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The Effectiveness of Mixed Personality Trait Analysis with Multiple Stress Education Model in Coping with Stress Among International Students in American

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**The Effectiveness of Mixed Personality Trait Analysis with Multiple Stress Education
Model in Coping with Stress Among International Students in American**

By

Xiaoyang Mei, MSN, RN

A Scholarly Project Presented in Partial Fulfillment
of the Requirements for the Degree of Doctor of Nursing Practice

Date of Graduation

December 16, 2021

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Chapter 1 - Statement of the Problem

Background and Significance

The current international student population enrolled in higher education institutions in the United States (U.S.) was at its highest peak (Ra et al., 2017), topping more than one million (1,095,299) in the 2018-2019 academic year. However, the current Covid-19 pandemic beginning in 2020 resulted in travel restrictions for international students, thereby causing fluctuations, most likely temporary, in the current international student population. The following statistics, of course, are pre-pandemic. International students make up 5.5% of the entire U.S. higher education population (Institute of International Education, 2019). The international student population consists of Asian students (70%), including those from China, Korea, Japan, and India, followed by European students (8.3%), Middle Eastern students (7%), Latin American students (7%), about 7.4% each, African students (3.7%), and Oceania students make up only 0.6% of the international enrollment (Institute of International Education, 2019).

The U.S. has benefited from the enrollment of international students in terms of economics, cultural enrichment, and international relations. International students contributed \$44.7 billion to the economy in 2018 (Institute of International Education, 2019). These students bring an expanded worldview, cultural enrichment and diversity to both the campus and the larger community. Upon graduation, they can develop greater international cooperation opportunities between their home countries and the U.S. (Sandhu & Asrabadi, 1994).

However, international students may encounter numerous problems upon arrival in the U.S. as compared to their U.S. counterparts (Ye, et al., 2018). Enrolling in a foreign university can be extremely stressful. Besides the regular developmental transition from adolescence to adulthood experienced by all traditional-age college students, international students encounter

additional unique stressors, such as cultural adjustments, homesickness, financial difficulties, language barriers, academic demands, loss of social support, and intrapersonal problems (Trindade et al., 2019; Mori, 2000). These challenges trigger feelings of insecurity, anxiety, depression, and grief (Wu et al., 2015). Stressful life events can impact international students' mental health and academic performance (Very well mind, 2020), resulting in poorer mental and physical health outcomes than domestic students (Wu et al., 2015).

Because of greater cultural differences, Asian students were found to have experienced a higher level of acculturative stress than their European counterparts (Kim, 2011). Nearly 74% of Chinese international students have been found to meet the criteria for the diagnosis of a mental disorder (Han et al., 2013).

Chronic stress can significantly affect brain structures and lead to cognitive distortions which may cause higher levels of depression. Frequency of daily hassles can also trigger negative internal attributions, leading to a sense of hopelessness and depression (Bergland, 2014; McEwen et al., 2015; Lee et al., 2019). Stress has been linked to anxiety, depression and suicidality among Chinese and Latin international students (Wei et al., 2007; Mayorga et al., 2018).

Cultural differences should be considered for different responses to stress. Seeking mental health help and disclosing emotional problems face-to-face is inconsistent with their cultural values, especially within the Asian culture. When facing a mental health-related issue, the individual's initial action is to seek help from an intimate partner, parent, or close friend. (Lian et al., 2020)

Nevertheless, the fact remains that international students encounter multiple stressors and face high rates of mental disorders, but few seek help from professional counseling services.

(Zhang et al, 2016). Incredibly, 27% of students are not aware of the availability of counseling services on campus. (Han et al., 2013).

Therefore, it is critically important to understand the stress and coping issues among international students. Through such understanding, the related negative factors and subsequent stress could be mitigated, thereby helping to ensure more positive outcomes for international students studying at American colleges and universities.

Problem Statement or Purpose

According to the Annual Stress in America Survey, most people have inadequate coping abilities. They need help to find effective ways to coping with stress in their lives (American Psychological Association, 2020). Yet the stress of international students enrolled in U.S. universities has been largely ignored. Little is known about their stress experiences and difficulties with psychosocial adjustment (Mori, 2000). Moreover, university counseling services do not realize that international students from India, China, and the Middle East rarely seek help from the counseling center (Russell et al., 2008). This low level of help-seeking behavior coupled with the lack of coping abilities should drive higher education to address the unique and generally overlooked mental health needs of international students.

The prevention of developing a psychological disorder is of critical importance. Helping international students to identify the stress level and to learn effective ways of managing their stress is a prerequisite intervention. Practical coping skills help minimize negative outcomes. (Kim, et al., 2020). Students with moderate adjustment difficulties may benefit from short-term psychoeducational interventions, whereas students who follow a consistently distressed pattern may benefit more from longer-term individualized counseling. (Hirai et al., 2015).

My research explores the use of psychoeducational intervention in reducing stress and increasing coping among international students at Southern Adventist University. The Multiple Education Stress Model is an evidence-based practice intervention approach for stress, anxiety or depression (American Psychological Association, 2020; Davis & Kiang, 2018; Duru and Poyrazli.,2007; Hirai et al., 2015; Lian et al., 2020). The Multiple Education Stress Model used for my scholarly project combines five modules: recognition of stress, relaxation training, cognitive skills development, affect skills, and behavioral skills in an attempt to help international students overcome stressors. The Multiple Education Stress Model consists of five weeks, fifty-minute educational sessions, followed by a thirty-minute discussion group. Additionally, my project includes the use of personality trait analysis, as this has been found to play a critical part in matching an individual's personality to a particular intervention for maximum response (Bagby et al., 2008). Is the effectiveness of multiple education stress models mixed with individual personality trait analysis helping to reduce stress among international students?

Therefore, this exploratory project seeks to answer the question:

“How effective is the Multiple Education Stress Model combined with individual personality trait analysis in reducing stress and improving coping skills among international students?”

To answer the above question, the following clinical sub-questions are presented.

- What is the stress level among international students at Southern Adventist University?
- Is there a correlation between personality traits, stress and coping among them?
- Does the intervention of Multiple Education Stress Model combined with personality traits analysis reduce stress and improve stress coping among

international students?

Concepts and Definitions of Terms

Personality trait.

Personality traits reflect an individual's characteristic patterns of thoughts, feelings, and behaviors. (Diener et al., 2020). Allport defines personality traits as follows: "Personality was the dynamic organization of the individual of those psychophysical systems that decide his characteristic behavior and thought." (Allport, 1961, p. 28). Personality traits as, "The characteristics which make a person unique." (Weinberg & Gould, 1999). These definitions focus on the uniqueness of the psychological aspects of the individuals. Personality traits can be categorized as Neuroticism, Openness, Extroversion, Agreeableness, and Conscientiousness. High levels of extroversion traits could be described as talkativeness and energy. Personality traits of extroversion show higher levels of using emotion-focused coping skills. People with high levels of conscientiousness may be considered as being efficient and organized, and more likely to use active coping skills (Carver et al., 2010; McCrae et al., 1992). The individual who has higher levels of neuroticism traits could be described as anxious and worrisome. An increase in neuroticism personality traits may increase the use of avoidant coping skills (Carver et al., 2010; McCrae et al., 1992). Different personality traits display various coping skills when in stressful situations (McCrae & John, 1992).

Stress.

Stress is a biological reaction to a potentially dangerous situation. Baum (1990) defined it as a negative emotional experience accompanied by biochemical, physiological, and behavioral changes directed toward adaptation either by manipulating the situation to alter the stressor or by accommodating its effects. (Baum, 1990). Stress is a complex process that includes an input and

an output. When an individual encounters a consistent stressor, the brain guides the body to release an abundance of hormones, such as adrenaline and cortisol. Also, this input causes the person's subjective reaction to the situation as the output. (Lazarus, 1999; Healthline,2019).

Coping.

Stress coping is defined as “constantly changing cognition and behavior in order to manage particular external and internal demands that are identified as taxing or exceeding the resources of a person.” (Lazarus & Folkman S.,1984 p141). Stress coping is described as the process of cognitive and behavioral attempts to reduce stress effectively (Delahaill et al.,2011). It consists of emotion-focused coping and problem-focused coping. Emotional-focus coping regulates emotions to deal with stress or psychological discomfort, while problem-focused coping involves moderating the environment or situation to minimize stressors (Delahaii et al., 2011).

Theoretical Framework

The theoretical basis for my scholarly project is guided by the theory of stress, coping, and adaptation (Lazarus & Folkman, 1984). It is also guided by personality theory, and the Southern Adventist University Framework of Caring, Connecting, and Empowering. The theory of stress, coping, and adaptation shows how individuals deal with a stressful environment and personal appraisals. (McEwen & Wills, 2014). The central core concept of Lazarus's theory is the person-environment relationship. The environmental stimuli/stressors are filtered through an individual's perception of the stressor and environment. Then, the stressed person conducts a primary appraisal to interpret the stressors, followed by a secondary appraisal that analyze available resources. International students encounter various stressors such as- cultural adjustments, homesickness, financial difficulties, language barriers, academic demands, lack of

social support, raced-related issues, and intrapersonal problems. These stressors may then result in intermittent or chronic stress. The experience is appraised, and the effective coping may or may not occur. A review of extant literature reveal that international students encounter multiple stressors, with minimal understanding of their stress experiences or stress coping skill. Consequently, their likelihood of experiencing emotional problems is very high (Mori, 2000; Zheng & West Olatunji., 2016; Han et al., 2013).

As mentioned above, the five primary personality types known as the Basic Five are Neuroticism, Openness, Agreeableness, Conscientiousness, and Extraversion. The knowledge and understanding of an individual's personality traits help predict his/her coping, because different personality traits display various coping skills when in stressful situations (McCrae & John, 1992). Thus, knowing the individual personality type and its typical coping skills provides understanding of an appropriate coping intervention, which effectively enhances the outcome (Christiansen & Tett., 2008).

In the current study, the Lazarus' model provided a theoretical basis for understanding the interplay of stress, coping, and adaptation of international students at Southern Adventist University. Additionally, personality theory undergirded the relationship between the individual's personality and coping style. then finally, the SAU framework of Caring, Connecting, and Empowering provided the solid base for using the Multiple Education Stress Model as the intervening tool to assist the international students with more effective coping and management of stress.

Figure 1 shows the interplay of the factors involved in this research. On the right side of Figure 1 is a depiction of personality trait theory, which includes the traits of the students which will be identified. Supporting that student's personality is the Southern Adventist University

framework of Caring, Connecting, and Empowering. The right side of Figure 1 depicts the process by which the individual deals with stressors. From the framework of Caring, Connecting and Empowering, the researcher intervenes with the Multiple Stress Education Model to help the student manage stress and enhance coping, as symbolized by the arrow. The focus of this research is to explore the effects of intervention of the Multiple Education Stress Model international student at Southern Adventist University.

The beauty of this framework is the way in which it allows the researcher to support the participant's personality traits through Caring for and Connecting with him/her while increasing awareness of the strengths and weaknesses of his/her personality traits. Then through additional help from the Multiple Stress Education Model, the Caring and Connecting continued as well as the Empowering the participant to learn about stress and to improve coping through the development of coping skills. As the participant is thus helped through the process, he/she continues the cycle by becoming more able to Care, Connect, and Empower others.

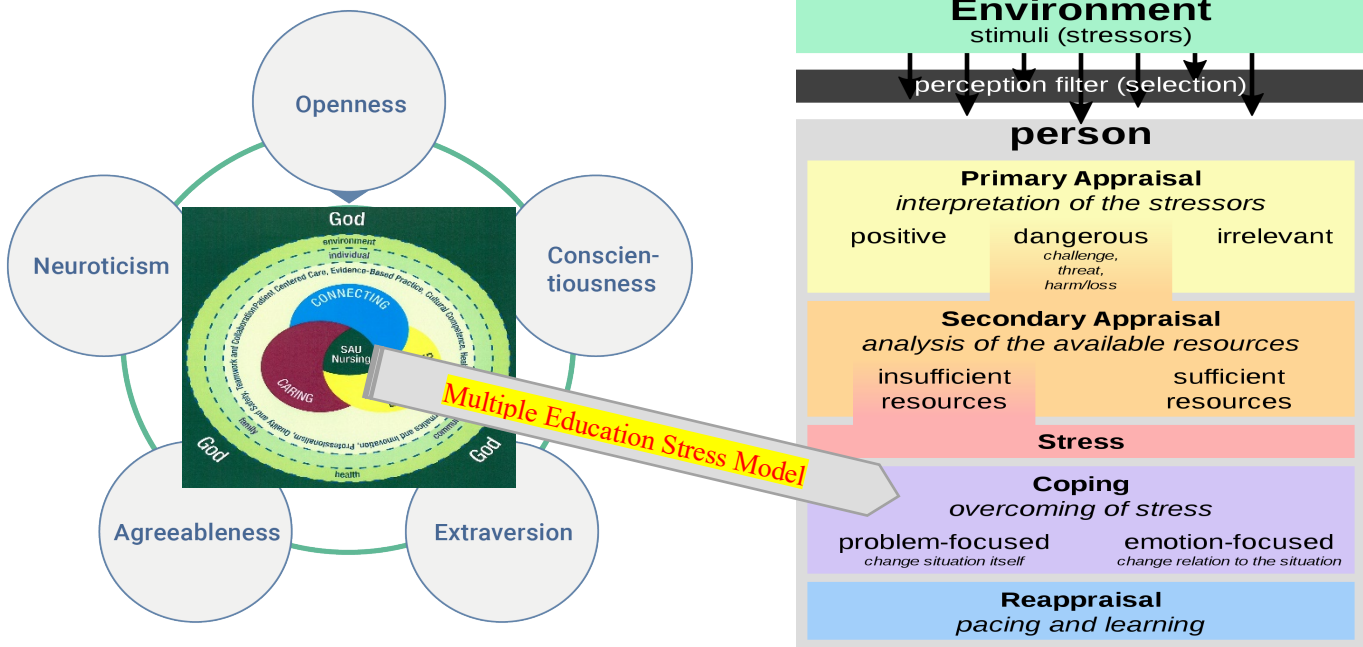


Figure 1. Combination Lazarus, Personality, and Adventist Theoretical Frameworks for DNP Project.

