Southern California CSU DNP Consortium

California State University, Fullerton
California State University, Long Beach
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AWARENESS OF STRESS IN YOUNG ADULTS: RESOURCE AWARENESS AND UTILIZATION

A DOCTORAL PROJECT

Submitted in Partial Fulfillment of the Requirements

For the degree of

DOCTOR OF NURSING PRACTICE

By

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ABSTRACT

This doctor of nursing practice project was a comparative exploratory study of nursing students enrolled in three baccalaureate nursing programs (Accelerated BSN, RN to BSN, and collaborative ADN to BSN) at a public university in greater Los Angeles. The three major goals of this study were to: (a) identify perceived stressors of nursing students causing common health problems; (b) determine the extent to which nursing students were aware of available resources; and (c) determine the extent to which nursing students use available resources; another aim was to determine whether differences existed according to the students' baccalaureate program. Participants (n = 110) completed the 14-item Perceived Stress Scale and surveys focused on common health problems, along with awareness and use of university resources.

In this sample of predominately female students, the only Perceived Stress Scale item that students -on average- reported that they experienced "often" was "Felt nervous and stressed." Four health problems were reported as occurring "often" by the group (on average): exhaustion/fatigue, anxiety, sleep difficulty, and headache. Students with higher perceived stress scores had higher numbers of total health problem ($r_s = .63$, $p < .001$).

Of the 26 university resources, students were most likely to be aware of University Financial Aid and the Student Health Center (90+%) and least likely to be aware of psychosocial care, drug and alcohol rehabilitation, and data entry/analysis

assistance. Reported utilization was highest for these same resources: financial aid (42.7%), health center (37.3%).

Comparisons across students in the three programs showed that the Accelerated BSN students demonstrated significantly less perceived stress and fewer health problems than did the RN to BSN students. The Accelerated students were also significantly more aware of university resources aimed at physical health and psychosocial health than students in the other two baccalaureate programs.

Findings from this study, framed in the PRECEDE-PROCEED model, support the premise that higher levels of stress are associated with health problems and that nursing students are using resources appropriately for the stressors they encounter. Prospective research is needed with a larger samples of students across multiple university campuses to further delineate associations among stress, health, and personal actions.

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INTRODUCTION

Stress in young adults such as nursing students is linked to sleep deprivation, increase incidences of absences, tardiness, and common health problems leading to truancy and negative college experiences. Today's college student's population are likely to have multiple role responsibilities, which increases the likelihood of their stress level (Asemani et al., 2014) . Multiple role responsibilities may include being the primary family financial supporter, a care-taker for a family member, while being a full or part time college student. College students' responses to the competing demands of multiple roles often leads to sleep deprivation and subsequently to a potential negative impact to their physical, and emotional wellbeing, which may result in developing chronic health conditions (Chambel & Curral, 2005; Misra, Crist, & Burant, 2003). Equally documented is the link between responses to stress by using non-adaptive coping mechanisms that increases risks to poor health outcomes. Behaviors that increase health risks such as smoking, suicide, and increased alcohol consumption in college students are well documented (Asemani et al., 2014; Reeve, Shumaker, Yearwood, Crowell, & Riley, 2013). Stress occurs when the social demand on the student exceeds his/her individual's adaptive capacity of coping mechanism with the stressors (Cohen, Janicki-Deverts, & Miller, 2007).

Although, there are ample studies that investigated stress responses in college students in general (Misra et al., 2003; Salafsky, Orzech, & Hamilton, 2011; Selby, Riportella-Muller, Sorenson, & Walters, 1989), few studies had focused attention to understanding the nature of perceived stress and the stress response of nursing students in regular or accelerated nursing programs (Wolf, Stidham, & Ross, 2015). The findings

of studies conducted on college students in general have successfully isolated certain health risk behaviors, such as alcohol use, anxiety, asthma, depression, sleep disorders, among others as predictors of health outcome. Given the existing gap in understanding the stress response of nursing students, the current project is aimed to explore the stress response of nursing students in public university in the Los Angeles area. This project had identified the following areas needing more investigation:

1. The stressors of nursing students in a public university that are causing common health problems.
2. Assessment of the students' awareness of the resources that are available on the university campus.
3. Determination of the extent to which they use those resources
4. Comparison of the experiences of nursing students enrolled in the three types of BSN nursing programs in term of (a) Common health problems, (b) awareness of university resources, and (c) utilization of university resources.

