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**Christine Nyirahabimana**  
Department of Nursing, Mount  
Kenya University, Thika  
Campus - Nairobi – Kenya.

**Doctor Rosemary Okova**  
Department of Nursing, Mount  
Kenya University, Rwanda.

**Doctor Connie Mureithi**  
Department of Nursing, Mount  
Kenya University, Rwanda.

**Professor Abubakar Yaro**  
Africa Health Research  
Organization (AHRO) Center  
for Academic Research  
Scotland – United Kingdom.

**Egide Freddy Muragijimana**  
Jhpiego Kigali – Rwanda.

**Correspondence:**  
**Christine Nyirahabimana**  
Department of Nursing, Mount  
Kenya University, Thika  
Campus - Nairobi – Kenya.

## Adaptation of stress management model for nursing students studying in selected schools of nursing in Rwanda

**Christine Nyirahabimana, Doctor Rosemary Okova, Doctor Connie Mureithi, Professor Abubakar Yaro, Egide Freddy Muragijimana**

### Abstract

Stress is any type of change that causes physical, emotional, or psychological strain. Stress among students is mainly caused by balancing school schedules, preparing for and taking exams. Individual life with the requirements of school are all possible stressors in a student's life. Nursing students are not exceptional; they also have similar demands that lead to rigorous course load and clinical competency requirements. However, in Rwanda, there is no research that has been done on stress among nursing students. Therefore, the purpose of this research is to adapt a model of stress management for students studying in selected schools of nursing in Rwanda. The results of the adapted stress management model will be proposed to the Ministry of Health and the Ministry of Education for being used in developing policies related to stress management among nursing students in Rwanda. Nursing schools will likely use the model to prevent and manage stress among nursing students in Rwanda. Nursing students will be aware of causes of stress and through self-initiative will try to avoid stress by using stress management model. The study results will likely be used by other nurse researchers as a point of reference when involved in research related to stress management. The Stress Management Model for nursing students in Rwanda was successfully adapted based on the existing theory stated as "Transactional Model" of Dr Richard Lazarus and Dr Suzan Folkman and it has 4 major concepts namely stress, appraisal, coping and reinforcement. Nursing students who participated in the model testing showed a high level of enthusiasm about the model of stress management.

**Keywords:** Stress, stressors, coping mechanisms, stress management, Rwanda.

### 1. Introduction

The World Health Organization defines stress as any type of change that causes physical, emotional, or psychological strain<sup>1</sup>. As the problems of lifetime increase, the prevalence of psychological stress is growing too in general population especially among the young generations. Studies found special stressors for university students such as multiple duties, inadequate time management, variations in patterns of eating, drinking, and sleeping, as well as lack of time and sometimes means for self-care. More specifically, new students of first year may express psychological stress as they are in transitional period to the academic life and its new contacts and responsibilities. Nursing students are not exceptional; they also have similar demands that lead to rigorous course load and clinical competency requirements<sup>2</sup>. If psychological stress is not well managed, it may have serious physiological complications like lack of concentration in cognitive activities, inadequate social relationship, excessive tiredness, lack of appetite or excessive appetite, a weak immune system, insomnia and others. There are simple tips to implement for successful stress management which include balanced diet, daily walk, spending time with loved ones, relaxing activities like deep breathing, meditation, or muscle relaxation exercises, and enough sleep every night, as well as time management<sup>3</sup>. Many researchers assessed stress level among nursing students and found high and moderate levels. They also assessed the possible causes of stress and related coping measures adopted by learners. In addition, studies demonstrated that nurse students