Chapter 2 – Literature Review

Introduction

The purpose of this current study is to explore the experience of international students studying on a college campus in the United States. For the typical college student born and raised in the U.S., transitioning to higher education can be stressful, but for the international student, it is even more so. International students are vulnerable to higher stress because of a number of factors, including low agency in an interpersonal relationship, lower social support, lower levels of English language competency, lower levels of social connectedness, higher levels of neuroticism, maladaptive perfectionism, and racial discrimination.

To explore the stress experienced and to ascertain the effectiveness of an intervention model for stress reduction and increased coping, this research project has three aims.

1. To describe the levels of stress among international students at Southern Adventist University (SAU).
2. To explore the correlation between personality trait, stress and coping among these students.
3. To examine the effectiveness of an evidence-based intervention of Multiple Education Stress Model combined with personality trait analysis in reducing stress and improving coping skills, and moreover, to examine which of the personality traits enhances the effectiveness of stress management. It is believed that knowing their personality traits and experiencing the intervention will increase international students' ability to cope with stress.

The databases used for this project were Google Scholar, PubMed, Nursing Ovid, PsycARTICLES, Academic Search Premier, MESH, Medline (Medical Literature Analysis and

Retrieval System Online), and CINAHL (The Cumulative Index to Nursing and Allied Health). The article publication dates ranged from 2010 to 2020. Keywords searched included *stress*, *coping*, *personality*, and *International students*. A total of 180 relevant articles, from journals in English were obtained from the search.

Predictors of Stress.

The following aspects cause international students to be vulnerable to higher stress, including low agency in an interpersonal relationship, lower social support, lower levels of English language competency, lower levels of social connectedness, a higher level of neuroticism, maladaptive perfectionism and racial discrimination.

Interpersonal Relationship and Stress.

An individual's low agency in interpersonal relationships was one factor of acculturative stress Gabriel et al. (2018). This study pointed out that the interpersonal styles of Chinese international students are associated with their acculturative stress. The interpersonal problems are a set of personality characteristics that seem like deficits in an individual's social competencies and impacted social support. The results of this study indicate that the more interpersonal problems, the higher the acculturative stress they encountered. The researcher suggests that international students need assistance in increasing awareness and understanding of their interpersonal styles and in building more effective interpersonal and social skills.(Gabriel et al., 2018).

Social Support and Stress.

Lee et al. (2020) conducted a study on social support and stress adjustment among Latina college students. The researchers aimed to explore social support from friends, romantic partners, and family as moderators in the association with perceived stress. A cross-sectional

survey design was used with a sample of 163 Latina college students. They were administered a survey which included demographic questions, Perceived Stress Scale, Loneliness Scale, Depression symptoms(CES-D). The study found that lower friends and romantic partner supports were positively associated with perceived stress. The results highlight how social support enhanced Latina college students' coping with stress and helped them mitigate challenges during college. The researcher suggested providing critical information to facilitate understanding the relational processes.(Lee et al., 2020)

English Language Competency, Psychosocial-demographic Variables, and Stress.

For most international students, English is not their mother language, but was learned in a traditional classroom setting. In the non-English speaking environment, high scores on language tests do not necessarily mean their ability to use the language competently (Sovic, 2008). Acquiring foreign language proficiency is difficult, and language barriers could be the most salient difficulty for international students. Duru and Poyrazli (2007) conducted a study on the relationship between personality dimensions, psychosocial, English language competency, and acculturative stress among Turkish international students. A total of 229 students from 17 universities participated in this study. The researcher used a four-point Likert scale, Homesickness Scale, Social Connectedness Scale, and Acculturative Stress Scale to measure the level of students' English language competency, adjustment difficulties, social connectedness, and acculturative stress. The results show that lower levels of English language competency, lower levels of social connectedness, lower levels of openness, higher levels of adjustment difficulties, and higher neuroticism predict higher acculturative stress. The researcher also suggested that increasing opportunities for an international student to interact with others may help them cope with stress. (Duru & Poyrazli, 2007).

Financial Difficulties and Stress.

Some research has identified financial difficulties as one of the majority stressors for international students. (Araiza & Kutugata, 2013; Mori, 2000). Financial issues such as daily expenses and cost of tuition were considered strong stressors for international students' adjusting to a new environment (Araiza & Kutugata, 2013). Tuition fees of U.S. university are expensive, and the living expenses keep increasing. The concerns of financial difficulties are common among international students. Research has shown that 49% of Asian international students reported they face heavy financial burdens and bear the stress associated with constant financial issue (Butcher & McGrath, 2004).

Personality and Stress.

Not surprisingly, personality traits have a significant relationship to adjustment stress (Duru & Poyrazli, 2007). It is easy to understand that high levels of emotional stability tends to bring positive coping effectiveness. A study conducted by Duru and Poyrazli (2007) indicated that neuroticism was associated with acculturative stress. They found that Turkish international students who have less personality traits of neuroticism and higher openness might experience less acculturative stress. Hirai's research also indicate that neuroticism personality trait was the most consistent predictor for stress adjustment, showing a negatively correlated relationship, i.e., high neuroticism and low stress adjustment (Hirai et al., 2015). The researcher suggested identifying personality traits and offering coping skills to help international students successfully deal with stress. (Duru & Poyrazli, 2007).

Perfectionism and Stress.

Perfectionism can be described as holding oneself to high standards or excessively self-critical performance. (Rice et al., 2015). The maladaptive perfectionists create their stress, put

themselves in high-stress situations, and evaluate their performance negatively. (Hewitt & Flett, 2002). Rice and his colleagues explored perfectionism as an associative factor of stress and moderating stress enhancement. The study tested 432 freshmen college students, and perfectionism scales and perceived academic stress scale as a measurement for baseline and then separately repeated the tests three times in the fall semester and the spring semester. The findings suggest that maladaptive perfectionists were likely to experience high stress, and women were more likely to develop maladaptive perfectionism. This recommends that prevention and intervention with perfectionistic students should be implemented early during the college period (Rice et al., 2015).

Racism and Stress.

Race-related stress is a critical issue for international students. A study showed that Asian American students experienced a high level of race-related stress. They reported high exposure to discrimination during the studying period, which increased stress in their lives. (Hwang & Chan, 2019). Another study conducted by Wei et al. (2012) found that perceived discrimination predicted trauma, which was over and above, general stress. (Wei et al., 2012). Racism discrimination, no matter real or perceived, can have a profound impact on an individual's physical and mental health (Meyer, 2003).

The Effects of Stress.

Long term stress may affect an individual's physical and psychosocial health, even though the person may not realize it. It contributes to many physical symptoms, including high blood pressure, chest pain, muscle tension, headache, heart disease, sleep problems, stomach upset, and change in sex drive. Indeed, stress may affect an individual's thoughts, feelings, and behavior, including restlessness, lack of motivation or focus, anxiety, sadness, and depression.

Stress may be associated with behavior change, such as overeating or under-eating, tobacco use, drug or alcohol misuse, and social withdrawal. (Mayo Clinic, 2019)

Stress and Depression.

Acculturative stress is one of the vulnerability factors related to depression. A study conducted by Wei et al. (2007) found that the Chinese international students who experience chronic acculturative stress were vulnerable to depression. The research suggested that it is vital to focus on their understanding of the association between anxiety and depression and determine the factors that decrease this connection's strength. (Wei et al., 2007). Other research corroborate with findings that acculturation stress is a potential risk factor leading to anxiety, depression, and suicidality. (Mayorga et al., 2018).

Positive stress.

Most of the studies involving stress focused on the undesirability and harmful effects on human beings. However, the stressors of challenge stress, such as difficulty in classwork results in high expectations which can be viewed as goal-relevant stress. In contrast, hindrance stress such as ambiguous expectations and favoritism were found to hamper performance and increase maladaptive behaviors. One study assessed 853 college students in terms of challenge stress, hindrance stress, academic self-efficacy (ASE), grade point average (GPA), number of hours withdrawn, and transferred intentions. The research outcome indicated that challenge stress which was goal-relevant and controllable increased students' motivation, performance, and well-being, while the uncontrollable and helplessness hindrance stress needed intervention. The researchers suggested that future studies should consider individual differences in appraisals (Self-efficacy et al., 2020).

Adjustment and Stress.

Resilience and Adjustment of Stress.

When coming to the U.S to study, many international students are faced with difficulty with language, cultural values, academic preparation, study habits, social isolation, and the “uprooting disorder.” Adapting to these new environments may be extremely stressful for them (Lian et al., 2020; Misra et al., 2003). International students reported more adjustment problems as compared with American students (Hirai et al., 2015; Hechanova-Alampay et al., 2002). The findings show that resilience impacted adjustment by buffering the adverse effects of the stressors, and international students who had a high level of resilience were most well-adjusted (Flinchbaugh et al., 2015; Hirai et al., 2015).

Personal Growth Initiative and Adjustment of Stress.

A study by Yakunina et al. (2013) stated, “personal growth initiative seemed to buffer the effect of acculturative stress on adjustment for international students.” A cross-sectional survey was used with a sample of 386 international students 18 and 43 years of age. Study participants completed an email questionnaire consisting of personal growth initiative, acculturative stress, and psychological adjustment questions. The researcher found a significant interaction between the personal growth initiative and acculturative stress (Yakunina, et al.,2013). Personal growth initiative consisted of a multifaceted conceptualization, including planfulness (the ability to plan the process of growth), readiness for change (the preparedness for making specific changes in oneself), intentional behavior (the conscious pursuit of personal development), and using resources (the ability to utilize outside help). Planfulness and readiness for change belonged to cognitive, intentional behavior and using resources represented behavioral components (Robitschek et al., 2012). The students who scored high on using resources seem to develop optimum adjustment better. A higher level of general mental health help-seeking intentions was

associated with a higher level of managing self-efficacy and a lower level of stigma (Lian et al., 2020). This study suggests that international students seek resources and establish a cross-cultural friendship, to help in their adjustment processes, and to expand their knowledge and skill for coping with stress (Yakunina et al., 2013).

Ways of Reducing Stress/ Increase Coping among International Students

CBT, Coping Skills, Social Support, and Stress.

International students often face acculturative stress; appropriate intervention is needed. Miryam et al. (2019) conducted a meta-analytic evaluation of stress intervention. The results indicated that cognitive-behavioral therapy (CBT), coping skills, and social support intervention were effective for managing stress. Relaxation training, mindfulness-based stress reduction, and psycho-education showed a significant decrease in perceived stress and anxiety (Yusufov et al., 2019).

Assertiveness Training and Stress.

An intervention of assertiveness training and expressive writing was conducted by Tavakoli et al. (2009), with 118 student participants. Students were randomly divided into two groups at the beginning of the semester. The experimental group participated in two 90-minute small group sessions with 3-5 students each. Three graduate students implemented stress education or clinical counseling for them. Students assigned to the control group were asked to write in private at home for three 20-minute sessions. The scales assessment was conducted at the beginning as a baseline and again at the end of the semester. The outcomes indicated that the group assertiveness training (implementation of stress education or clinical counseling) led to lower negative affect and improved emotional adjustment, whereas, expressive writing led to adverse effects, which increased fear and caused greater homesickness (Tavakoli et al., 2009)

Coaching and Stress.

Coaching was reported to be a solution-counseling process which aimed for development of an individual's learning and enhanced well-being. Ebner et al. (2018) conducted a study on coaching as a stress-management intervention with a sample of 509 university students. The treatment group received coaching as an intervention. The control group did not receive coaching intervention. The coaching process included four sessions. The coaches used skills to help student in analysis of problems and factors in pursuing performance goals. Self-management, self-efficacy, and coping were used to measure outcome effectiveness. The results showed that those who received coaching intervention were significantly advanced in self-management skills, in self-efficacy beliefs and in stress coping, suggesting that coaching is effective in reducing personal stress (Ebner et al., 2018).

Compassion and Stress.

Race-related stress may negatively affect mental health (Hwang & Chan, 2019). A study conducted by Hwang and Chan (2019) focused on a compassion meditation program to help students heal from race-related stress. A total of 28 Asian students participated in this study. Ten students participated in an eight-week peer-led compassion meditation program. The content of this program included psycho-education, activities to develop compassion, coping skills, and cognitive and reframing training. The Brief Symptom Inventory, Beck Depression Inventory, Self-Compassion Scale, PTSD Checklist for DSM-5, and General Ethnic Discrimination Scale were used for measuring the pre-post outcomes. The results of this study provided evidence for the compassion meditation program, which could be a cost-effective method for helping students of color heal from race-related stress. (Hwang & Chan, 2019)

Ways of Reducing Stress and Increasing Coping among Other Population.

Religious Coping and Stress.

Davis and Kiang (2018) conducted a study aimed to help parents of autistic children. Raising an autistic child can be a critical stressor, which may lead to negative affect and depression symptoms. This study focused on helping the parents understand stress, coping strategies, and effective support. Forty-seven mothers attended and completed measures of parental stress, psychological well-being, positive religious coping, spirituality, and social support. Positive religious coping was found to moderate parental stress and well-being, suggesting that religion and spirituality could be a key resource for parents seeking help to manage the stress associated with having an autistic child. The researcher suggested further study on the role of religiosity as a source of resilience among parents raising autistic children (Davis & Kiang, 2018).