Purpose of the Study

The three primary purposes of this project were: (1) to identify and determine the stressors of nursing students at a public university that are effecting the students' health; (2) to determine the extent to which the nursing students are aware of the resources available to them to deal with the stressors; and (3) to determine the extent to which they use university resources to cope with the stressors and reduced the incidences of common health problems. The secondary purpose of this study was to determine if the students enrolled in the three types of nursing programs differed in their experience of health

problems, awareness, and utilization of campus resources to deal with the stressors of being a nursing student.

Problem Statement

According to the 2013 biannual study of college students repot, college students were experiencing numerous common health problems such as; alcohol use (2.4%), anxiety (19.4%), asthma (7.6%), common colds (15.8%), concerns for a troubled friend or family member (13%), depression (13.3%), drowsiness during classes or sleep disorders (21.3%), sleep difficulties at night (21.3%), and reported of having difficulty to handle academics (48.8%) during their enrollment (ACHA-NCHA II, 2013). Such common problems were attributed to various stressors experienced by students while enrolled in academic studies (31.5%). Some of the common stressors that the students had experienced cluster around financial (44%) and employment issues (20.1%). Although the 2015 biennial study of college students' (ACHA-NCHA II, 2015) report highlights improvements in the area of asthma (6.7%), concerns for a troubled friend or family member (12.2%) and improvement of incidence of common cold (14.8%) which, is related to higher utilization (37.8%) of vaccination against influenza, the same report continues to raise concerns with incidence of alcohol use (2.4%), anxiety (22.3%), depression (14.1%), sleep difficulties (34.4%), and with career related issues (32.9%). The report found a link between college students' experience of such common problems and increased level of perceived stressors (33.6%) (ACHA-NCHA II, 2015). Evidence also shows that nursing students did not seek professional help to cope with the stressors associated with college students' common health problem (Chernomas & Shapiro, 2013; Kenty, 2000). The problem being investigated is the lack of knowledge and documented

evidence of the common health problem by nursing students and the extent to which they are aware and utilize the university resources to deal with the stressors.

Justification/ Significance of the study

Given the high incidence of common health problems among college students and the seriousness of such health problems including depression, anxiety, alcohol use that are coupled with high incidence of sleeping difficulties, it is of utmost importance to understand not only the variables in the college students' life that predispose them to experiencing such health problems but also the approaches they to cope with such difficulties. With respect to the severity of the incidence of the occurrence of common health problems in students, the study conducted by ACHA-NCHA II (2015) has shown that between 2.4% to 21.3% of students suffered from some form of health problems due to numerous stressors encountered while being a student. As previously stated, 2.4% suffered from alcohol abuse, 7.6% from asthma, 14.1% from depression, 15.8% from upper respiratory infections, 22.3% from anxiety and 34.4% from sleep disorders. Furthermore, the literature has pointed out that these common problems are becoming more serious in nature such as alcoholism (Gislason, Tómasson, Reynisdóttir, Björnsson, & Kristbjarnarson, 1997), depression (Brandy, Penckofer, Solari-Twadell, & Velsor-Friedrich, 2015; Choi, 2003; Wolf et al., 2015), illness (Kernan & Wheat, 2008) and higher predisposition for car accidents due to sleepiness (Gislason et al., 1997; Sheehan, O'Donnell, Fitzgerald, Hervig, & Ward, 1981).

With respect to the financial consequences related to common health problems, studies had shown that nursing student attrition rate had become a major financial burden both on the students, their families and to the school's budget (Pryjmachuk, Easton, &

Littlewood, 2009). For example, when the student's illnesses required the student to drop out of the program, it often delayed the student's graduation from the program costing the student and his/her family the loss of tuition, time, and changes in their future plans. Student absences and drop outs from the program also cost financial loss to the university, especially at a public university where funds are allocated by the number of full time students enrolled at the university.

These studies provide preliminary evidence of the nature and degree of stress as experienced by college students and offer insight on the potential stress that nursing students' experience. The link between stress and health problems is well established and the ineffective coping strategies including alcoholism, depression and other chronic illnesses are of main concern. These health problems also had the potential for frequent absences from the school and in some cases dropping out of school. As is pointed out by Chernomas and Shapiro (2013), stress level of the student interfered with his/her health, which in turn adversely affected student's academic performance both in the classroom as well as in the clinical setting. These findings, warranted for further investigation to examine the relationships between stressors of nursing students and the health problems with the aim of evaluating the existing student health center (SHC) resources that are available for the students to use, and propose the development of a campus based plan to improve college students health.

Theoretical Framework

There are multiple potential theoretical models, beliefs, and theories that can be used to strengthen the foundation of a study that is trying to develop a health promotion disease prevention intervention. The chosen model enables the practitioner to develop interventions to change unhealthy behaviors of participants. Healthy behaviors will prevent negative outcomes that effect the student's health (Chambel & Curral, 2005). A theoretical framework provides boundaries and structure to the scholarly project, and increases its efficiency (Bonnel, 2014). For this study the PRECEDE-PROCEED model is used.

