stress related to time. Many support persons explained they found that the lack of time spent with the SRNA, specifically when the SRNA was away from home at a rural clinical site, to be the single most stressful aspect of the SRNA being in school. As one support person stated: “The long clinical hours, coupled with hours spent studying, leaves almost no time for family. It's extremely stressful for the student, which causes stress in the relationship and the family.” Although this support person indicated having a stressful relationship with the SRNA, relatively few others reported high stress levels regarding their own relationships.

Caring for others was also noted to be one of the most stressful aspects of the SRNA being in school. Managing the household and caring for pets or children were repeatedly acknowledged as significant stressors. However, few support persons reported high stress levels regarding these three stressors. While all support persons indicated they had a household to manage, some reported not owning pets, and even more reported having no children.

The support persons with children did not have higher levels of Overall Stress or stress related to lack of time than those assumed to be without children. Although their stress levels were not statistically different, several support persons stated, “having children” or caring for children while the SRNA was in the program was both difficult and stressful. Perceived stress levels were also intensified when the support persons lacked close, easily accessible childcare or personal, familial support systems.

Most support persons reported a low to moderate (1, 2 or 3) Overall Stress level, but about a third reported a high (4 or 5) Overall Stress level in the past month. Whether or not the support persons attended a seminar did not affect overall stress levels. However, 45 support persons did not attend a seminar prior to the SRNA starting the program whereas only 7 support persons did attend one. This large discrepancy between the groups resulted in only 1 support person who both attended a seminar and reported a high stress level. Only 6 support persons who attended a seminar reported a low to moderate overall stress level, and it is likely that all 6 of these people know SRNAs attending the same program. A larger sample size might have resulted in a statistical difference between these two groups.

A larger sample size, however, would probably not have resulted in a statistical difference in overall stress between the group who felt prepared and the one who did not feel prepared because both groups were relatively equal in number. Most support persons reported that nothing could have prepared them better prior to the SRNA starting the program. However, when asked to provide a specific answer as to what could have prepared them better, they provided in-depth responses. This disparity might be explained by the order in which the survey questions were presented. The support persons may have felt prepared until presented with the potential options of what could have prepared them better. Had the order of these questions been reversed, more support persons might have reported not feeling prepared.

Overall Stress levels were found to be greatest in participants whose SRNA was in the third year of the program. It was not definitively known why these support persons reported the greatest overall stress levels. However, it could be possible that they had already been supporting the SRNA for two or more years and had been exposed to the crossover effect of stress the longest of the support persons. The cumulative effect of their own stress in addition to the

emotional contagion from the SRNA's school related stress might account for the differences in overall stress.

Support persons whose SRNA was in the second year of the program felt less stress related to time than other support persons. As previously discussed, it was not definitively known why these support persons felt less time related stress. It could be that they were already familiar with and adapted to the SRNA's time commitments and study habits, whereas support persons with SRNAs in the first year of the program were still adjusting to these new life experiences. Additionally, these support persons were not yet feeling the stress of an impending certification exam and endless hours of studying as were the support persons with SRNAs in the third year of the program.

While most support persons reported 3 or fewer additional life stressors, several reported 4-5. These persons were predominantly female, aged 25-34 years, worked full-time, were either married or engaged to the SRNA, and were new to the experience of having a loved one in a nurse anesthesia program. The most commonly cited stressors included quitting/changing jobs, a reduction in salary, moving, and personal illness. These support persons had recently relocated, possibly losing their own support system, and exposing them to increased stress without adequate moderators. However most perceived only moderate stress, which indicates they might have adequately adjusted to those stressors.

Limitations

The participant response rate was dependent upon the repeated forwarding of an email, first from the Program Director to the SRNA and then from the SRNA to the support person participant. The support persons could have chosen to ignore the survey or exit it after initiation. Additionally, several SRNAs completed the survey themselves. There was an overall response

rate of 41.3%, but only 32.5% of all possible participants provided usable data. Some groups of participants were relatively small due to this response rate, possibly affecting the results.

Future Research

The descriptive data from this study indicate that support persons feel they would benefit from more information prior to the SRNA starting the program. While one participant stated a pamphlet would suffice, the majority indicated they would like to participate in a seminar outlining what to expect regarding SRNA time commitments, financial commitments, school requirements, and ways to manage stress during the program. A seminar such as this could be developed and trialed for either prospective SRNAs and/or their support persons.