Exercise and Stress.

Regular physical exercise was found to be a protective effect for dysfunctional stress reactivity (Huang et al., 2013), as it elicits positive emotions which may lead to better decision making by a clearer mind. A clear mind fosters problem-focused management of negative emotions such as blaming, denying, avoiding, and anger outbursts (Kleiber, et al., 2002; Wenzel., et al., 2002). Authors Mücke et al. (2020) conducted cardiorespiratory fitness intervention for reducing adolescent' stress among 43 healthy male adolescents. The incremental bicycle ergometer test PWC 170 was used in this study, while salivary cortisol, alpha-amylase concentration, and self-rated anxiety were measured for the effectiveness of exercise. Participants were required to pedal at 70-80 revolutions per minute; every two minutes the resistance was increased until the participants' heart rate reached 170. The maximum power

output was measured by cardiorespiratory fitness. This research indicated that higher fitness was associated with lower stress reactivity, especially for the autonomous nervous system. The author suggested that cardiorespiratory fitness should be considered as a critical factor in preventing the negative effect of stress on adolescents (Mücke et al., 2020).

Mindfulness Training and Stress.

Mindfulness training showed a significant decrease in perceived stress and anxiety in a study by Yusufov et al. (2019). Receiving mindfulness training induces stress reduction in the right amygdala and ventromedial prefrontal cortex (Bauer et al., 2019). A randomized trial with 40 middle-school children was conducted in which the intervention group received mindfulness training for eight weeks. This outcome showed that mindfulness training was associated with brain plasticity, revealing MRI findings of greater righter amygdala activation response consistent with self-perceived stress. Hence, mindfulness training may help children reduce negative stimuli and stress and promote functional brain changes (Bauer et al., 2019).

Another study conducted by Chin et al. (2019) demonstrated that mindfulness intervention reduces stress and that those benefiting from it may be helped by acceptance skills training. The authors suggest that acceptance skills training should be a significant ingredient for supporting stress reduction interventions. (Chin et al., 2019).

Integrating Wearables and stress.

Stress is unavoidable in modern work, which could be linked to physical health, mental disorder, and lower productivity. Many companies attempt to implement workplace stress management to improve productivity and reduce health expenses for their employees. (Smith et al., 2019), studied a total of 169 employees from a technology corporation who were randomly assigned to wearable-based treatment while the others were assigned to a waitlist control group.

The wearable based treatment consisted of in-app mindfulness-based breathing session and a spire stone device to monitor significant and sustained changes in respiratory patterns. The app provided auditory guided breathing sessions, which helped participants recognize the link between cognitive-emotional states and respiration, thereby training them in breathing practices to control the autonomic nervous system and to manage maladaptive stress. Participants participated in four weeks of weekly intervention of 40 minutes each. The Perceived Stress Scale, the Mood and Anxiety Symptoms Questionnaire and the Positive and Negative Affect Schedule were the measurements used. The treatment group reported that they experienced 15.8% fewer negative stress, showing promise for mindfulness training in reducing stress in the workplace. (Smith et al., 2019)

The Relationship Between Stress, Personality Character and Depression.

Lee et al. (2019) conducted a research and found perceived stress as a mediating factor regulating the relationship between character strengths and depression among 235 Turkish college students. They completed questionnaires including the Character Strengths-semantic Differential Scale, Perceived Stress Scale and the Patient Health Questionnaire-9 (PHQ). The study results showed that stress leads to cognitive distortion, triggers negative internal thoughts, and contributes to depression. Conversely, character strengths were found as a protective factor helping to reduce student's levels of stress, which in turn fostered the development of cognitive flexibility, stress reduction and psychological recovery. (Lee et al., 2019).

Summary

From the Review of Literature, the following conclusions can be made:

- Most international students lack knowledge, understanding, and skills of stress management. Psycho-educational programs need to be developed on campus to help them to find effective ways to cope with stress in their lives (Very Well Mind, 2020).
- Multiple stressors cause international students to be vulnerable to higher stress. College counseling services should be flexible and should consider using multiple intervention combinations due to multiple predictors and diverse needs.
- Raced-related stress was a significant issue for international students (Meyer, 2003; Hwang & Chan, 2019; Wei et al., 2012). Cultural differences and the resultant stress must be addressed, with concrete ways to help international students resolve racial stress.
- Personality traits hold a critical relationship to adjustment stress (Duru and Poyrazli., 2007; Hirai et al., 2015). Personality traits have been shown to help determine the typical coping skill chosen in a given situation (Christiansen & Tett, 2008). There is need to highlight individual differences, identify personality traits, and offer appropriate coping interventions to help international students.
- International students indicated that they prefer to seek help from family and friends as support (Lian et al., 2020). To better serve the international student, the research should address their natural support system, and how it may appropriately be maximized by college counseling services. Because positive religious coping has been shown to moderate stress and maintain well-being (Davis & Kiang, 2018), the potential role of religiosity can be considered if appropriate when intervening with international students.

In summary, the extant research points to the need for more support and more research to help ensure a more beneficial experience for international students in the U.S. A greater understanding of their psychosocial needs along with appropriate interventions can help them more successfully navigate their educational experience.

Chapter 3 - Methodology

Purpose of the project.

This scholarly project aimed to evaluate the effectiveness of the Multiple Education Stress Model and personality trait analysis among international students at Southern Adventist University in an effort to improve their stress coping skills. It was designed to test whether the personality analysis might enrich participants' understanding and enhance the success of multiple education stress model implementation. The specific questions this researcher sought to answer through survey and data analysis are:

- What is the stress level among international students at Southern Adventist University?
- Is there a correlation between personality traits, stress and coping among them?
- Does the Multiple Education Stress Model combined with personality traits analysis reduce stress and improve stress coping among international students?

This project advanced three hypotheses:

1: Personality traits analysis combined with the Multiple Education Stress Model intervention result in significant improvement in international students' stress status.

2: International students' personality traits have correlational relationship with their stress status and coping strategies.

3: Personality traits analysis combined with the Multiple Education Stress Model intervention increase international students' coping skills.

Design of the project.

This project was a quasi-experimental descriptive study, using pre and post data collection. It was designed to evaluate the effectiveness of the Multiple Education Stress Model

combined with the personality trait analysis in coping stress among Southern Adventist University international students. The correlation between personality traits and stress scores was tested to determine whether the information of an individual's personality would be a suitable way to guide treatment type to maximize its effectiveness.

Recruitment.

International students were recruited via flyers, campus-wide information emails to specific student organizations that serve ethnic minority populations, and word of mouth. Information explaining this project's purpose and the criteria for participating in this research were provided to interested students.

Criteria for Inclusion:

- International student currently studying at Southern Adventist University.
- 18 years old or older.
- Passed the required TOEFL score.
- Reached the necessary level for reading, writing, speaking, and listening.

Conditions of Exclusion:

- Failure to respond to any items of the questionnaire.
- Failure to complete the intervention.
- Residing in the United States for more than 10 years.

Procedure.

Pre-Intervention Phase. Email was used to recruit the subjects for this study. After receiving informed consent (Appendix A) and prior to the start of the Multiple Education Stress Model intervention, each participant completed the following Demographic Data (Appendix B),

Big Five Inventory (Appendix C), Acculturative Stress Scale for International Students (ASSIS) (Appendix D), and Ways of Coping Questionnaire (Appendix E).

Personality trait analysis. After completing the Big Five Inventory, participants received their personality traits analysis by email. The researcher helped them to review each personality trait. Then participants were supplemented with the Multiple Education Stress Model intervention. The researcher reminded the participants to pay more attention to the weaker aspects of their personality traits tendency. For example, if the student scored high on Neuroticism, the researcher helped the student to develop tools for positive thinking or effective communication. The individual with a common personality trait of introversion focused more on coping strategies, such as developing a regular exercise program, taking the initiative in making friends, or participating in campus activities. Then participants took part in the Multiple Education Stress Model intervention.

Multiple Education Stress Model. This model consisted of five; 50 minute educational sessions, one session per week, followed by a thirty-minute discussion group. At the end of each session, the participants completed a simple quiz that stressed the important points covered in that week's content. If they passed each quiz, they received a point card which could be exchanged for gifts after completion of the entire series of sessions.

Module 1: Recognition of stress. This session helped the participant to understand stress, realize harm to the brain and body, and develop an awareness of the need to cope with stress. A Multimedia show during this initial session provided information about the effects of stress and

its harm to their physical and mental health. This session helped each international student to identify his/her own personal level of stress.

Module 2: Relaxation training. According to Hofmann et al (2012), relaxation techniques were found to be more effective in treating stress-related disorders than medication use. The main content of this second module included 1) deep breathing, which involved slow inhalation followed by holding the breath for five seconds and slow exhalation likewise followed by five seconds of holding the breath; 2) Imagery, which used the mind to imagine a restful, relaxing place that the participant personally finds calming to the mind; and 3) progressive muscle relaxation whereby the participant alternately tensed and relaxed the muscles, beginning with the feet, legs, torso, arm, hands, neck, and finally the head. This process helped the individuals become aware of the location of tension and address tightness in the specific body part caused by stress. For the actual relaxation practice, training videos were sent to the participants by email so that they could practice at home, due to the Covid pandemic. Then any questions and further discussion ensued when they attended the weekly discussion group.

Module 3: Cognitive skills development. Cognitive Behavioral Therapy was effective in stress management. This module explained the harm of irrational ideas and cognitive distortion, and helped the participant in cognitive restructuring, refuting irrational thoughts, and problem-solving. Most participants did not realize unnecessary worries go far beyond the situation. TED talk videos were emailed to the participants, for the purpose of helping them identify inappropriate thoughts and feelings that contribute to their stress and then learn how to replace their thinking with logical, healthy, and helpful responses to the situation. In addition, the researcher shared one sentence passages from the Bible three times per week via email or message to encourage them and help enhance their coping efforts.

Module 4: Affective Skills. Affective skills are those in which emotions are correctly identified and appropriately handled. This module focused on identifying emotions and developing appropriate ways of dealing with them. If emotions are not correctly identified and effectively managed, they could impact physical, psychological, and social health. Because anger and frustration can quickly escalate under stress, this module used TED talks to help the participants to become aware of anger, to identify it, to reduce and control it. Additionally, the participants were taught ways to reduce and/or manage stress and to improve social relationships. In the group setting, issues arising out of work-related anger or social relationships were discussed and time was allotted for practicing new affective skills in real life situations.

Module 5: Behavioral skills. In this session, the participants were given help in time management, regular physical exercising, developing friendships, and building and maintaining a healthy social support system. The TED related videos helped the participants to identify and set up activities in the daily schedule that would use specific behavioral skills to reduce stress and improve coping. Behavior skills included maintaining balance with a healthy lifestyle, such as eating healthy, getting enough sleep, avoiding alcohol, cigarettes, and drugs, reducing caffeine and sugar, establishing a regular exercise program for at least 30 minutes daily, spending quality time with friends, setting aside leisure time for self-care, and managing time more effectively.

Post-intervention phase. Upon completing the modules, the participants completed the Acculturative Stress Scale for International Students (ASSIS) (Appendix D) and the Ways of Coping Questionnaire (Appendix E).

Instruments/Measures

The quantitative and qualitative data were collected from participants who met the inclusion criteria in the post-intervention phase. All the characteristics of participants were

obtained from Demographics questionnaire, Big Five Inventory (BFI), Acculturative Stress Scale (ASS), and Ways of Coping Questionnaire (WAYS).

Demographics questionnaire (Appendix B). The primary demographics questionnaire included questions about the participant's age, gender, academic degree, marital status, and relationship with friends.

Big Five Inventory (Appendix C). The Big Five Personality Inventory (BFI) trait model consists of 44 items and accounted for individual uniqueness and differences, including Extraversion, Agreeableness, Openness, Neuroticism, and Conscientiousness. The scoring that calculated items for each subscales measure is as follows: Extraversion: 1, 6R, 11, 16, 21R, 26, 31R, 36; Agreeableness: 2R, 7, 12R, 17, 22, 27R, 32, 37R, 42; Conscientiousness: 3, 8R, 13, 18R, 23R, 28, 33, 38, 43R; Neuroticism: 4, 9R, 14, 19, 24R, 29, 34R, 39; Openness: 5, 10, 15, 20, 25, 30, 35R, 40, 41R, 44. The R denotes reverse-scored items. Each item was scored on a 5-point scale ranging from 0-5. The total subscales scores were calculated as raw scores on SPSS.

The standard scale of BFI is the Standard Ten Scale (STEN). So, the raw score had to be converted into a z-score and then converted to a STEN score. $Z \text{ score} = (\text{raw score} - \text{population mean}) / \text{population standard deviation}$, and then converting the z-score to a STEN score. The results can be reported on a 10-point scale, 1-3 score described as "low," 4-7 as "medium," and 8-10 as "high." BFI is an open used tool that has been widely used for non-English speaking people. A total of 2496 individuals participated in a survey that assessed a Chinese-language Big

Five Inventory (BFI-44), the results of which showed predominantly on the expected dimension, with the Cronbach's alpha of 0.698-0.807. Although this supports the utility of BFI with the Chinese language (Carciofo et al., 2016), the original English version was used with the participants in the current study of international students at Southern Adventist University.

Acculturative Stress Scale for International Students (ASSIS) (Appendix D). The Acculturative Stress Scale was a published tool for assessing international students' acculturative stress associated with studying abroad (Sandhu & Asrabadi, 1994). It had a 36-item scale, grouped into seven subscales, for which the participant selects a response ranging from 1 (strongly disagree) to 5 (strongly agree). The subscales included Perceived Discrimination (8 items), Homesickness (4 items), Perceived Hate (5 items), Fear (4 items), Stress Due to Change/Culture Shock (3 items), Guilt (2 items), Nonspecific concerns (10 items) (Sandha & Asrabadi, 1994). All item scores are summed to produce a total ASSIS score, with higher scores denoting greater acculturative difficulties. The scale had demonstrated good construct validity, and the Cronbach's alpha score has ranged from .92 to .94 among Chinese international students (Wei et al., 2012; Wei et al., 2007).