Since its conception in 1980 by Dr. Lawrence Green' PRECEDE-PROCEED model Figure 1) has been used in the following manner: 1) as the diagnostic model for health education planning and intervention; 2) to promote public health strategies in health education and disease prevention, 3) researchers have used the model partially for community based assessment and diagnosis (Green & Kreuter, 1990; Paluck, Green, Frankish, Fielding, & Haverkamp, 2003; S. T. Wang & Wang, 2000), for the development of an early and periodic screening and diagnosis treatment programs (EPSDT) for use by public health nurses and professionals (Selby et al., 1989). The PRECEDE part of the Green's model can be used for this project to identify the maladaptive behaviors of the young adults enrolled in the nursing programs, at California State University Northridge, by looking at the three areas of the behavioral causes of the health problems (Predisposing, Reinforcing, and Enabling factors).

Description of the PRECEDE Model

Just like a medical diagnosis preceding a treatment plan, the PRECEDE model provides a theoretical framework to identify and diagnose the problem in the population studied before developing and implementing an intervention or education plan. The PRECEDE model in a diagrammatic form is presented in Figure 1. PRECEDE is the acronym for the theoretical framework (P refers to predisposing, R for reinforcing, E for enabling factor, C is for causes, E refers for educational, D for diagnosis, and E stands for evaluation. Each letter signifies a different stage of the theory (Green, Kreuter, Deeds, Partridge, & Bartlett, 1980). In this study, the model was utilized as a conceptual framework to guide in assessing, diagnosing, and proposing an intervention plan.

According to PRECEDE model, the following three factors determine the contextual definition of the behavioral causes of health problems. The three factors are: Predisposing, Reinforcing, and Enabling.

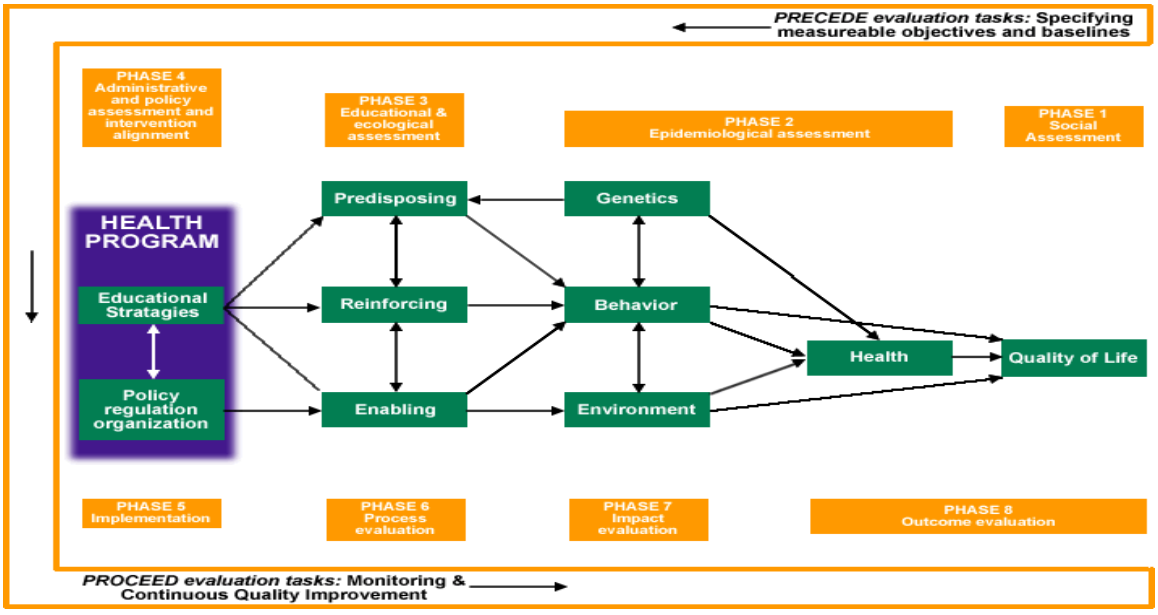

Figure 1. Lawrence Green's PRECEDE-PROCEED Theoretical Model. Adapted from "Improving EPSDT Use: Development and application of practice-based model for public health nursing research, by Selby et al., 1989, *Public Health Nursing. 6*(4), 174-181.