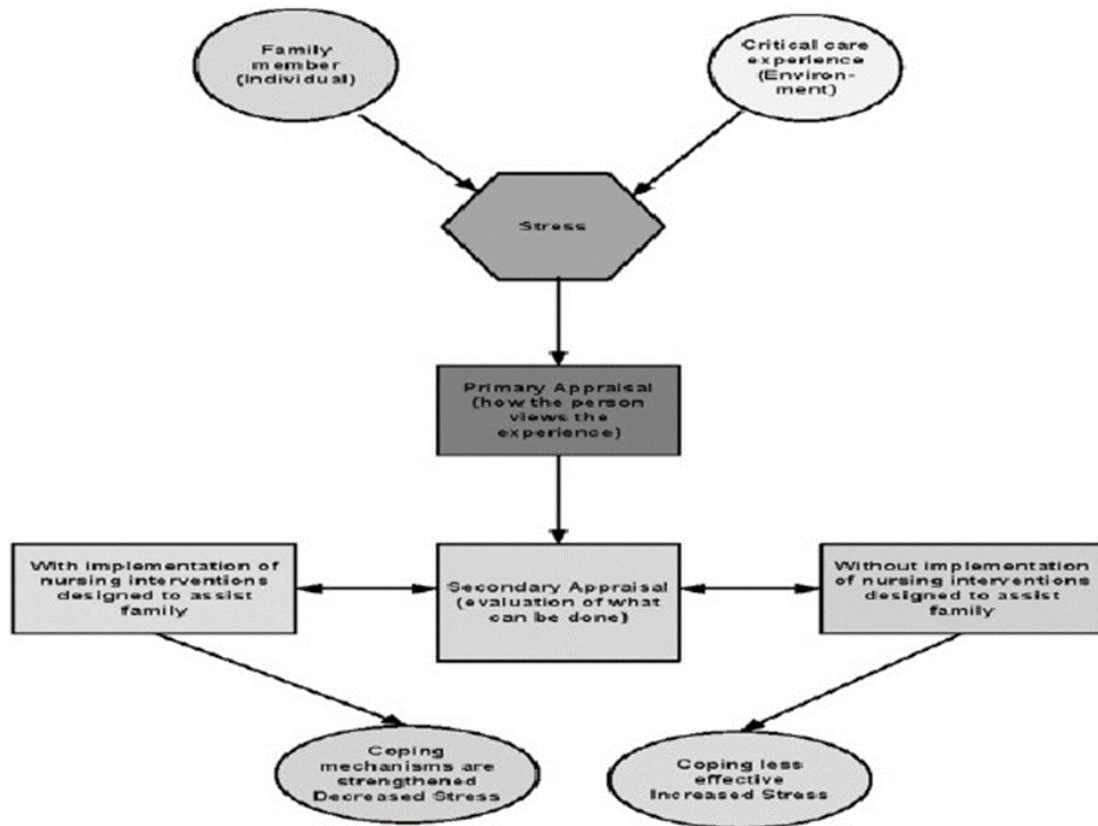
are more prone to stress compared to other students registered in other departments. These students sometimes adopt negative mechanisms unknowingly, and investigators strongly suggested initiation of program that facilitates students coping with stressors using positive coping mechanisms<sup>4-6</sup>. After critically analysing the literature, a gap has been found that no research has been done in Rwanda about stress among nursing students and there is no scientifically developed coping mechanisms nor another stress management model for nursing students in Rwanda. Thus, the reason for conducting a study on the adaptation

of stress management model for nursing students studying in schools of nursing in Rwanda

**2. Methods**

For model adaptation, the researchers used inductive theory-generating approach and followed the steps from Lazarus and Folkman’s Stress, Appraisal, and Coping theory. The steps that were followed to adapt the model are data collection, construction of conceptual meaning, structuring and contextualizing the model, validation and testing of the adapted model<sup>7</sup>.

**Fig. 1:** Original Model of Lazarus and Folkman Theory.



The adapted Stress Management Model for nursing students in Rwanda has 4 major concepts namely stress, appraisal, coping and reinforcement. The Lazarus and Folkman’s theory is appropriate in adaptation of the model of stress management for students studying in selected schools of Nursing in Rwanda, as it describes the features of effective stress management program. It clearly states that, a stress management program could only be

considered as efficient, once person’s skill to lessen stressors is well evaluated, and the related factors are considered. Thus, during structuring and contextualizing the stress management model for students studying in selected schools of Nursing in Rwanda, all the features predetermined in the Lazarus and Folkman’s theory were taken into consideration.