Ways of Coping Questionnaire (Appendix E). Lazarus (1985) developed the Ways of Coping Questionnaire. An open-ended tool that contained 66 items, divided into eight subscales. The items were designed as direct queries for scoring current levels of experienced stress as follows. 0=Does not apply or not used, 1=used somewhat, 2=used quite a bit, 3=used a great deal. The subscales of WAYS included Confrontive Coping, Distancing, Self-Controlling,

Seeking Social Support, Accepting Responsibility, Escape-Avoidance, Planful Problem Solving, Positive Reappraisal. Confrontive Coping Items 6, 7, 17, 28, 34, 46; Distancing Items 12, 13, 15, 21, 41, 44; Self-Controlling Items 10, 14, 35, 43, 54, 62, 63; Seeking Social Support Items 8, 18, 22, 31, 42, 45; Accepting Responsibility Items 9, 25, 29, 51; Escape-Avoidance Items 11, 16, 33, 40, 47, 50, 58, 59; Planful Problem Solving 1, 26, 39, 48, 49, 52; Positive Reappraisal 20, 23, 30, 36, 38, 56, 60. The reliability coefficients ranged from 0.7-0.93. The present study indicated the minimum coefficients of 0.70.(Kieffer et al.,2011). To score the Ways of Coping, the current study used raw scores and relative scores. Raw score was added to each item on the subscale for each of the eight sub-scores. Raw scores reflected the coping effort for each of the eight subscales, with a high raw score indicating that the participant uses this particular coping in stressful situations. Relative score was described the proportion of using each type of coping. A high relative score on a scale means participant used this coping more often than used other one. To calculate relative scores: step 1. calculate the average response per scale (raw score of each subscale, divided number of items in each subscale). Step 2. Sum the average of each subscale to a total average score (sum of the averages for all 8 subscales). Step 3. Divide each subscale's average outcome by the sum of the total average scores (Susan Folkman, 1988).

Ethics

Protection of human subjects. Institutional Review Board (IRB) approval was obtained for this research prior to reaching out to any participants (**Appendix F**)

Informed consent (Appendix A). Participation was voluntary for this study. All eligible

participants were provided with a written informed consent form. The informed consent included the purpose, risks and benefits of this study, as well as verification of meeting criteria. Written consent was obtained from each participant, including the right to withdraw their consent to participate without any reason, as well as freedom to leave the project at any time if desired. All information of participants is maintained in strict confidence, and no harm was anticipated for participating in the study. In this project, the informed consent included the purpose, risks, benefits of this project, and verification of meeting criteria. the researcher obtained written permission from each participant before collection of data. The consent procedure was verified with IRB. The participants had the right and freedom to leave the project at any time if they did not want to continue or participate.

Analysis

In this project, the independent variables were the Multiple Education Stress Model, and the Multiple Education Stress Model combined with personality trait analysis. The dependent variables were the scores from the Acculturative Stress Scale and Ways of Coping Questionnaire.

Descriptive statistics were used to analyze the demographics information and SPSS Statistics 24 was used for analysis of the quantitative data. Data analyses include Pearson correlation coefficient test, paired t-test, and multiple regression. The Pearson correlation coefficient test was used to determine the relationship between the variables of personality traits and stress. The paired t-test was used to compare pre-post stress and coping scores. Multiple regression was used to find the predictions for stress from demographic data.

Chapter 4 – Analysis of Results

Introduction

The purpose of this study was to explore the stress levels and coping strategies of international students studying at Southern Adventist University. Because international students are vulnerable to higher levels of stress, as reported in the literature, this study sought to determine whether or not the stress experienced by international students at this particular institution corroborates with extant literature. Further, this study sought to ascertain the effectiveness of an intervention model for stress reduction and increased coping. This research project had three aims.

1. To describe the levels of stress among international students at Southern Adventist University.
2. To explore the correlation between personality traits, stress, and coping skill prior to the intervention among these students.
3. To examine the effectiveness of the Multiple Education Stress Model combined with personality trait analysis in stress reduction and in coping skills improvement.

Demographic Information

The invitation email was sent out through the Southern Adventist University international students' center two times. International students who met inclusion criteria were approached to participate in our project. Fifty-eight international students initially enrolled, of which 55 participants met inclusion criteria, completed pre-tests, attended each session, and then completed the post-tests. The target total sample size was sixty, according to the G-power statistic test. This project did not meet the required sample size. I ultimately used the data from 55 participants. Three of the initial 58 participants were not included in the final analysis due to

incomplete answers on the surveys. If participants left 5 or more questions blank on the surveys, that response was automatically invalidated and dropped from the final analysis.

Demographic Descriptive Statistics.

The mean age of participants of this project was 21.78 (18-23) years. The gender breakdown included 36 (62.1%) female and 22 (37.9%) males. The Asian countries were combined together in Table 1, due to the fact that majority of the sample was from Asian countries (60.34%), which included China (29.3%), South Korea (20.7%), Japan (5.2%), Indonesia (3.4%), India, (1.7%); The remaining countries (39.66%), included Dominican Republic (15.5%), Colombia (5.2%), Cayman Islands (6.9%), Brazil (1.7%), Canada (1.7%), Nigeria (1.7%), Moldova (1.7%), Kenya (1.7%), Malawi (1.7%), and Venezuela (1.7%).

The majority of participants were pursuing a Bachelor's degree (75.9%), and were single (94.8%). Only six participants (10.3%) had English as their primary language. About two thirds of the participants (67%) had been in the U.S. for three years or less.

Table 1:

Sample Demographics and Professional Characteristics Descriptive Statistics (N = 55)

# Item	Response	%	Count
1. Gender	Female	62.1%	36
	Male	37.9%	22
2. Age	18-23	84.5%	49
	>24	15.5%	9
3. Country of origin	Asian (China. Korea. Japan. India)	60.34%	35
	Other	39.66%	23
	4. Mother language	English	10.3%
5. Marital status	Chinese	29.3%	17
	Spanish	22.4%	13
	Korean	20.7%	12
	Other	17.24%	10
	Single	94.82%	55

	Married, living with spouse	3.4%	2
	Married, spouse not in US	1.7%	1
6. Seeking degree	Bachelor's	75.9%	44
	Master's	15.5%	9
	Doctorate's	5.2%	3
	AS	3.4%	2
7. Lived in the U.S.	<3 years	65.51%	39
	4-6 years	24.13%	11
	>6years	10.34%	8
8. Where do you live in the US	On campus	62.1%	36
	Off-campus	37.9%	25
9. Family or friends in the U.S prior to arrival here.	Yes	56.9%	33
	No	43.1%	25
10 Family or friends who moved with you.	Family	25.9	15
	Friends	17.2	10
	other	56.9	33
11 Family or friends from your country who joined you here since your arrival in the U.S.	Family	22.4%	13
	Friends	22.4%	13
	other	55.2%	32
	Total	100%	58

The Big Five Inventory Personality Trait Analysis.

Personality trait analysis as conceptualized by the Big Five Inventory is a way to help participants understand deeper patterns of their personality. The Big Five Inventory represents five major personality traits: Extraversion (E), Agreeableness (A), Conscientiousness (C), Neuroticism (N), and Openness (O). In this project, internal consistencies were $\alpha = 4.71$ for Openness, $\alpha = 4.41$ for Conscientiousness, $\alpha = 4.31$ for Extraversion, $\alpha = 5.3$ for Agreeableness, and $\alpha = 6.1$ for Neuroticism. This project used Standard Ten Scale (STEN) as the standard scale of measurement for personality trait analysis, which is used to convert raw scores to scale scores in many mainstream personality questionnaires. It allows results to be reported on a 10-point scale that standardizes personality traits being measured. $STEN\ score = z\ score * standard\ deviation\ of\ STEN\ scale + mean\ of\ STEN\ scale$. The mean of the A STEN scale is always 5.5, and the standard deviation is always 2. The STEN score of 1-3 is described as 'low,' 4-7

described as 'medium,' and 8-10 as 'high.' A 'low' result is one standard deviation below the mean, and a 'high' result is one standard deviation above the mean. It is possible to effectively measure international student's personality traits by ranking STEN Score on each of these traits (Lim., 2020; Traitify Life, with personality. 2021).

1. Extroversion (E). Extroversion (E). Extroversion is the personality trait of seeking fulfillment from a source outside the self. Participants with scores in the high range tend to be sociable, energetic, adventurous, enthusiastic and outgoing, whereas participants with scores in the low range tend to be quiet, reserved, withdrawn, and prefer to work on projects alone (John & Srivastava, 1999). Eight participants (14.54%) in this current sample scored in the low range; 37 participants (67.27%) in the medium range; and 10 participants (18.18%) in the high range.

2. Agreeableness (A). Agreeableness reflects the tendency of individuals to adjust their behavior to suit others. A low scoring individual typically "doesn't care about how other people feel" and tend to be critical, uncooperative, and suspicious. By contrast, a high scoring person can be described as soft-hearted, trusting, and well-liked and tend to be cooperative, trustworthy, good-natured, helpful, and empathetic (Ackerman, 2017; John & Srivastava, 1999). In this study, four (7.27%) of the participants scored in the low range; 37 (67.27%) in the medium range; and 14 (25.45%) in the high range.

3. Conscientiousness (C). Conscientiousness is the personality trait associated with being honest and hardworking. Those with scores in the low range tend to be impulsive, careless, disorganized, while those with score in the high range tend to be competent, self-disciplined, thoughtful, goal-driven, hardworking, dependable, and organized, and valuing cleanliness (John & Srivastava, 1999). In this sample, four participants (7.27%) scored in the low range; 38 (69.09%) in the medium range; and 13 (23.63%) in the high range.

4. Neuroticism (N). Neuroticism is the personality trait laced with anxiety, perceiving the world through negative lenses. These individuals tend to be anxious, unhappy, irritable, prone to stress, negative emotions, vulnerability, or dramatic mood shifts. By contrast, those who score low in neuroticism tend to calm, emotionally stable, resilient, even-tempered, secure, and rarely feel sad or depressed (John & Srivastava, 1999). In the current sample, eight (14.54%) participants scored in the low range; 37 (67.27%) in the medium range; and 10 (18.18%) in the high range.

5. Openness (O). Openness is the personality trait of seeking new experiences and intellectual pursuits. Participants with scores in the high range tend to be open, curious about surroundings, independent, and enjoying a wide range of interests and learning new things. At the other end of the spectrum, those who score in the low range tend to be practical, conventional, prefer routines, and feel uncomfortable about change and new experiences (Annabelle Lim, 2020; John & Srivastava, 1999). Four (7.27%) students in this sample scored in the low range; 40 (72.72%) in the medium range; and 11 (20%) in the high range. **Table 2** summarizes the results of the Big Five Inventory personality traits assessment.

Table 2

Descriptive Statistics for the Big Five Inventory personality traits assessment. (N = 55)

Subscales	STEN Score					
	1-3 score		4-7 score		8-10 score	
	Low		Medium		High	
	n	%	n	%	n	%
Extraversion	8	14.54	37	67.27	10	18.18
Agreeableness	4	7.27	37	67.27	14	25.45
Conscientiousness	4	7.27	38	69.09	13	23.63
Neuroticism	8	14.54	37	67.27	10	18.18
Openness	4	7.27	40	72.72	11	20.0

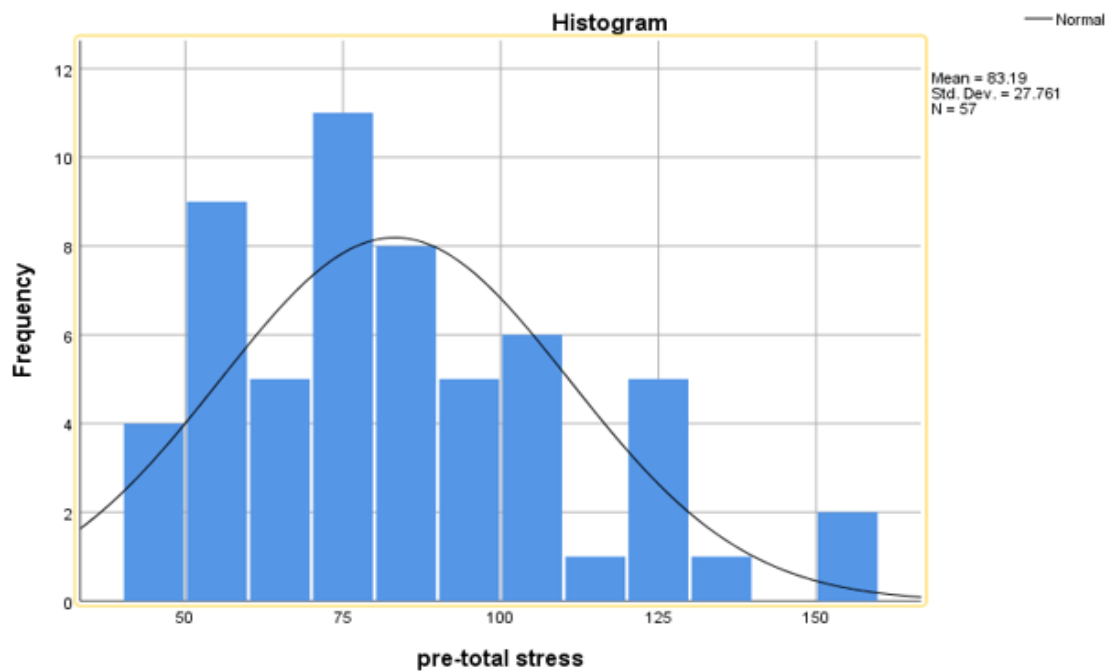
Notes: score on each subscale could range from 0-10 with the STEN Score, 1-3=low score of personality trait, 4-7=medium score of personality trait, and 8-10=high score of personality trait.

