

## **The Effects of Anxiety Reducing Coping Mechanisms on Nursing Students' Test Scores**

### **Introduction**

Stress and anxiety related to academia transcends between all cultures. Anxiety, worry, and feelings of self-doubt can interfere with test-taking performance and overall psychological health, and affects almost anyone who has to take any kind of exam (Centers for Disease Control and Prevention [CDC], 2020).

This is problematic when considering the fact that stress related to academia is usually experienced on top of additional stressors that may be present in other aspects of student life (financial, psychological, social). Furthermore, nursing students face not only a theory aspect of education, but also a clinical aspect, which is an additional stress factor. With this in mind, can coping mechanisms or anxiety reducing measures help improve the lives of nursing students who face these stressors?

### **Background and Literature Review**

- Deep breathing exercises are often used for stress management and relief (Price, 1990). Deep breathing encourages full oxygen exchange, which slows down the heartbeat, and lowers blood pressure (Harvard Health Publishing, 2018).
- Progressive muscle relaxation is the process of tensing a muscle group when breathing in, and relaxing them suddenly when breathing out (Michigan Medicine, 2018). This is generally done over all the muscle groups and is found to relieve tension and stress in the muscles, especially muscles in the neck and back that may ache when under stress (Michigan Medicine, 2018).
- Cognitive restructuring is defined as the process of thinking in a more positive and self-deprecating manner (Price, 1990). This includes changing negative statements to positive statements and thinking in a more optimistic way. (Price, 1990).

### **Research Question:**

#### Hypotheses

The purpose of this study is to determine whether implementing coping and stress relieving activities prior to theory exams will improve test score outcomes in nursing students. The study will also evaluate

whether or not students will find these activities to be an effective way of providing stress relief related to theory exams. The study hypothesizes that:

- Students who implement coping and stress relieving behaviors prior to exams will find improved test scores.
- Students will report feeling less anxiety and stress during exams following use of coping mechanisms and stress relief exercises.

#### Question

The question that will be answered is:

- Will implementing coping strategies and stress relieving activities prior to nursing theory exams make students feel less anxious before and during the exams?

#### **Methods**

##### Participants:

- The sample will consist of a cohort of 30 nursing students in their third semester in a six-semester central valley nursing program.
- The data retrieved from these students will be compared with two retrospective control groups and will be compared within two cohorts with the same didactic knowledge.

##### Design:

- Mixed method, survey and experimental design.
- Test scores will be measured to see if there is a difference between exam scores of both groups.
- Student perception will be assessed through free-response questions.

##### Materials:

- The tool that will be used is the Student Test Anxiety Scale developed by Nist and Diehl (1991), which is a 5-point Likert Scale questionnaire used to determine whether an individual student experiences a mild or severe case of test anxiety.

- A free response questionnaire will also be given to students to determine emerging themes of student perception of use of the coping methods.

#### Procedures:

- Coping techniques include: Positive self-affirmations, muscle relaxation, and deep breathing techniques that will cover the span of one minute. Coping techniques will be carried out using a pre-recorded voice thread that will be played prior to each exam.

#### Expected Results

- Data analysis will determine if there was an increase or decrease in test scores.
- It is expected that in comparison to the control group, students who had the intervention implemented prior to exams will display higher exam scores.
- A Nova Test will be done to analyze the pre- and post-intervention Student Test Anxiety Scale questionnaire of the experimental group.
- Students are expected to score higher on the questionnaire after the intervention is completed, indicating that their anxiety was decreased as a result of the intervention.
- Data analysis will occur by typing in the responses on Microsoft word. Emerging themes in the responses will be noted.

#### Significance

This study will utilize the information provided by various studies on coping mechanisms for test taking and anxiety in students to provide information on whether using these methods directly before exams can help nursing students perform better. Given that this study revolved around test-taking, stress, and anxiety, it can be generalizable to students in any field who take exams.

This study will be significant in future research as it will provide a basis for other programs to test and possibly implement coping mechanisms to help improve student success. Doing so may decrease student stress and improve nursing student outcomes. Further research should be done over a large population and does not need to be limited to students in nursing programs.

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