**Table 1:** Concepts of Stress Management Models.

Transactional Model	Stress Management Model for nursing students in Rwanda
<p><b>1. Stress:</b> Level of stress  <b>2. Appraisal:</b>                      - <b>Primary appraisal:</b> Understanding the harm caused by the stress                      - <b>Secondary appraisal:</b> identifying the resources (what can be done to cope with stress)  <b>3. Coping:</b> applying the resources (coping mechanisms) to cope with stress</p>	<p><b>1. Stress:</b> evaluating the level of stress  <b>2. Appraisal:</b>                      - <b>Primary appraisal:</b> understanding the harm/health problems caused by the stress                      - <b>Secondary appraisal:</b> Identifying the resources/coping mechanisms to cope with the stress  <b>3. Coping:</b>                      - Applying the positive mechanisms                      - Reduce/abandon the negative coping mechanisms  <b>4. Reinforce:</b> Re-evaluate the stress, repeat the positive coping mechanism (s) and make it (them) habit (maintain the behaviour).</p>

**Note:** Concepts are the same, the difference is at implementation level

The adapted model for stress management among nursing students studying in selected nursing schools was validated in the workshop by a team of experts in Nursing profession. The purpose of validation workshop was to check the accuracy, and applicability of adapted model in management of stress among nursing students and propose the recommendations to improve it. After being validated, the adapted model for stress management among nursing students was then tested among 39 nursing students. Ethical clearance was sought and granted from Mount Kenya University Institutional Review Board (Ref: PhDNS/47028/2016), and the researcher requested permission to conduct research at University of Rwanda (Ref: No 273/CMHS IRB/2022), Mount Kenya University Rwanda (MKUR), and Ruli Higher Institute of Health

(Ref.:038/RHIH/2022). During the study, respecting the rights of the participants was considered by adhering to the following principles of ethics in research: beneficence (right to be protected from any harmful interventions), non-maleficance (right to be protected from any form of exploitation), informed consent, justice, confidentiality through anonymity. The participants have been explained the purpose of the research, signed the consent form to participate in the study. The participants were assured of the anonymity of their identity and confidentiality of responses. They were free to participate or withdraw from the research at any time. In addition, the researcher took into consideration the scientific integrity by acknowledging the sources for the data used.

### 3. Results

Fig. 2: Adapted Stress Management Model for nursing students in Rwanda.