Project Aim 1: To Describe the Levels of Stress Among International Students at Southern Adventist University.

Acculturative Stress Scale for International Students(Pre-Intervention)

At the beginning of this project, each student completed the 36-items Acculturative Stress Scale (Appendix D). All item scores were summed to produce a total ASSIS score. The reliability co-efficient (standardized item alpha) obtained from the pre-Acculturative Stress Scale after analyzing was 0.89. The total stress ranged from 42 to 157, and the mean total stress scores were 83.19 (SD 27.76). Total stress higher than 144 means a high-stress level. There were two participants in this project whose Acculturative stress level was higher than 144, as depicted in Figure 2 below.

Pre-Stress distribution



Ways of Coping with Stress (Pre-Intervention).

Ways of Coping Questionnaire was a theoretically derived measure that helped the researchers to explore the thoughts and actions that an individual has used in a stressful situation, which was designed to measure coping processes. (Susan Folkman, 1988). There were eight subscales in this tool, including Confrontive Coping, Distancing, Self-Controlling, Seeking Social Support, Accepting Responsibility, Escape Avoidance, Planful Problem Solving. The reliability coefficient obtained from the pre-coping after analyzing was 0.84 (standardized item alpha). In this project, we followed the manual, instrument, scoring guide of WAYS of coping questionnaire which suggested using raw score and relative score for description of the results (Susan Folkman, 1988). Raw score is added each item on the subscale and get a total score. A high raw score indicated that the participant used this coping described in the subscale in his/her stress situation. Relative score was described the proportion of using each type of coping, which was expressed as a percentage that ranged from 0-100. A high relative score on a scale means participant used this coping more often than other one, Relative scores standardized the number of each item and standardized the length of each subscale. Relative scores calculation: firstly, calculate the average response per scale, then sum the average of each subscale to a total average score, thirdly divide each subscale's average outcome by the sum of the total average scores (Susan Folkman, 1988; Van Pelt et al., 2019).

The **Table 3** shows the results of the pre-intervention Coping skills by presenting mean raw scores and mean relative scores and SD for the eight coping subscales.

1. Confrontive Coping. Confrontive Coping is described as aggressive or hostile

efforts to alter the situation. The raw scores ranged from 9-20, with a mean raw score of 15.12 (SD 2.87). The relative scores of Confrontive Coping ranged from 9-17%, with a mean of 11.42%. This indicates that 11.42% of the participants used Confrontive Coping more often than they used other coping behaviors.

2. **Distancing.** This coping method is described as a cognitive effort to detach oneself and minimize involvement in the situation. The raw scores ranged from 9-24, with a mean of 15.64 (SD 3.15). The relative scores ranged from 7-17%, with a mean of 11.82%, indicating that 11.82% of the participants used Distancing behaviors more often than they used other behaviors.
3. **Self-Controlling.** Self-controlling is described as attempts to regulate their feelings and actions. The raw scores for ranged from 13-27, with a mean of 20.14 (SD 3.43). The relative scores ranged from 10-17%, with a mean of 13.02%.
4. **Seeking Social Support.** This coping method is described as efforts to seek information, tangible help or emotional support from others. The raw scores ranged from 10-24, with a mean of 17.39 (SD 3.23). The mean relative score ranged from 9-17%, with a mean of 13.11%.
5. **Accepting Responsibility.** This behavior acknowledges one's own role in the stress situation and makes an effort to put things right. The raw scores ranged from 4-16, with a mean of 11.19 (SD 2.26). The relative scores ranged from 5-17%, with a mean of 12.69%.
6. **Escape-Avoidance.** This coping method is described as wishful thinking and behavior that help individuals escape or avoid the problem. The scores ranged from 12-31, with a

mean of 19.27 (SD 4.42). The relative scores ranged from 7-14%, with a mean of 10.86%.

7. **Planful Problem Solving.** Planful Problem Solving is described as problem-focused efforts to alter the stressful situation. The scores ranged from 10-24, with a mean 17.86 (SD 3.08). The relative score ranged from 9-17%, with a mean of 13.49%.
8. **Positive Reappraisal.** Positive Reappraisal is described as efforts to interpret events with a positive meaning, which includes a religious dimension. The raw scores ranged from 12-28, with a mean of 21.00 (SD 3.56). The relative scores ranged from 8-18%, with a mean of 13.60%.

In sum, the responses from participants indicated that Positive Reappraisal recorded the highest relative score of 13.60% (standard deviation of 1.73) while the lowest relative score 10.86 (standard deviation of 1.69) was recorded for Escape-Avoidance. It could therefore be inferred from the results that the coping skills most used by SAU international students for stress was Positive Reappraisal (13.60%), followed by Planful Problem Solving (13.49%), Seeking Social Support (13.11%), while the three least used strategy were Confrontive Coping (11.42%), Distancing (11.82%), and Escape-Avoidance (10.86%) as depicted in Table 3.

Table 3

Descriptive Statistics for Ways of Coping Questionnaire Subscales

Subscale	Mean (SD)	
	Raw score (SD) [range]	Relative score % (SD)% [range]%
Confrontive Coping	15.12 (2.87) [9-20]	11.42 ^a (1.74) [9-17]
Distancing	15.64	11.82 ^a

	(3.15)	(1.85)
	[9-24]	[7-17]
Self-Controlling	20.14	13.02
	(3.43)	(1.49)
	[13-27]	[10-17]
Seeking Social Support	17.39	13.11 ^b
	(3.23)	(1.69)
	[10-24]	[9-17]
Accepting Responsibility	11.19	12.69
	(2.26)	(2.15)
	[4-16]	[5-17]
Escape-Avoidance	19.27	10.86 ^a
	(4.42)	(1.69)
	[12-31]	[7-14]
Planful Problem Solving	17.86	13.49 ^b
	(3.08)	(1.76)
	[10-24]	[9-17]
Positive Reappraisal	21.00	13.60 ^b
	(3.56)	(1.73)
	[12-28]	[8-18]

Notes:

^a Among 3 lowest relative scores for Ways of Coping Questionnaire subscales indicating use of negative coping strategies (lower score better).

^b Among 3 highest relative scores for Ways of Coping Questionnaire subscales indicating use of positive coping strategies (higher score better)

Project Aim 2: To Explore the Correlation Between Personality Traits, Stress and Coping Skills Prior to Intervention.

Correlation Between Personality Trait and Stress Before Intervention.

The Pearson correlation coefficient was used to determine the relationship between personality traits and pre-intervention stress scores/levels. The correlation coefficient often is expressed as r , which indicates the strength of the linear relationship between two variables. The

strength correlation is measured r from -1.00 to $+1.00$, $r > 0$ indicates a positive association, $r < 0$ indicates a negative association. Exactly 1 is a perfect positive correlation, $0.7-0.9$ is a strong positive correlation, $0.4-0.6$ is considered to be a moderate positive correlation, while a correlation of $0.3-0.1$ is considered to be a weak correlation (Coolican, 2009). Table 4 reveals the correlation between personality traits, stress and coping.

Two personality traits showed statistically significant correlations. A weak negative correlation was found between pre-stress scores and the personality trait Conscientiousness ($r = -0.31$, $p = 0.02$) and Agreeableness ($r = -0.32$, $p = 0.02$), which means that these individuals tend to experience higher stress levels than individual scoring higher on Conscientiousness and Agreeableness. The Neuroticism personality trait had a moderate positive correlation relationship with the pre total stress score ($r = 0.41$, $p = 0.002$), which means that these students experienced somewhat higher levels of stress.

Correlation Between Personality Trait and Coping Before Intervention.

Extraversion Personality Trait and Coping. A weak positive correlation relationship was found between an Extraversion personality with Seeking Social Support ($r = 0.35$, $p = 0.009$), Planful Problem Solving ($r = 0.30$, $p = 0.03$), and Positive Reappraisal ($r = 0.38$, $p = 0.004$), which means those who reported higher level of Extraversion personality traits (sociable, energetic, adventurous, enthusiastic and outgoing), reported a higher level of Seeking Social Support (seek informational support, tangible support, or emotional support), Planful Problem Solving (problem-focused efforts to alter the situation), and Positive Reappraisal behaviors (use positive meaning) for coping stress. Besides, a weak positive correlation relationship was indicated between an Extraversion personality with Confrontive Coping ($r = 0.33$, $p = 0.01$). That means the

Extraversion personality traits individual may tend to use the Confrontive Coping behaviors (aggressive or some degree of hostile behavior) in stressful situation.

Agreeableness Personality Trait and Coping. A moderate positive correlation was found between the Agreeableness personality trait with Positive Reappraisal ($r=0.41, p=0.002$), indicating that individuals showing higher levels of Agreeableness (cooperative, trustworthy, good-natured, helpful, and empathetic) reported higher levels of positive coping skills. The Agreeableness personality trait had a weak negative associated with Escape-Avoidance ($r= -0.33, p=0.01$), indicating that the higher the Agreeableness personality trait score, lower levels of Escape-Avoidance as a coping mechanism were reported. Escape-Avoidance is a negative coping skill (efforts to escape or avoid the problem or wishful thinking).

Conscientiousness Personality Trait and Coping. A weak negative association between the Conscientiousness personality trait and Accepting Responsibility ($r= -0.31, p=0.02$), and with Escape-Avoidance ($r=-0.39, p=0.004$). This would indicate that a lower score of the Conscientiousness personality trait (disorganized, messy, and cheat others), correlated with correlates with higher levels of Accepting Responsibility and Escape-Avoidance. Those participants tend to acknowledge one's own role in the problem, the similar as self-blame, or may use behavioral efforts to escape or avoid the problem.

Neuroticism Personality Trait and Coping. Not surprisingly, those individuals with a Neuroticism personality trait showed a moderate negative correlation with the coping skill of Positive Reappraisal ($r= -0.46, p<0.001$), Participants with a higher score of Neuroticism traits (anxious, unhappy, prone to negative emotions), reported lower level of focusing on the positive. Also, Neuroticism personality trait individuals showed a weak positive correlation with coping skill of Confrontive Coping ($r=0.27, p=0.04$). In other words, the higher score of Neuroticism

personality traits that the individual showed, the more likely the individual would be use Confrontive Coping as a coping skill (some degree of hostility or risk-taking coping skill). Also, Neuroticism personality trait indicated a moderate positive correlation relationship with Escape-Avoidance coping ($r=0.5, p<0.001$). The higher score of Neuroticism personality traits, reported higher levels of Escape-Avoidance coping (describes as wishful thinking and behavioral efforts to avoid/escape the problem).

Openness Personality Trait and Coping. A weak positive association between the Openness personality trait and Planful Problem Solving ($r=0.28, p=0.03$), which indicated that a higher score of the Openness personality trait (openness, curious about surrounding, wide range of interests, independence, and enjoying learning new things), correlates with higher level of problem-focused efforts to alter the situation.

Table 4

Bivariate Correlation among Personality Traits and Coping before Intervention.

Coping inventory	Personality traits inventory				
	Extraversion	Agreeableness	Conscientiousness	Neuroticism	Openness
Confrontive Coping	$r=0.33^*$ $p=0.01$	$r=-0.15$ $p=0.28$	$r=-0.06$ $p=0.64$	$r=0.27^*$ $p=0.04$	$r=0.14$ $p=0.3$
Distancing	$r=0.005$ $p=0.97$	$r=-0.12$ $p=0.40$	$r=-0.25$ $p=0.64$	$r=0.09$ $p=0.51$	$r=0.09$ $p=0.49$
Self-Controlling	$r=0.03$ $p=0.84$	$r=-0.04$ $p=0.8$	$r=-0.11$ $p=0.45$	$r=0.05$ $p=0.73$	$r=-0.006$ $p=0.97$
Seeking Social Support	$r=0.35^{**}$ $p=0.009$	$r=0.22$ $p=0.15$	$r=0.004$ $p=0.98$	$r=0.14$ $p=0.32$	$r=0.10$ $p=0.46$
Accepting Responsibility	$r=-0.10$ $p=0.45$	$r=-0.13$ $p=0.36$	$r=-0.31^*$ $p=0.02$	$r=0.26$ $p=0.05$	$r=-0.04$ $p=0.77$
Escape-Avoidance	$r=0.08$ $p=0.57$	$r=-0.33^*$ $p=0.01$	$r=-0.39^{**}$ $p=0.004$	$r=0.5^{**}$ $p<0.001$	$r=0.02$ $p=0.89$
Planful Problem Solving	$r=0.30^{**}$ $p=0.03$	$r=0.26$ $p=0.06$	$r=0.21$ $p=0.13$	$r=-0.16$ $p=0.25$	$r=0.28$ $p=0.03^*$
Positive Reappraisal	$r=0.38^{**}$ $p=0.004$	$r=0.41^*$ $p=0.002$	$r=0.05$ $p=0.7$	$r=-0.46^{**}$ $p<0.001$	$r=0.11$ $p=0.45$

Notes:

**p<0.01 level (2 tailed)

*p<0.05 level (2 tailed)

Correlation Between Total Stress and Coping before Intervention.

A moderately positive correlation was found between the pre total stress and Escape-Avoidance ($r = 0.61, p < 0.001$), and a weak negative correlation with Planful Problem Solving ($r = -0.36, p = 0.007$) and a moderate negative correlation with Positive Reappraisal ($r = -0.29, p = 0.02$). A higher use of negative coping skills of Escape-Avoidance correlates with higher stress levels, whereas, a higher use Positive Reappraisal and Planful Problem Solving behaviors, are associated with lower stress levels. **Table 5** shows the results of correlation between pre total stress and coping.