Conclusions

SRNAs experience considerable stress, both positive and negative, in a doctorate nurse anesthesia program. Both types of stress crossover to the support person at home through frequent interactions and emotional contagion. If the support person is unable to adequately manage their own stress, the SRNA's perceived stress will amplify. Perceived unbridled negative stress may lead to decreased performance and success.

This study examined the degree of and causes of stress in the SRNA's support person. It found that the support persons' work environments as well as caring for their households evoked the highest perceived stress levels. The support persons in this study did not feel they could be better prepared but offered insight into future interventions that might help prepare a support person prior to the start of the program.

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Table 1

Demographic Table			
Gender			
Male		50.0%	(n=26)
Female		50.0%	(n=26)
Age			
<25 years		3.9%	(n=2)
25-34 years		78.9%	(n=41)
35-44 years		17.3%	(n=9)
45-54 years		0.0%	(n=0)
>55 years		0.0%	(n=0)
Relationship to Student			
Married		71.2%	(n=37)
Engaged		3.9%	(n=2)
In a Committed Relationship		21.2%	(n=11)
Parent/Grandparent		0.0%	(n=0)
Cohabitate with Student (SRNA)		1.9%	(n=1)
Friend		1.9%	(n=1)
Other		0.0%	(n=0)
Employment Status			
Employed Full-time, working >40 hours/week		19.2%	(n=10)
Employed Full-time		53.9%	(n=28)
Employed Part-time		1.9%	(n=1)
Unemployed		1.9%	(n=1)
Student		11.5%	(n=6)
Retired		0.0%	(n=0)
Other		11.5%	(n=6)
Last Sick Day			
0-3 months ago		26.9%	(n=14)
4-6 months ago		13.5%	(n=7)
7-11 months ago		9.6%	(n=5)
1-2 years ago		13.5%	(n=7)
>2 years ago		36.5%	(n=19)
How Long the Student (SRNA) Has Been in School			
0-1 years		36.5%	(n=19)
1-2 years		36.5%	(n=19)
> 2 years		26.9%	(n=14)
How Long the Student (SRNA) Has Been Away for Clinical			
0-1 months		65.4%	(n=34)
1-2 months		3.8%	(n=2)
2-3 months		7.7%	(n=4)
>3 months		23.1%	(n=12)
Number of Additional Life Stressors			
0-1 stressors		42.3%	(n=22)
2-3 stressors		44.2%	(n=23)
4-5 stressors		13.5%	(n=7)
>5 stressors		0.0%	(n=0)

Table 2

Stress Rating 1 = Low stress, 5 = Extreme stress							
Type of Stress	Average Stress Rating*	1	2	3	4	5	N/A
Overall Stress	3.1	7.7% (n=4)	17.3% (n=9)	44.2% (n=23)	19.2% (n=10)	11.5% (n=6)	0.0% (n=0)
Work	3.2	7.7% (n=4)	19.2% (n=10)	25.0% (n=13)	30.8% (n=16)	9.6% (n=5)	7.7% (n=4)
Time	3.0	15.4% (n=8)	23.1% (n=12)	25.0% (n=13)	23.1% (n=12)	13.5% (n=7)	0.0% (n=0)
Financial	2.8	21.2% (n=11)	25.0% (n=13)	23.1% (n=12)	15.4% (n=8)	15.4% (n=8)	0.0% (n=0)
House	2.8	15.4% (n=8)	19.2% (n=10)	44.2% (n=23)	15.1% (n=8)	5.8% (n=3)	0.0% (n=0)
Child**	2.7	31.4% (n=11)	5.7% (n=2)	34.3% (n=12)	17.1% (n=6)	11.4% (n=4)	32.3% (n=17)
Relationship	2.3	23.1% (n=12)	36.5% (n=19)	25.0% (n=13)	9.6% (n=5)	3.9% (n=2)	1.9% (n=1)
Pet	2.1	32.3% (n=17)	25.0% (n=13)	15.4% (n=8)	1.9% (n=1)	7.7% (n=4)	17.3% (n=9)
Personal Health	1.7	57.7% (n=30)	19.2% (n=10)	5.8% (n=3)	7.7% (n=4)	1.9% (n=1)	7.7% (n=4)
Loved One's Health	1.7	50.0% (n=26)	25.0% (n=13)	15.4% (n=8)	1.9% (n=1)	0.0% (n=0)	7.7% (n=4)

* Are calculated based on participants who reported a number rating rather than "N/A".