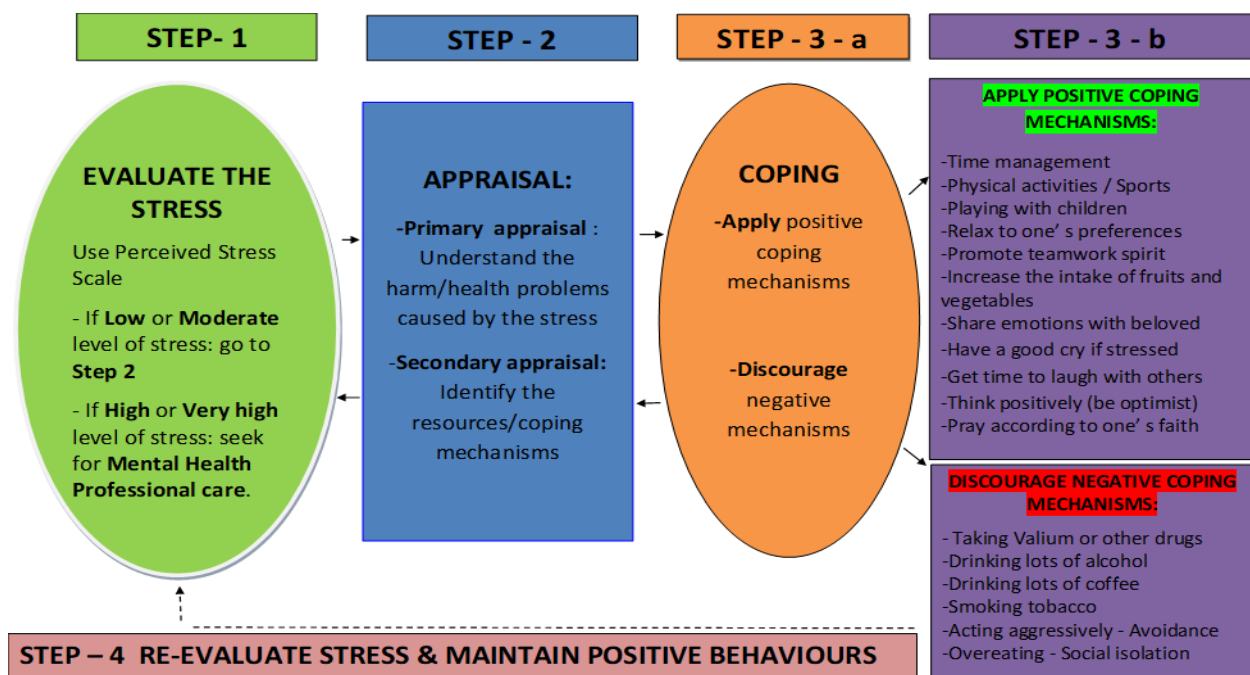


Table 2: Implementation plan for testing the Model of Stress Management among nursing students in Rwanda.

Time	Activities performed
Day 1	- Explanation of how to use the stress management model Step 1. Evaluation of stress level (using the Perceived Stress Scale. See Annex 1 )
Till Day 7 (1 week)	Step 2. Appraisal - Primary Appraisal: identifying the harm / health problems caused by the stress - Secondary appraisal: identifying the resources / what can be done to cope with the stress
Till Day 28 (3 weeks)	Step 3. Coping - Applying the positive coping mechanisms to cope with stress - Discourage the negative coping mechanisms
Day 30	Step 4. - Re-evaluate the stress level - Reinforce the positive coping mechanism (s)

Nursing students who participated in the model testing showed a high level of enthusiasm about the model of stress management. The appreciation of nursing students who participated in present study is summarized in the following quotations. “Nursing students in Rwanda... we are very lucky to have our seniors who think about us and who keep our nursing profession in their heart. The available stress management is very simple to understand, and very easy to use in our day-to-day life”. Another nursing student who participated in the present

study said: “Having participated in this study is very important for me: I learned so many things from this model: I know the positive measures to reinforce and negative one to discourage. The model has changed my practice in general, and absolutely, I will share the gained knowledge and skills with my friends and my family members. Finally, as nursing student, my future clients will benefit from services of good quality provided by a professional who know to manage stress effectively”

**4. Discussion**

Stress is the physiological reaction of the body to the internal or external pressure leading to the imbalance of psychological status, and it is an event considered inevitable in the life of all normal human beings<sup>9</sup>. For effectively managing stress, several researchers and specialists have suggested to cultivate different mechanisms such as time management, physical activities / sports, playing with children, relax to one’s preferences, promote teamwork spirit, increase the intake of fruits and vegetables, share emotions with beloved, have a good cry if stressed, get time to laugh with others, think positively (be optimist), and pray according to one’s faith<sup>10</sup>. In other hands, always for effective stress management, researchers and specialists have advised to discourage some habits like taking valium or other drugs, drinking lots of alcohol, drinking lots of coffee, smoking tobacco, acting aggressively, avoidance, overeating, and social isolation<sup>11-13</sup>.

Stress is an inevitable event commonly associated with college life. It usually occurs from numerous factors such as academic, physical, physiological, psychological, social, and environmental aspects. In different occasions, researchers found that students use positive and negative measures to fight against stress<sup>14</sup>. More specifically for nursing students, the personal program to manage stress, will contribute towards holistic well-being of themselves and may also support them in the future professional life in helping clients who present problems resulting from stress and depression<sup>6</sup>.