Table 5

Bivariate Correlation among Pre Total Stress and Coping.

stress	Way of Coping							
	<u>Confrontive Coping</u>	<u>Distancing</u>	<u>Self-controlling</u>	<u>Seeking Social Support</u>	<u>Accepting Responsibility</u>	<u>Escape-Avoidance</u>	<u>Planful Problem Solving</u>	<u>Positive Reappraisal</u>
Total stress	$r = 0.17$ $p = 0.20$	$r = 0.06$ $p = 0.64$	$r = -0.11$ $p = 0.38$	$r = 0.01$ $p = 0.94$	$r = -0.07$ $p = 0.59$	$r = 0.61^{**}$ $p < 0.001$	$r = -0.36^{**}$ $p = 0.007$	$r = -0.29^*$ $p = 0.02$

Project Aim 3: To Examine the Effectiveness of the Multiple Education Stress Model Combined with Personality Trait Analysis in Stress Reduction and in Coping Skills Improvement.

Acculturative Stress Scale for International Students (Post-Intervention)

A paired-sample t-test was conducted to compare pre total stress and post total stress. There was not a significant difference in the scores for pre total stress ($M = 83.19, SD = 27.76$), and post total stress ($M = 83.18, SD = 26.79$), $t(43) = -0.23, P = 0.819$. **Table 6** shows the results of post-intervention Acculturative stress. Before the intervention the total stress scores ranged from 42-

157, with a mean of 83.19. After the intervention the total stress scores ranged from 36-130, with a mean total stress score of 83.18.

Table 6

Comparison of Total Stress Pre and Post Intervention.

Stressor	Pre-M	Pre-SD	Pre-Min	Pre-Max	Post-M	Post-SD	Post-Min	Post-Max	t	P
Total stress	83.19	27.76	42	157	83.18	26.79	36	130	-0.23	0.819

Ways of Coping with stress (post-intervention).

A paired-sample t-test was conducted to compare the coping skills of the international students after the intervention with the pre-intervention coping skills to ascertain if the Multiple Education Stress Model was effective. As shown in the **Table 7**, after the intervention, the three higher mean relative scores were Positive Reappraisal (relative scores 14.06%), Seeking Social Support (relative score 13.96%) and Planful Problem Solving (relative score 13.89%). That means after the intervention, SAU international students used Positive Reappraisal behaviors (14.06%), Seeking Social Support behaviors (13.96%), and Planful Problem Solving coping skills (13.89%) more often than they used other coping behaviors. Meanwhile, the three lowest mean relative scores were observed for Distancing (relative score 11.08%), Escape-Avoidance (relative score 10.21%), and Confrontive Coping (relative score 9.93%), which means that the participants used Distancing (11.08%), Escape-Avoidance (10.21%), and Confrontive Coping (9.93%) less often than they used other coping skills. The results also shown the mean raw score and relative scores of Confrontive Coping, Distancing, Escape-Avoidance subscales decreasing after the intervention, whereas, Positive Reappraisal, Planful Problem Solving, Self-Controlling, Seeking Social Support and Accepting Responsibility increased after the intervention.

The results are as follows:

1. The mean score for Confrontive Coping decreased from (M=15.12, SD=2.87) to (M=13.78, SD=2.58), $t(42) = 3.08, P=0.004$ indicating effectiveness of the intervention.
2. The mean difference for the Distancing Coping skill showed no significant difference. (Pre: M=15.64, SD=3.15), (Post: M=15.43, SD=2.85); $t(41) = 0.35, P=0.73$.
3. The mean score for Self-Controlling increased from (M=20.14, SD=3.43) to (M=22.27, SD=3.8), $t(42) = -2.41, P=0.02$ indicating an increasing in Self-Controlling and improved coping, suggesting the effectiveness of the intervention.
4. The mean score for Seeking Social Support increased from (M=17.39, SD=3.23), to (M=19.61, SD=3.89), $t(41) = -3.13, P=0.003$. This increase in Seeking Social Support and improved coping, again suggesting that the intervention was effective.
5. The mean score for Accepting Responsibility increased from (M=11.19 SD=2.26) to (M=12.44, SD=2.81), $t(42) = -2.23, P=0.03$. Such an increasing in the mean score points to the probable efficacy of the intervention.
6. The mean difference for the Escape-Avoidance Coping skill showed no significant difference. (Pre: M=19.27 SD=4.42), (Post: M=18.92, SD=4.14); $t(42) = 1.27, P=0.21$.
7. The mean score for Planful Problem Solving increased from (M=17.86 SD=3.08) to (M=19.54, SD=3.57), $t(42) = -33.26, P<0.001$, which suggests that this improved coping may have been affected by the intervention.
8. The mean score for -Positive Reappraisal increased from (M=21.00 SD=3.56), to (M=22.95, SD=4.21), $t(42) = -2.35, P=0.02$ This improved coping score may reflect upon effectiveness of the intervention.

Table 7*Comparison of Pre/Post Coping.*

Subscale	Pre-Mean (SD)		Post-Mean (SD)		T-test (SD/SEM) [95%CI]	P
	Raw score (SD) [range]	Relative score % (SD)% [range]%	Raw score (SD) [range]	Relative score % (SD)% [range]%		
Confrontive Coping	15.12 (2.87) [9-20]	11.42 (1.74) [9-17]	13.78 (2.58) [8-18]	9.93 (1.82) [6-13]	3.08 (3.37/0.54) [0.57-2.76]	0.004
Distancing	15.64 (3.15) [9-24]	11.82 (1.85) [7-17]	15.43 (2.85) [6-20]	11.08 (1.84) [6-14]	0.35 (4.10/0.66) [-1.1-1.56]	0.73
Self- Controlling	20.14 (3.43) [13-27]	13.02 (1.49) [10-17]	22.27 (3.80) [14-28]	13.62 (1.44) [11-19]	-2.41 (4.72/0.76) [-3.35- -0.29]	0.02
Seeking Social Support	17.39 (3.23) [10-24]	13.11 (1.69) [9-17]	19.61 (3.89) [10-26]	13.96 (1.94) [11-19]	-3.13 (4.55/0.73) [-3.76- -0.81]	0.003
Accepting Responsibility	11.19 (2.26) [4-16]	12.69 (2.15) [5-17]	12.44 (2.81) [4-16]	13.25 (2.11) [6-17]	-2.23 (3.08/0.49) [-2.10- -0.10]	0.03
Escape- Avoidance	19.27 (4.42) [12-31]	10.86 (1.69) [7-14]	18.92 (4.14) [12-27]	10.21 (2.05) [6-13]	1.27 (5.66/0.91) [-0.68- 2.99]	0.21
Planful Problem Solving	17.86 (3.08) [10-24]	13.49 (1.76) [9-17]	19.54 (3.57) [11-25]	13.89 (1.40) [11-17]	-33.26 (3.65/0.59) [-20.64- - 18.27]	<0.001

Positive Reappraisal	21.00 (3.56) [12-28]	13.60 (1.73) [8-18]	22.95 (4.21) [14-29]	14.06 (1.92) [11-20]	-2.35 (5.53/0.89) [-3.87- -0.28]	0.02
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Chapter 5 – Discussion of Findings

Outcomes of Data Analysis

The purpose of the current research was to assess the efficacy of the Multiple Education Model intervention in decreasing acculturative stress level and improving the stress coping skills among SAU international students. The study also aimed to evaluate the correlational relationship between personality traits, acculturative stress levels and coping skills. The expectation was that international students after intervention with the Multiple Education Models would show 1) lower levels of acculturative stress, and 2) improved coping skills. This chapter focuses on the findings of this project.

Demographic data.

The average participant was a 22-year-old graduate student who was relatively new in the U.S. (less than three years). Most participants were living on campus and were Asian. Prior to their arrival at Southern Adventist University, 56.9% of participants had family or friends in the U.S. Some previous research indicated that age, gender, and relationship with others might affect stress level, but in this study, the linear regression showed that only two questions, “Where do you live in the U.S.” and “Which degree are you seeking?” had a significant relationship with stress. Other demographic data showed no significant association.

Personality Trait of Participants.

This project explored the participants’ personality traits. We used the Standard STEN Score to analyze the results. The STEN Score ranged from 1-3 (low) to 8-10 (high), with 4-7 being medium. The majority of SAU international Students’ personality traits STEN scores were in the medium range (4-7), with the proportions ranged from 67.27%-72.72%. The highest proportion of personality trait among the SAU international students was the Agreeableness trait

(25.45%), followed by Conscientiousness trait (23.63%), Openness trait (20%), while the lowest were Extraversion (18.18%) and Neuroticism (18.18%).

Acculturative Stress of Participants (Pre-Intervention)

The mean stress score of SAU international student was 83.19 (SD =27.76). Twenty-five (45.45%) of the participants' stress score was higher than mean score. 2 (3.6%) participants' stress score was higher than 150, The results showed that Non-Specific Concerns (M=23.84, SD=7.95), Perceived Discrimination (M=18.22, SD=7.30), and Homesickness (M=11, SD=3.65) were the three top most reported stressor among SAU international students, while Stress due to change/culture (M=7.16, SD=2.63) and Guilt (M=4.23, SD=2.16) were the least reported stressor. The results indicated that Perceived Discrimination and Homesickness were the main concern of acculturative stress for the participants.

Coping of Participants (Pre-Intervention)

The responses from participants revealed that the highest relative mean of coping strategy was Positive Reappraisal (13.6%), while the lowest mean of coping strategy was Escape-Avoidance (10.86%). The most frequently used forms of coping by the students in descending order were Positive Reappraisal (13.6%), Planful Problem Solving (13.49%), and Seeking Social Support (13.11%). By contrast, the least used coping strategy were Escape-Avoidance (10.86%), Confrontive coping (11.42%), and Distancing (11.82%). The results also indicated that Self-controlling (13.02%) and Accepting Responsibility (12.69%) were sometimes used. From the above finding, it can be inferred that the majority of international students of SAU in coping with stress do not blame self or others, do not react with hostility, and do not detach form situation as a way to minimize the significance of the stress situation. Moreover, the results indicate that SAU international students try to create a positive meaning in terms of personal growth when

facing stress, as revealed by a relative mean of 13.60%. This revelation supports the findings of Amarn., et al. (2009), that these students, instead of a negative response to stress, viewed the stressful experience as a catalyst for positive change in themselves. It also supports the view of Cho (2014), which indicated that international students using problem-focused or social support coping skills helped them more positive adjustment. Unfortunately, around 34.1% of participants used a negative attitude/coping-such as Confrontive Coping, Distancing, and Escape-Avoidance. Those tended to choose wishful thinking, aggressive behavior, or efforts to escape or avoid the stress or problem.

Hypothesis One: The Multiple Education Stress Model Combined with Personality Trait Analysis Intervention Will Bring About Significant Improvement in International Students' Stress Status.

The finding of this research did not support the hypothesis. Multiple Education Stress Model combined with Personality trait analysis intervention did not influence participants' total acculturative stress level. A paired-sample t-test was used to compare the pre-post stress. After the intervention of multiple education models, the means for stress were slightly less when compared to the pre-intervention sources of Acculturative Stress. Contrary to the research's expectations, the difference between pre-intervention and post-intervention data was not statistically significant, thereby nulling the hypothesis. ($p > 0.05$, one-tailed).

One possible explanation for these results is based upon the work of Gregoire et al. (2020), in which the participants largely engaged in avoidance behavior because of their inability to deal with challenges. They do not know or accept what is important to them and go thought challenge in an automatic or autopilot way (Grégoire et al., 2020).

Another explanation for the current findings is that internalization of stress may lead to

physiological changes in the nervous system. Under chronic stress, the genes for the brain-derived neurotrophic factor (BDNF) may be repressed, BDNF which helps the growth and maintenance of neurons. Also, stress lowers the neurotransmitters of serotonin (5HT), norepinephrine (NE), and dopamine (DA). The deficient numbers of BDNF and neurotransmitters may lead to atrophy of the hippocampus, amygdala, and prefrontal cortex neurons (Stahl, 2013). Other studies suggest that stress influences the HPA (hypothalamic-pituitary-adrenal) axis may be linked to alterations in the HPA axis function, leading to cortisol release. The high glucocorticoid levels could be toxic to neurons and contribute to neuron atrophy (Pagliaccio et al., 2015; Stahl, 2013). Also, early life stress has been found to alter the function of the amygdala. Additionally, stress-related factors weaken the connectivity across frontal and subcortical regions, leading to anxiety and depression (Pagliaccio et al., 2015; Dannowski et al., 2009; Liu et al., 2011).

However, current findings have theoretical and practical implications for future research on stress management of international students. The impotent mechanisms that determine the induction of acculturative stress among international students needs more research. To better understand the efficacy of these interventions, future research should explore more extensive interventions over time to identify models most useful in producing sustainable stress management. Furthermore, the use of additional measures specific to stress management should be explored, particularly for higher levels of stress.

Hypothesis Two: International Student's Personality Traits may have Correlational Relationship with Their Stress Status and Coping Skills.

Personality Trait and stress. This research explored whether personality traits impact stress. We used correlation analyses to determine whether a correlation existed between

personality traits and acculturative stress among the SAU international students. The correlation results indicated that acculturative stress is positively correlated with Neuroticism and negatively correlated with Conscientiousness and Agreeableness. Those students who presented with the personality style of high score of Neuroticism or with the personality style of low score of Conscientiousness and Agreeableness, were less able to cope Acculturative stress well. Not surprisingly, these individuals with higher neuroticism traits would tend to avoid other people, close off their feelings, retreat to isolation, and have high levels of anxiety, thereby making them more susceptible to experiencing stress issues.

