

# Evaluation of Health and Wellness Education Components, Modalities and Timing on SRNA Self-Efficacy and Coping

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## Introduction

- SRNAs are high risk for increased stress, burnout and serious psychological sequelae during their training.<sup>1, 2,3,4</sup>
- Self-efficacy allows SRNAs to overcome barriers and setbacks to achieve their goals.
- SRNAs may cope in many different ways, both positive and negative.
- Health and wellness education has been presented as a means<sup>5,6</sup> to prevent burnout, depression, substance use disorder,<sup>1</sup> attrition<sup>7</sup> and suicide<sup>8</sup>.
- Specific components of health and wellness education are lacking evidence.
- Deficiencies in the research regarding the method of delivery, or modality.
- Ideal timing of the education implementation is not established in literature.

## Materials and Methods

- Training program directors contacted via publicly available email address through the COA website.
  - Requested (twice) to disseminate link to anonymous survey and introduction letter to SRNA in their programs.
- Qualtrics survey with FOUR parts: demographics & three validated tools
  - Demographic survey- age, gender, length of time in program, experience as nurse, average daily stress, type of program (Master's or doctorate).
  - Brief COPE<sup>9</sup> – coping comprised of four categories of behavior.

Active: problem solving & positive thinking. Passive: avoidance & social support.

- General Self-Efficacy tool <sup>10</sup> - Assesses confidence, capability, persistence. Scored 10-40 possible points, higher score indicates higher self-efficacy.
- Health and Wellness Education- developed by researchers- identified what components are being taught, how they are delivered, when SRNAs received their education, if they felt the education was adequate.
  - a) Components: SUD,<sup>1</sup> promotion of self-efficacy, social support,<sup>7</sup> peer support,<sup>3,11</sup> affordable healthcare coverage,<sup>3</sup> family member involvement,<sup>12</sup> AANA wellness Curriculum,<sup>13</sup> alternative stress techniques, nutrition, money management, sleep health,<sup>6</sup> and burnout.<sup>1</sup>
  - b) Skip logic drop down if answered yes to any component- identified modality: Large lecture from faculty, online learning modules,<sup>11</sup> small discussion groups with classmates,<sup>14</sup> presentation from CRNA, other. SUD had additional options- AANA Wearing Masks videos,<sup>13</sup> presentation from recovering CRNA
  - c) Timing: Frequency of education,<sup>2</sup> what year in training program, before or after matriculation,<sup>6</sup> before or after clinical residency

## Relation to Previous Literature

- High stress is demonstrated in SRNA population. <sup>1</sup>
  - This study confirmed this data with SRNA average daily stress average of 6.6
- Previous studies have used a variety of education components to meet health and wellness education demands <sup>1,3,7,12,13,15</sup>
  - This study identified which components were being delivered to

SRNA population and which modality was being used.

- Brief COPE tool has been used in previous studies to assess coping strategies of various populations. <sup>2,13</sup>
  - This study identified via Brief COPE tool, the coping strategies specifically of the SRNA population.
- Several published works identified self-efficacy as a means to reduce stress and improve success and coping skills. <sup>7,8,15</sup>
  - This study calculated SRNA self-efficacy score using the General Self-Efficacy tool.

## Results and Discussion

- Final sample: 159 SRNAs who completed 7 of the 10 GSE questionnaire.
- Female, 26-30 years old, Doctorate program, 3-5 years nursing experience
- GSE and COPE
  - GSE median score: 32
  - GSE < median: Correlated with COPE avoidance (Pearson correlation=-.326, p=0.01)
  - GSE > median: Correlated with COPE positive thinking (Pearson correlation= 0.364, p=0.01)
  - GSE and Average daily stress negatively correlated (Pearson correlation -0.286, p=0.01)
  - Scores below median reflect student who does not have sufficient self-efficacy.
  - Low self-efficacy students are coping negatively by using avoidance techniques, such as using drugs or alcohol.
  - High self-efficacy students are demonstrating active coping, such as positive thinking. These students may try to see things more positively or looking for good in situations.
  - When an SRNA has high self-efficacy, they are reporting less perceived stress. They are successfully mitigating the stress associated with training.