**Reported percentages are based on those participants who are assumed to have children.

Table 3

What Was the Most Surprising?		
Amount of Time Studying	38.5%	(n=20)
Stress Level of the Student	30.8%	(n=16)
Time Away From Home for Clinical	15.4%	(n=8)
Cost of the Program	1.9%	(n=1)
Other	13.5%	(n=7)

Table 4

Preparedness Before the Student (SRNA) Started School						
	Yes		No		Other	
Do you feel you could have been better prepared?	26.9%	(n=14)	73.1%	(n=38)		
Did you attend a seminar before the student started school?	13.5%	(n=7)	86.5%	(n=45)		
Would you have liked to attend a seminar before the student started school?	69.2%	(n=36)	21.2%	(n=11)	9.6%	(n=5)

Table 5

Overall Stress and SRNA Year in Program		
	Low/Moderate Stress	High Stress
First year n=19	15 (79%)	4 (21%)
Second year n=19	15 (79%)	4 (21%)
Third year n=14	6 (43%)	8 (57%)

p=0.0438

Table 6

Time Related Stress and SRNA Year in Program		
	Low/Moderate Stress	High Stress
First year n=19	9 (47%)	10 (53%)
Second year n=19	17 (89%)	2 (11%)
Third year n=14	7 (50%)	7 (50%)

p=0.0125

Appendix A

BRYAN COLLEGE OF HEALTH SCIENCES
 INSTITUTIONAL REVIEW BOARD
 Notification of Action

Date of Notification: July 20, 2017

This letter pertains to IRB actions regarding:

Title of Study/Project: The Degree and Causes of Stress in the Student Registered Nurse

Anesthetist's Support Person: A Descriptive Study

IRB Number: 1706-003 (to be used in all future correspondence about the Study/Project)

Submitted by: Sarah Levic

Type of Review Performed:

- Exempt — Performed by June smith, IRB Secretary _____
 Expedited
 Full

Date of Review: 6/29/2017; 7/20/2017

Document(s) Reviewed: IRB Submission; Survey; Communications with subjects; Faculty letter; NIH Certificate

Changes to IRB submission and communications with subjects requested before approval could be granted.

Decision

The Bryan College of Health Sciences' IRB has made the following decision related to your study:

APPROVED: Your study has been found to meet criteria necessary for the protection of human subjects as stated in the Code of Federal Regulations Title 45 Part 46. Data collection may start once all required IRB approvals are obtained.

PENDING APPROVAL CONTINGENT ON MINOR CHANGES: Your study has been found to meet criteria necessary for the protection of human subjects as stated in the Code of Federal Regulations Title 45 Part 46; however minor changes are necessary to strengthen one or more part(s) of the study. Those minor changes are detailed below. Please resubmit the final amended Request for Review, Informed Consent, or any other necessary study documents. After submission of the final documents you will receive an approval letter with the approved, stamped informed consent document if required for the study/project.

MUST BE RESUBMITTED WITH MAJOR CHANGES: Your study HAS NOT been found to meet all criteria necessary for the protection of human subjects as stated in the Code of Federal Regulations Title 45 Part 46. One or more major change(s) must be made as detailed below. **DATA COLLECTION MAY NOT BE STARTED** until those changes have been made and formal approval has been granted by the IRB.

Changes, if required:

The following changes were made

2 minor changes: 1) In the confidentiality section and in the introduction to the survey you should say that the information may be viewed by you, your faculty member and a statistician. This will cover unforeseen situations. 2) In your letter to the program directors (and anywhere else you reference IRB approval), please provide your IRB # (#1706-003) and give my name and phone number (June Smith, PhD, RN, 402-481-3967) as IRB contact.