Personality Trait and coping. This research also explored whether personality traits influence coping. Coping skills were divided into emotional-focused, and problem-focused categories. Confrontive Coping, Self-controlling, Distancing, Escape-Avoidance, and Accepting Responsibility comprise the emotional-focused coping whereas Seeking Social Support, Planful Problem Solving, and Positive Reappraisal were related to problem-focused coping. An individual's self-perception determines the coping skills used. The results were as follows:

1. Neuroticism traits showed a positive correlation with the coping skill of Confrontive and Escape-Avoidance. Carver et al (2010) findings also showed an increase in neuroticism traits may increase the use of avoidance coping strategies. Not surprisingly, because of higher anxiety levels, individuals scoring high on neuroticism would tend to view life through a lens of negativity. These findings are consistent with previous research showing that neurotic individuals quickly have a negative outlook because they experience higher levels of anxiety and depression while individuals with a high extroversion trait experienced fewer mental health issues (Perez Algorta et al., 2014).

2. Extraversion was found to correlate with Seeking Social Support, Planful Problem Solving, Positive Reappraisal, and Confrontive Coping behaviors positively. Those students with the high personality trait of Extraversion tended to use problem-focused effort or positive behaviors to alter the stressful situation. But Extraversion personality traits, individuals also tend to use some aggressive behaviors (Confrontive Coping) in a stressful situation. Agreeableness was positively correlated with Positive Reappraisal and negatively correlated with Escape-Avoidance. Those individuals with the higher personality trait of Agreeableness may tend to use positive coping and tend less to use Escape-Avoidance coping. They, furthermore, are able to manage stress better by focusing on the positive. In other words, individuals who are extraverted and agreeable used more effective coping skills and were somewhat less affected by stress.

3. Conscientiousness was negatively correlated with Accepting Responsibility and Escape-Avoidance, whereas Openness was positively correlated with Planful Problem Solving. High Conscientiousness personality trait individuals are less likely to indulge in Self-blame, which increases stress. Both Openness and Conscientiousness are protective predictors of stress. The participants scoring high on Openness were characterized by cognitive curiosity, tolerance for novelty, and willingness to try new experiences (Costa & McCrae, 1992). These individuals seem comfortable adapting to unique situations or environments and rarely suffer from stress disorders.

So, international students with the personality trait of high Extraversion, high Openness, and high Agreeableness were more able to utilize the coping of problem-focused coping (seems more positive behaviors). Those international students with high Conscientiousness personality traits may less use Escape-Avoidance (more negative behaviors).

Stress and coping. Finally, the study found that total stress had a moderate positive correlational relationship with Escape-Avoidance, a negative correlational relationship with Planful Problem Solving and Positive Reappraisal. That means the higher the total stress level of the participants, the greater the tendency for avoidance or escape from reality, rather than the tendency to use positive or problem-focused ways strategies for coping.

The above findings indeed largely supported the hypothesis that the international students in this sample showed personality traits to correlate with their stress status as well as their coping skills.

Hypothesis three: the Multiple Education Stress Model combine with Personality Trait

Analysis Intervention will increase International Students' Coping Skills.

This hypothesis was supported by the findings that the Multiple Education Stress Model was influential in helping the international students increase their coping skills. The subscales of Confrontive Coping, Self-Controlling, Seeking Social Support, Accepting Responsibility, Planful Problem Solving, and Positive Reappraisal were statistically significant ($P < 0.05$) between pre-intervention and post-intervention assessments. The increase in the coping skills mean scores of the participants after the intervention as contrasted with their mean scores before the intervention in Self Controlling (increase: 20.14 to 22.27), Seeking Social Support (increase: 17.39 to 19.61), Accepting Responsibility (increase: 11.19 to 12.44), Planful Problem Solving (increase: 17.86 to 19.54), and Positive Reappraisal (increase: 21.00 to 22.95). Also found were a decrease in the coping skills scores after the intervention in Confrontive Coping (decrease: 15.12 to 13.78), Distancing (decrease: 15.64 to 15.43), and Escape-Avoidance (decrease: 19.27 to 18.92). These findings indicate that the intervention can be considered a probable factor in the improvement of coping skills.

The Distancing and Escape-Avoidance subscale did not show a statistical difference. Although not statistically significant, means scores were lower after the intervention. Distancing may be described as efforts to detach oneself from the stressful situation by minimizing the stress. Previous research show that one of the most prominent ways people choose to react to stress is to withdraw from others physically and avoid fun activities. Withdrawal has been found to be ineffective in containing negative emotions from running wild (Abraham, 2020). Prior studies also noted that women tend to use coping avoidance strategies more than men (Yue & Le, 2013).

Coping is a self-regulatory process involving cognitive and behavioral efforts to handle stressful situations (Lazarus & Folkman, 1984). Individuals have highly personalized ways of dealing with stressful events, and their coping efforts may well determine their well-being (Dewe et al., 2010; Folkman & Moskowitz, 2000). The current project show that problem-focused coping skills were more effective. Individuals with those skills were better able to cope with stress than those using aggressive action, wishful thinking, self-blame, or avoidance.

These finding also support Lazarus and Folkman's theory of stress, coping, and adaptation (1984), which underscores the importance of understanding that one's perception is a key factor in experiencing the stress level. Then by engaging in primary appraisal of the stressor, in individual can then analyze the available resources in the secondary appraisal (Lazarus & Folkman, 1984). In the current study, the findings indicate that the participants became more cognizant of their stress levels and more effective in the use of coping skills. They try to accept stress more positively, avoid negative coping avoid wishful thinking, and avoid escaping stress reality. The findings suggest that the Multiple Education Stress Model and personality analysis intervention may help international students by 1) increasing knowledge of their own personality

traits and the potential challenges of their particular personality traits, 2) heightening awareness of their stress levels, 3) understanding the link between one's self-perception and the interpretation of stressors and stress situations, and 4) developing more effective coping skills.

Strengths/ Limitations/ Implications for Future Projects

This project examined the effectiveness of the Multiple Education Stress Model intervention combined with personality trait analysis upon the coping skills of international students at Southern Adventist University. In this project, there are strengths and limitations.

One strength of this project was that the researcher was an international DNP student. Sharing the same status as an international student and experiencing similar acculturative stresses helped to show empathy and support to participants in this project. Another strength of this project was that it received considerable support, publicity, and promotion by numerous professors around campus. This provided credibility for the project and increased participation. A final strength of this project is that it presents a relatively simple, inexpensive, but effective intervention tool to enhance the adjustment of international students to U.S. campuses. This project has shown the efficacy of the Multiple Education Stress model in combination with the Big Five Inventory on the stress levels and coping skills of the participants. Moreover, the use of the SAU framework of Caring, Connecting, and Empowering to undergird the intervention is powerful for both the intervener as well as the student.

A significant limitation is a small sample. Because of the unforeseen 2020-21 Covid-19 pandemic, the sample size was reduced even further when several international students were barred from re-entering the U.S. The pandemic closed in-person classes on campus, which resulted in zoom meetings for the intervention portion of the research. It can be surmised that such arrangement drastically reduced the effectiveness of the intervention because of the power

of small in-person groups in the educational process, especially relative to sharing acculturative adjustment, stress, and coping. The Multiple Education Stress Model video was sent to the students each week, but some students reported that they ignored the email, thereby needing multiple reminders to finish the study. Another limitation of this project was the limited intervention time. With acculturation issues added to the normal stresses of higher education, such limited intervention time does not allow sufficient time to process the content and mobilize and examine their feelings. Based upon the findings of this research, further study is needed as follows:

1. To increase understanding of the acculturative stress experienced by international students in U.S. higher education.
2. To identify the demographic factors that render certain students more vulnerable to stress.
3. To determine best practices in preventing untoward stress and in culturally accepted forms of mental health support.

Besides recommendations for further research, this project also holds implications for U.S. higher education. With increasing numbers of international students arriving on U.S. campuses, higher education institutions must provide a hospitable environment in which this population can succeed. These students, because of their status, are ineligible for work, educational loans, or grants, they must invest resources of a much higher level than domestic students for tuition, as well as passports, visas, and travel expenses. Often unaware of services or reticent to seek help, these students may be silently suffering alone. The institution would do well to use the framework of Caring, Connecting, and Empowering in helping their students. Simply by establishing intentional strategies of Caring and Connecting with them, the

institution can do much to reduce a sense of isolation and acculturative stress. Students can be connected with others on campus and in the community who share the same ethnicity. These strategies can be extremely effective in Empowering the students to handle cultural adjustments, homesickness, language barriers, academic demands, lack of social support, and intrapersonal problems. This responsibility lies upon the host institutions to ensure the availability of resources and support services for these students as they struggle with acculturative stress in addition to the normal stresses of domestic college students. Educators and administrators should recognize and be sensitive to the acculturative stress of international students. Positive strategies provided in a supportive, problem-focused and culturally acceptable way should be mutually explored facilitate adjustment.

As colleges and universities grapple with these realities and provide a supportive, success-promoting campus environment, the student's educational, mental, social, and spiritual development can be realized. Providing resources such as testing, language assistance, support groups, clubs, and other services is essential. And when services and interactions are conducted within a framework of Caring, Connecting, and Empowering, the entire campus community will reap untold benefits.

Also, the education institutes should consider and understand the international students' cultural backgrounds. Cultural differences should be considered for a different stress response. This project helped international students recognize their personality traits and understand the stress and coping issues, which helped mitigate negative factors and ensure more positive outcomes. Appendix G referred the cultural competence and health promotion, which would be my EOP SLO synthesis.

Conclusion:

The findings of this research reveal that the Multiple Education Stress Model intervention combined with personality trait analysis can be considered effective in decreasing acculturative stress levels and improving coping skills among international students at Southern Adventist University. The sample consisted of 58 international students—44 undergraduate and 12 graduate, two Associate Degree students. Pre and post intervention assessments showed statistically significant changes on a number of scales that may be attributed to the efficacy of the intervention.

Personality traits were also found to be a factor in how the participants interpret stressful situations, which in turn influences their stress levels. Similarly, personality traits affect the ways in which the participants cope with stress. Individuals scoring high on neuroticism also scored high on stress and scored low on coping with stress. By contrast, individuals scoring high on Extraversion and Agreeableness also scored high on subscales of coping skills. Personality traits individuals have positive correlation relationships with subscales of coping skills could be considered a protective trait for students.

Based upon the theory of Lazarus's stress, coping, and adaptation, and undergirded by Southern Adventist University Framework of Caring, Connecting, and Empowering, the Multiple Education Stress Model intervention combined with personality trait analysis has potential on college campuses as becoming an established tool that can help facilitate acculturation to U.S. higher education. International students with self-identity of their personality trait, acculturative stress, may help them develop a deeper understanding of the potential challenges. Using problem-focused coping skills may help reduce the adjustment barriers. Also, educators and administrators should understand there is a need to realize international students' acculturative stress and implement positive strategies to help them adjust.

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Appendix

Appendix A: Informed Consent

Title: The effectiveness of mixed personality trait analysis with multiple stress education model in coping stress among international students in American

IRB Protocol:

Investigator: Xiaoyang Mei (Sharon Mei), A DNP student of Southern Adventist University

Phone (4235219893)

Email (meixiaoyang@southern.edu)

Introduction: Thank you so much for considering this invitation to participate in my scholarly project. All participation is entirely voluntary in this project and free to withdraw from this project before completing it. However, suppose you choose to complete this project. In that case, your participation will be highly appreciated. Meanwhile, your contribution will be valuable as this research may benefit yourself, your friends, and fellow international students.

Purpose: This research project has three aims to explore the stress experienced and ascertain the effectiveness of an intervention module for stress reduction and increased coping.

1. To describe the levels of stress among international students at Southern Adventist University (SAU).
2. To explore the correlation between personality traits and stress among these students.
3. To examine the effectiveness of an evidence-based intervention of multiple education stress models combined with personality trait analysis in reducing stress, improving coping skills, and considering which personality traits enhance the effectiveness.

Benefits: Through such understanding, the related negative factors and subsequent stress could be mitigated, thereby ensuring more positive outcomes for you studying at American universities. Also, analyzing about stress topic on TED and group discussion may help you adopt more effective coping strategies.

Risks. The risks for participation in this project are minimal. Some of the questionnaires may make you feel unpleasant.

Protection:

You can contact the researcher (4215219893 or meixiaoyang@southern.edu) to discuss your feelings, concerns, and any questions. Also, you could contact the Psych SAU Counseling center.

Confidentiality: Any information or discussion contents will be kept confidential unless it is required by law.

Compensation: You will have the opportunity to get a special gift if you complete all the modules.

If you choose to participate in this project after reading this informed consent, please

Signature: _____

Appendix B: Demographic Questionnaire:

1. What is your gender? a. Female b. Male
2. Age _____
3. What is your country of origin? _____
4. What is your mother language? _____
5. What is your marital status?
 - a. single
 - b. Married, living with spouse
 - c. Married, spouse not in U.S.
 - d. Other, please specify _____
6. Which degree are you seeking?
 - a. Bachelor's
 - b. Master's
 - c. Doctorate
 - d. Other, please specify _____
7. How long have you stayed in the U.S? (in years please) _____
8. Where do you live in the U.S?
 - a. on campus
 - b. off-campus
9. Whether or not you had family or friends in the US prior to arrival here? _____
10. Family or friends who moved with you? _____
11. Family or friends from your country who joined you here since your arrival in the US?

Appendix C: Big Five Inventory (BFI)

Instruction: please rate how much you agree with the following statements using your own experiences.