- GSE and Components
  - SUD most common 123 (78.8%)
  - # of Components correlated with COPE problem solving score (Pearson correlation = 0.35, p=0.01)
  - # of Components correlated with COPE avoidance (Pearson correlation= -0.269, p=0.05)
  - Higher average daily stress correlated with COPE social support (Pearson correlation= 0.239 p=0.01) and COPE avoidance (Pearson correlation =0.419, p=0.01)
  - 8 components contributed to students responding "definitely" or "probably" received adequate education
  - COA mandates SUD
  - The mandate works. Consider requiring more
  - More H&W components means students using more positive coping mechanisms, and less negative coping mechanisms
  - When students are more stressed, they are using more negative coping mechanisms
  - SUD, stress reduction, burnout, family involvement, sleep health, healthcare coverage, money management, nutrition
- Modalities
  - Large lecture most frequent delivery method (126 students)
  - Of those, 32.3% received at least 3-5 components
  - 58 students received online learning modules or small discussion groups.
  - Large lecture format correlated with higher GSE score (Pearson correlation 0.215, p=0.01)
  - Large lecture format overwhelmingly most common, followed by tie between online modules and small discussion groups.
  - Students who received large lecture education had higher self-efficacy

- Timing
  - Large lecture modality is effectively increasing student self-efficacy
  - COPE problem solving scores were HIGHER in students at 6 months of training than those with 24 months of training. ( $F(6,151)=2.635, p=.019$ )
  - COPE avoidance scores were LOWER in students at 0-6 months of training than those with 30 months of training. ( $F(6,151)= 4.505, p=.000$ )
  - COPE social support scores were LOWER in students at 6 or 18 months of training than those with 24 months of training ( $F(6,151)=2.914, p=.010$ )
  - GSE scores were HIGHER in students receiving education 2-3 times than students receiving education only once ( $F(4,152)=2.647, p=.036$ )
  - COPE positive thinking scores were HIGHER in students receiving education 4-5 times than students receiving education only once ( $F(4,152)=2.885, p=0.024$ )
  - A majority of students, 99 (62.3%) did not receive health and wellness education before they began their nurse anesthesia training program.
  - Receiving health and wellness education before beginning a nurse anesthesia training program increased the number of health and wellness components that students received overall ( $F(1,80)=0.002, p=0.004$ ).
  - 94 students (59.1%) only received education in their first year of training
  - No student responded that they received health and wellness education during all three years of a doctorate program.
  - Health and wellness education before clinical experiences began was the most prevalent response with 108 students

(80.6%).

- Adequacy of Education
  - Adequacy assessment was HIGH, either definitely or probably yes
  - Large lecture (Pearson correlation= -0.597, p=0.01)
  - Online modalities (Pearson correlation= -0.254, p=0.01)
  - High number of components taught (F(3,78)=14.221, p=.000)
  - Higher GSE scores (F(3,149)=6.099, p=.001)
  - Adequacy assessment was LOW, either definitely or probably not
  - Higher stress level (Pearson correlation= 0.238, p=0.01)

### Application to Practice

- More health and wellness education topics should be included in curriculum.
- Increased quantity demonstrated improved active coping behaviors.
- Repeated health and wellness education throughout training
- Recommended at least 2-3 times
- Purposely timed education in first six months of programs
- Focus on problem solving, less on social support
- Nurse anesthesia training programs can utilize both the Brief COPE and GSE tools for assessments of students throughout training

### Limitations

- Length of survey
- Complexity of skip logic involving modalities and timing
- Large lecture modality so heavily outweighed any other modality
- No mandatory questions within survey
- This limited our included responses related to tool validity
- Components were loosely defined

- Allowed participant to assign unknown meaning

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