The objective of the present study was to adapt a model of stress management for nursing students studying in selected nursing schools in Rwanda. The model was adapted based on the existing theory stated as” Transactional Model” of Doctor Richard Lazarus and Doctor Suzan Folkman (1984) and the adapted model has 4 major concepts or steps, namely stress, appraisal, coping and reinforcement. The adapted model for stress management among nursing students studying in selected nursing schools was validated by a team of experts in nursing profession and then tested among 39 nursing students of UR- Huye Campus. Nursing students who participated in the model testing showed a high level of enthusiasm about the model of stress management. The appreciation of nursing students who participated in present study is summarized in the following quotation. *“Having participated in this study is very important for me: I learned so many things from this model: I know the positive measures to reinforce and negative one to discourage. The model has changed my practice in general, and absolutely, I will share the gained knowledge and skills with my friends and my family members. Finally, as nursing student, my future clients will benefit from services of good quality provided by a*

*professional who know to manage stress effectively”.*

In relation to the context of our study, other research works were done and found the effectiveness of stress management program among students. Studies were done to understand the causes of stress affecting nursing students and their coping measures. Both studies concluded that the results would enable nursing schools to use evidence-based interventions and supportive programs to minimize the burden of stress among nursing students<sup>15</sup>. Several research findings related to health professional education revealed that nursing and medical students are the most affected by stress. In this regard, a study was done and investigated the effectiveness of brief programs designed to decrease stress by means of mindfulness-based or guided meditation methods. They concluded that brief, individually focused, mindfulness-based programs were effective in decreasing levels of stress in medical and nursing students<sup>16</sup>. In the same context, Rudman and Gustavsson conducted a study on the Self-Care Skills to Prevent Burnout in an Undergraduate Nursing Course. They concluded that the Mindfulness education program was effective in reducing the stress level and increased self-care in nursing students who implemented the program<sup>17</sup>. Another project implemented a stress reducing workshop and an instructional deep breathing compact disk (CD) to determine the effects of this intervention upon the stress levels of nursing students. The results demonstrated that students’ stress levels were decreased after the stress reducing interventions<sup>18</sup>. Nursing students in Rwanda and beyond are advised to use the available model to cope effectively with the daily life stressors and thus improve their overall health and academic performance.

**5. Conclusion**

The stress management model for nursing students in Rwanda was successfully adapted, validated, and it has 4 concepts namely stress, appraisal, coping and reinforcement. It emphasizes on the reinforcement of positive coping mechanisms and discourages the negative ones for promoting the capability of human body to cope effectively with the daily life stressors and thus improve the academic and overall health of nursing students in Rwanda and beyond. The appreciation of nursing students who participated in present study was summarized in their quotations. This study will benefit many people since it will be a tool showing how to manage stress among students at nursing schools of Rwanda.

**6. Acknowledgement**

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**Annex 1:**

**EVALUATION OF STRESS LEVEL**

*Instruction: Encircle the options matching with you:*

<b>How frequently do you:</b>	<b>Rarely:</b> Almost never	<b>Sometimes:</b> Once or twice each week	<b>Often:</b> Four or more times each week
Experience headaches?	1	3	5
Find it not easy to focus on work due to closing date or other responsibilities?	1	3	5
Eat, drink, or smoke for reducing anxiety or pressure?	1	3	5

Worry about your responsibilities at night and/or on weekends?	1	3	5
Lose sleep in the night thinking about things to do the next day?	1	3	5
Become disturbed due to things that have not been done correctly?	1	3	5
Tend to get irritable?	1	3	5
Lose sleep in the night and have difficulties in getting back to sleep?	1	3	5
Interrupt people while they are talking?	1	3	5
Forget about appointments or forget where you have placed some objects?	1	3	5
Get diarrhoea or constipation?	1	3	5
Feel very tired?	1	3	5
Get appetite changes?	1	3	5
Feel anxious?	1	3	5
Feel disorganized?	1	3	5
<b>Totals</b>	= ...	= ...	= ...
<b>Grand total</b>		= ....	

**Related instructions:**

1. Add the numbers from 15 items you circled.
2. Enter your score here: \_\_\_\_\_
3. Evaluate your score according to the following criteria:

**Potential level of stress**

- **Low** :34 or lower
- **Moderate** :35-42
- **High** :43-50
- **Very high** :51 or higher

**Source:** (McGraw-Hill Higher Education, 2011).

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