Statements	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
1. Is talkative					
2. Tends to find fault with others					
3. Dose a thorough job					
4. Is depressed, blue					
5. Is original, comes up with new ideas					
6. Is reserved					
7. Is helpful and unselfish with others					
8. Can be somewhat careless					
9. Is relaxed, handles stress well					
10. Is curious about many different things					
11. Is full of energy					
12. Starts quarrels with others					
13. Is a reliable worker					
14. Can be tense					
15. Is ingenious, a deep thinker					
16. Generates a lot of enthusiasm					

Statements	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
17. Has a forgiving nature					
18. Tends to be disorganized					
19. Worries a lot					
20. Has an active imagination					
21. Tends to be quiet					
22. Is generally trusting					
23. Trends to be lazy					
24. Is emotionally stable, not easily upset					
25. Is inventive					
26. Has an assertive personality					
27. Can be cold and aloof					
28. Perseveres until the task is finished					
29. Can be moody					
30. Values artistic, aesthetic experiences					
31. Is sometimes shy, inhibited					
32. Is considerate and kind to almost everyone					
33. Dose things efficiently					
34. Remains calm in tense situations					
35. Prefers work that is routine					

Statements	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
36. Is outgoing, sociable					
37. Is sometimes rude to others					
38. Makes plans and follows through with them					
39. Gets nervous easily					
40. Likes to reflect, play with ideas					
41. Has few artistic interests					
42. Likes to cooperate with others					
43. Is easily distracted					
44. Is sophisticated in art, music, or literature					

Appendix D: Acculturative Stress Scale (ASS)

Instruction: please rate how much you agree with the following statements using your own experiences.

Statements	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
1. Homesickness for my country bother me					
2. I feel uncomfortable to adjust to new foods and/ or to new eating habits					
3. I am treated differently in social situations					
4. I feel rejected when people are sarcastic toward my cultural values					
5. I feel nervous to communicate in English					
6. I feel sad living in unfamiliar surrounding here					
7. I fear for my personal safety because of my different cultural background					
8. I feel guilty to leave my family and friends behind					
9. Others are biased toward me					
10. I feel guilty to leave my family and friends behind					
11. Many opportunities are denied to me.					
12. I feel angry that my people are considered inferior here.					
13. I feel overwhelmed that multiple pressures are upon me after my migration to this society.					
14. I feel that I receive unequal treatment.					
15. People from some ethnic groups show hatred toward me nonverbally.					
16. It hurts when people don't understand my cultural values.					
17. I am denied what I deserve.					

Statements	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
18. I have to frequently relocate for fear of others.					
19. I feel low because of my cultural background					
20. I feel rejected when others don't appreciate my cultural values					
21. I miss the country and people of my national origin					
22. I feel uncomfortable to adjust to new cultural values					
23. I feel that my people are discriminated against					
24. People from some other ethnic groups show hatred toward me through their actions.					
25. I feel that my status in this society is low due to my cultural background					
26. I am treated differently because of my race					
27. I feel insecure here					
28. I don't feel a sense of belonging here					
29. I am treated differently because of my color					
30. I feel sad to consider my people's problems					
31. I generally keep a low profile due to fear from other ethnic groups					
32. I feel some people don't associate with me because of my ethnicity.					
33. People from some other ethnic groups show hatred toward me verbally					
34. I feel guilty that I am living a different lifestyle here					
35. I feel sad leaving my relatives behind					
36. I worry about my future for not being able to decide whether to stay here or to go back					

Appendix E: Ways of Coping Questionnaire

Instruction: Please read each item below and indicate, by using the following rating scale, to what extent you used it in the situation you have just described.

Statements	Not used	Used somewhat	Used quite a bit	Used a great deal
1. Just concentrated on what I had to do next-the next step				
2. I tried to analyze the problem in order to understand it better				
3. Turned to work or substitute activity to take my mind off things				
4. I felt that time would make a difference-the only thing to do was to wait				
5. Bargained or compromised to get something positive from the situation				
6. I did something which I didn't think would work, but at least I was doing something				
7. Tried to get the person responsible to change his or her mind				
8. Talked to someone to find out more about the situation				
9. Criticized or lectured myself				
10. Tried not to burn my bridges, but leave things open somewhat				
11. Hoped a miracle would happen				
12. Went along with fate, sometimes I just have had luck				
13. Went on as if nothing had happened				
14. I tried to keep my feelings to myself				
15. Looked for the silver lining, so to speak; tried to look on the bright side of things				
16. Slept more than usual				

Statements	Not used	Used somewhat	Used quite a bit	Used a great deal
17. I expressed anger to the person who caused the problem				
18. Accepted sympathy and understanding from someone				
19. I told myself things that helped me to feel better				
20. I was inspired to do something creative				
21. Tried to forget the whole thing				
22. I got professional help				
23. Changed or grew as a person in a good way				
24. I waited to see what would happen before doing anything				
25. I apologized or did something to make up				
26. I made a plan of action and followed it				
27. I accepted the next best thing to what I wanted				
28. I let my feeling out somehow				
29. Realized I brought the problem on myself				
30. I came out of the experience better than when I went in				
31. Talked to someone who could do something concrete about the problem				
32. Got away from it for a while; tried to rese or take a vacation				
33. Tried to make myself feel better by eating, drinking, smoking, using drugs or medication, etc				
34. Took a big chance or did something very risky				
35. I tried not to act too hastily or follow my first hunch				
36. Found new faith				

Statements	Not used	Used somewhat	Used quite a bit	Used a great deal
37. Maintained my pride and kept a stiff upper lip				
38. Rediscovered what is important in life				
39. Changed something so things would turn out all right				
40. Avoided being with people in general				
41. Didn't let it get to me; refused to think too much about it				
42. I asked a relative or friend I respected for advice				
43. Kept others from knowing how bad things were				
44. Made light of the situation; refused to get too serious about it				
45. Talked to someone about how I was feeling				
46. Stood my ground and fought for what I wanted				
47. Took it out on other people				
48. Drew on my past experiences; I was in a similar situation before				
49. I knew what had to be done, so I doubled my efforts to make things work				
50. Refused to believe that it had happened				
51. I made a promise to myself that things would be different next time				
52. Came up with a couple of different solutions to the problem				
53. Accepted it, since nothing could be done				
54. I tried to keep my feelings from interfering with other things too much				
55. Wished that I could change what had happened or how I felt				
56. I changed something about myself				

Statements	Not used	Used somewhat	Used quite a bit	Used a great deal
57. I daydreamed or imagined a better time or place than the one I was in				
58. Wished that the situation would go away or somehow be over with				
59. Had fantasies or wishes about how things might turn out				
60. I prayed				
61. I prepared myself for the worst				
62. I went over in my mind what I would say to do				
63. I thought about how a person I admire would handle this situation and used that as a model				
64. I tried to see things from the other person's point of view				
65. I reminded myself how much worse things could be				
66. I jogged or exercised				

Appendix F: IRB



October 1, 2020

Principal Investigator: Sharon Mei

Research Project: The Effectiveness of Mixed Personality Trait Analysis with Multiple Stress Education Model in Coping with Stress Among International Students in America

IRB Tracking Number: 2020-2021-005

Dear Sharon,

It is a delight to inform you that your research protocol titled “The Effectiveness of Mixed Personality Trait Analysis with Multiple Stress Education Model in Coping with Stress Among International Students in America” has been approved by the Southern Adventist University Institutional Research Board according to the proposal. You are now authorized to proceed with the project as outlined. This approval expires May 31, 2021.

As a principal researcher, you have the ultimate responsibility for the conduct of the study, adherence to ethical standards, and protection of the rights and welfare of human participants. As you proceed with your research, you are expected to:

- 1) Conduct the study according to the approved protocol.
- 2) Make no changes to the approved study. If changes are necessary, proceed with one of the following:
 - a) For minor changes to this protocol, please notify IRB by submitting an IRB Form B and proceed after its approval.
 - b) For substantial changes, submit a new IRB Form A and proceed after its approval.
- 3) Use the approved procedure and forms for obtaining informed consent and data.
- 4) Promptly report any significant adverse events to the IRB within five working days of occurrence using an Adverse Report Form.

All forms must be submitted to irb@southern.edu.

We wish you many blessings as you move forward with this study and look forward to reading your findings when they are ready. If there is anything else we can do to assist you with this research study, please contact us.

Always in His service,

Cynthia M. Gettys, PhD

Director, Center for Teaching Excellence
and Biblical Foundations of Faith and Learning
Chair, Institutional Review Board

office. 423.236.2285

cell. 423.227.2352

address. PO Box 370, Collegedale, TN 37315

“I applied my mind to study and to explore, by wisdom all that is done under the heavens.” - Ecclesiastes 2:13

Southern Adventist University

“I will instruct you and teach you in the way you should go; I will counsel and watch over you.” Psalm 32:8



"Research is to see what everyone else has seen and to think what nobody else has thought." - Albert Szent-Gyorgyi

Appendix G: EOP SLO Synthesis

Cultural Competence

Cultural competence is shown that individual has unique and defining characteristics which refer to the influence of their health beliefs and behaviors. My project explored the correlation between personality traits, stress and stressor coping skills among SAU international students. I considered and understood the participant's cultural background, which played a critical role in study design, implementation processes, and outcome interpreting. Cultural differences should be considered for different responses to stress. Seeking mental health help and disclosing emotional problems face-to-face is inconsistent with their cultural values, especially within the Asian culture. When facing a mental health-related issue, the individual's initial action is to seek help from an intimate partner, parent, or close friend. (Lian et al., 2020).

Evidence Based Practice

The development of this project had come through extensive literature research. According to the literature review, it was a shred of growing evidence identified that the prevalence of mental disorders is higher in university students than their peers who are not college students. Moreover, the incidence of psychological disease among college students had been supported by research findings in the US, China, Australia, veterinary, Spanish. (Fernández-Rodríguez et al., 2019). Also, the literature review had guided my project and make it more depth and meaning. My research explored psychoeducational intervention in reducing stress and increasing coping among international students at Southern Adventist University. The Multiple Education Stress Model is an evidence-based practice intervention approach for stress, anxiety or depression (American Psychological Association, 2020; Davis & Kiang, 2018; Duru and Poyrazli.,2007; Lian et al., 2020). My scholarly project combines five modules: recognition

of stress, relaxation training, cognitive skills development, affect skills, and behavioral skills in an attempt to help international students overcome stressors. The stress module consists of five weeks, fifty-minute educational sessions, followed by a thirty-minute discussion group.

Additionally, my project includes the use of personality trait analysis, as this has been found to play a critical part in matching an individual's personality to a particular intervention for maximum response (Bagby et al., 2008).

Health Promotion

This project is not directly valid for health promotion. But it gave the results of Acculturative stress level and Coping skills among SAU international students. Those results showed a better understanding and emphasized stress/mental health concerns for international students. It is critically important to understand the stress and coping issues among international students. Through such understanding, the related negative factors and subsequent stress could be mitigated, thereby helping to ensure more positive outcomes for international students studying at American colleges and universities. Moreover, I hope this project helped enhance the awareness and accessibility to seek professional counseling services, decreased the international student's stress level, and improved stress coping skills.

Patient Centered Care

Patient-centered care ideals have permeated into healthcare systems, which also have been expanded to encompass a cultural shift in care delivery. In my project is geared toward the population of international students. Although they are not patients present, the project hopes to find the predicted factors and actively implement initiatives for them. The prevention of developing a psychological disorder is of critical importance. Helping international students to

identify their stress levels and to learn effective ways of managing their stress is a prerequisite intervention. Practical coping skills help minimize negative outcomes. (Kim, et al., 2020).

Quality & Safety

Chronic stress can significantly affect brain structures and lead to cognitive distortions, which may cause higher levels of depression. The frequency of daily hassles can also trigger negative internal attributions, leading to a sense of hopelessness and depression (Bergland, 2014; McEwen et al., 2015; Lee et al., 2019). Stress has been linked to anxiety, depression, and suicidality among Chinese and Latin international students (Wei et al., 2007; Mayorga et al., 2018).

Informatics & Innovation

Informatics and innovation make data more accessible and usable for research. I am sure using technology will become more popular in the DNP program. Technology serviced online helped my project at the literature search, the writing of the paper, and analysis of data.

Teamwork & Collaboration

My project needs a team effort. The professionals' nursing and others from outside our profession are geared toward making improvements in the project goal, theory and framework, and validity intervention tools. Furthermore, I need to provide mechanisms for continuous communication among my professors, embedded librarians, statisticians, and friends who helped to assist in assessment, planning, implementing, and evaluating the process of my project. Because of their collaboration and brilliant minds, which promoted change and achieved a better outcome. (Moran, K. 2017).

Professionalism

The professionalism in my project is reflected in research design, scale development, and data analysis. This project was a quasi-experimental descriptive study, using pre and post-data collection. It was designed to evaluate the effectiveness of the Multiple Education Stress Model combined with the personality trait analysis in coping stress among Southern Adventist University international students. The correlation between personality traits and stress scores was tested to determine whether an individual's personality information would be a suitable way to guide treatment type to maximize its effectiveness. The scales which I choose to use existing scales from literature also had excellent reliability and validity. Institutional Review Board (IRB) approval was obtained for this research prior to reaching out to any participants.

In this project, the independent variables were the Multiple Education Stress Model and the Multiple Education Stress Model combined with personality trait analysis. The dependent variables were the scores from the Acculturative Stress Scale and Ways of Coping Questionnaire. Descriptive statistics were used to analyze the demographics information, and SPSS Statistics 24 was used to analyze the quantitative data. Data analyses include Pearson correlation coefficient test, paired t-test, and multiple regression. The Pearson correlation coefficient test was used to determine the relationship between personality traits and stress variables. The paired t-test was used to compare pre-post stress and coping scores. Multiple regression was used to find the predictions for stress from demographic data.

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