BRYAN COLLEGE OF HEALTH SCIENCES
INSTITUTIONAL REVIEW BOARD
Notification of Action

Obligations to the IRB

The investigators of a study approved by the IRB must fulfill the following obligations in order to retain permission to conduct their study:

CONSENT FORM: If you submitted a consent form for approval, the approved consent will be returned to you marked with a red 'APPROVED.' Colored copies of that approved consent must be made and all participants enrolled in the study must sign one of those colored consent forms. The original, colored consent forms must be saved with the investigator's study documents. Each participant must be given a copy of the informed consent. The participant's copy may be a black and white copy of the original, colored informed consent.

PLANNED CHANGES TO THE STUDY: Any non-editorial change to an approved study/project must be submitted to the IRB for approval before initiation of the change except when necessary to eliminate immediate hazards to the participant(s). These changes include (but are not limited to):

- Names and roles of study/project personnel;
- The number of enrolled participants;
- Change to the methods used in the study/project;
- Change to the study/project's consent form;
- Additional method(s) used to recruit subjects (beyond those approved with the initial review);
- Proposed communication(s) to potential or enrolled subjects.
- Any change initiated prior to IRB approval (undertaken to eliminate immediate hazards to participants) must be reported as soon as possible to the Chair or Secretary of the IRB.

UNANTICIPATED PROBLEM OR ADVERSE EVENTS: The investigators of an approved study/project are required to submit to the IRB a full report of the following within two (2) business days of the occurrence:

- An unanticipated problem or adverse event occurring to one or more enrolled subjects including, but not limited to:
 - Any breach in confidentiality.
 - Physical or psychological harm.
 - Unresolved complaint of a participant, family member, or other individual.
 - Any other occurrence of an adverse nature related to participation in the study/project.

- Any deviation from the approved study/project protocol with the reason for the deviation and any consequences to the study/project participants or the integrity of the study/project's data.
- The withdrawal of any participant
- If a preliminary review of a study/project's data indicates the probability that continuing with the study/project will result in harm to one or more participants.

ONGOING AND FINAL REPORTS: The investigators of an approved study/project will submit a final report (using the IRB Final Report template) within sixty (60) days of the end of data collection. If an approved study has not completed data collection 12 months after the initial IRB approval date, the investigators must submit an Annual Report (using the IRB Annual Review template).

Chair, Bryan College of Health Sciences' IRB Date: 7/20/2017

Secretary

Appendix B

Initial Email Letter to Program Directors

Dear (Name of Program Director):

My name is Sarah Lević, and I am an SRNA at Bryan College of Health Sciences in Lincoln, NE. I previously called you to discuss my Capstone project on perceived stress in the support persons of SRNAs. I now have IRB approval (#1706-003; IRB contact: June Smith, PhD, RN, [REDACTED]) and would appreciate it if you would forward the attached email to all current SRNAs in your program. This attached letter explains to the SRNA the purpose of my study and includes a link to the online survey for their support person to complete. If you have any questions, please contact me via phone at [REDACTED] or via email at sarah.levic@bryanhealthcollege.edu, or you may also contact my research advisor Sharon Hadenfeldt, PhD, CRNA at sharon.hadenfeldt@bryanhealth.org or [REDACTED]. Thank you very much.

Sincerely,
Sarah Lević, BA, BSN, SRNA
Bryan College of Health Sciences

Appendix C

(Introduction: Page 1)

Hello!

My name is Sarah Lević and I am a Student Registered Nurse Anesthetist (SRNA) at Bryan College of Health Sciences in Lincoln, NE. As part of a requirement for the Doctor of Nurse Anesthesia Practice program, I am conducting a study on perceived stress as experienced by the support persons of SRNAs. Stress is defined as a physical, emotional, or mental response to an actual or perceived stimulus. It can be acute, episodic, or chronic in nature.

It would help me if you would take five minutes to complete this survey for my research. My goal is to obtain information and provide recommendations to the school for a future intervention to help mitigate stress felt by the support persons. In doing so, as evidenced by previous research, your loved one will also perceive less stress, thereby helping him/her to become more successful in school.

This survey is completely anonymous and your answers will only be viewed by me the researcher, my faculty advisory Sharon Hadenfeldt, PhD, CRNA, and a statistician. Please do not provide any identifying information about the student or yourself such as names, state/city, or program the student is attending. This will help keep your information and responses confidential.

If you would like assistance with any stress you might be feeling, there will be resources at the end of this survey you may contact. Also, if you have any other questions, please contact me at sarah.levic@bryanhealthcollege.edu or my research advisor Sharon Hadenfeldt, PhD, CRNA at sharon.hadenfeldt@bryanhealth.org or 402-481-8606.

Thank you for your time,
Sarah L., BA, BSN, SRNA
Bryan College of Health Sciences

(Consent: Page 2)

By completing this survey, you provide your consent to participate in this study. However, your participation is completely voluntary and you may choose to not participate at any time.

The following questions will tell me a little bit about yourself:

1. What is your gender?
 - Male
 - Female

2. What is your age?
 - <25
 - 25-34

- 35-44
- 45-54
- >55

3. Which one of the following most accurately describes your employment status?

- Employed, full-time
- Employed, part-time
- Retired
- Unemployed
- Student
- Other ____

4. When did you last take a sick day?

- 0-3 months ago
- 4-6 months ago
- 7-11 months ago
- 1-2 years ago
- >2 years ago

The following questions will tell me a little bit about the student (SRNA):

5. What is your relationship with the student (SRNA)?

- I am married to him/her
- I am engaged to him/her
- I am in a committed relationship with him/her
- I am the parent/grandparent of him/her
- I am a child of him/her
- I cohabit with him/her
- I am a friend of him/her
- Other ____

6. How long has the student (SRNA) been in school?

- 0-1 years
- 1-2 years
- >2 years

7. Since the start of the program, for how many total months has the student (SRNA) been away from home for clinical?

- 0-1 months
- 1-2 month
- 2-3 months
- > 3 months

The following questions pertain to both your overall stress as well as specific causes of stress. As a reminder, please do not answer any open-ended questions with identifying information such as your name or name of the student, city/state, or name of the program.

8. During the last year, have any of the following occurred (please mark all that apply)?

Salary/benefits decreased	Marriage/legal union
Bankruptcy/financial stress	Military deployment – self
Birth of a child	Military deployment – significant other/friend
Caring for debilitated/chronically ill loved one	Moved
Changed 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	Retirement
Marital/partner reconciliation	Started school (yourself)
Marital/partner separation	

9. How would you rate your overall stress level on an average day in the past month? 1 is low stress, 5 is extreme stress.

1 2 3 4 5 NA

10. How would you rate your stress level in the past month as a result of each of the following? 1 is low stress, 5 is extreme stress.

Work-related issues	1	2	3	4	5	NA
Your relationship w/the student	1	2	3	4	5	NA
Financial issues	1	2	3	4	5	NA
Personal health issues	1	2	3	4	5	NA
Health of a loved one	1	2	3	4	5	NA
Time/lack of time spent w/student	1	2	3	4	5	NA
Caring for children	1	2	3	4	5	NA
Caring for pets	1	2	3	4	5	NA
Taking care of household chores	1	2	3	4	5	NA

11. What do you find most stressful about the student (SRNA) being in school?

12. What has surprised you the most since the student (SRNA) has started nurse anesthesia school?

- Amount of time dedicated to studying
- Being in clinical away from home
- Cost of the program
- Stress level of the student
- Other _____

13. Do you feel you could have been better prepared before the student (SRNA) started school?

- Yes
- No

14. What do you think could have prepared you better before the student (SRNA) started school?

15. Prior to the student (SRNA) starting school, did you attend a seminar or information session about what to expect for the duration of the program?

- Yes
- No

16. Would you have liked the opportunity to attend a seminar before the student started school? This seminar would have explained what you could expect regarding school requirements, time commitments, financial commitments, et cetera.

- Yes
- No

17. Use this space to add any additional comments.

(Page 6: Thank You!)

Thank you again for your time in completing this survey! If you feel you need to talk with someone about your stress or you have thoughts of harming yourself or others, please contact a representative from your state:

- Nebraska/Bryan College of Health Sciences: Patty Bollinger, MSN, APRN-CNS, Professional Development Counselor (402-481-3831)
- Iowa/University of Iowa: University Counseling Services (319-335-7294)
- Kansas/Kansas University: Dr. Larry Long, Jr., PhD, Counseling and Education Support Services (913-588-6587)

If you have any additional questions/concerns, please contact me at sarah.levic@bryanhealthcollege.edu or my research advisor Sharon Hadenfeldt, PhD, CRNA at sharon.hadenfeldt@bryanhealth.org or [REDACTED].

Sincerely,
Sarah Lević