Predisposing Factors

Predisposing factors refer to the individual's demographic characteristics such as age, gender, socio-economic background, ethnicity, educational level, life style, home conditions, environmental requirements, roles, responsibilities, and employment. Some of the physical and social factors outside of an individual's control, can exacerbate the problem (Deasy, Coughlan, Pironom, Jourdan, & Mcnamara, 2015). Additionally, the individual's attitudes, perceptive knowledge, belief system, locus of control played a role. All these factors contribute to the severity of the health problem. For this study the Predisposing factors selected are student's demographic characteristics that contribute to the student's distress such as socio-economic conditions related to financial responsibility that require the student to work additional hours to pay his/her own expenses, other factors such as family responsibilities (Steven Pryjmachuk & David A. Richards, 2007), social requirements in terms of amount of homework, clinical practice requirements (Asemani et al., 2014) that force a student to spend half the night completing the homework. Lack of sleep had been identified as one of the major causes for risky driving, drug use, and poor academic performance (Chambel & Curral, 2005; Lund, Reider, Whiting, & Prichard, 2010; Nyer et al., 2013). Students' attitudes, values, belief systems, and locus of control in terms of high expectation of self, all contribute in the handling of the academic demands to succeed in a program. For example, a high achieving nursing student, who has been an "A student" expects a lot of him/herself and will stay up all night to complete the homework assignment to maintain the "A level" work. When such behavior continues for a long period of time, it can lead to health related problems (Chambel & Curral, 2005; Lund et al., 2010). Thus, the predisposing

factors are significant contributors of health problems and psychological distress in nursing students. Predisposing factors also are taken into consideration not only during the assessment phase of the health problem, but also to identify the predisposing factors such as the antecedents to a behavior that provide the reason or the underlying rationale or motivation for wanting to change the maladaptive behavior and adopt the healthy behavior. To do these cognitive processing of information the individual's knowledge base, attitudes, beliefs, skills, and self-efficacy beliefs need to be assessed and engaged (Green, 2009).

Reinforcing Factors

In this stage, the theory refers to those conditions that reward the student for continuing to do the maladaptive behavior (Chambel & Curral, 2005; Reeve et al., 2013). For example, getting couple of hours of night sleep to complete the homework assignment to get the grade of "A". The reward of wanting and getting an "A" grade is the reinforcer for sleeplessness that is causing the stress the next day. Thus, reinforcing pattern are those rewards and incentives that follow a behavior that makes the behavior to continue to occur (Clark, Nguyen, & Barbosa-Leiker, 2014). Social support, family influences, employer expectations and demands, peer influence, and recognition can serve as the dispensers of the reinforcements (rewards) for the maladaptive and/or healthy behavior (Chambel & Curral, 2005). Other reinforcing factors can be related to peer pressure that influences and affects the unhealthy behavior. Unhealthy lifestyles such as going out with friends or hanging out late at night contribute to the individual's late sleeping. During class the young adult who has practiced an unhealthy behavior can appear drowsy with a sleepy behavior, which disables his/her engagement in class. This

unhealthy learning habit of studying ultimately affects their health and academic performance (Ahrberg, Dresler, Niedermaier, Steiger, & Genzel, 2012).

Enabling Factors

Enabling factors are skills and motivating factors within the young adult to identify and access resources and services that are available. It also entails the physical resources that are available to the nursing student. Enabling factors also include the counseling and orientation sessions that are available to nursing students that inform them about how to use the services of the university. Additional enabling factors include mentoring to enable the students to develop skills on how to cope with stress, and how to access the university's referral system. These services are intended to motivate and encourage the participant to change the risky behaviors.

An example of an enabling factor is the availability of resources for young adults enrolled in the nursing programs, to use while in stressful situations. The Enabling factors can be those things that are readily available to help the individual adopt and maintain a healthy or unhealthy behavior (Paluck et al., 2003). An example can be the services provided by a university for students to use for coping with stress during their academic enrollment, such as free counseling service, student recreation center providing yoga classes, low cost healthcare services available for students at the SHC (student health center), as well as educational resources to use while coping with academic stressors. Such factors enhance or deter the unhealthy behavior (Linnan et al., 2005). Other counseling services for mental health, alcohol and tobacco use, drug counseling or suicide prevention are also examples of enabling factors. The university provides all the

enabling factors (resources) for students to use. However, data on the extent of use of such services by young adults of the nursing department at CSUN are not available.

Since this study was not an experimental design study with no actual interventions tested, only the first part of the Precede model was used as depicted in Figure 2 to identify the stressors causing common health problems in young adults enrolled in the three nursing programs. The Precede model's predisposing, reinforcing, and enabling factors provided the formula to identify the problem within these three domains and to propose an intervention strategy for testing in a subsequent study.

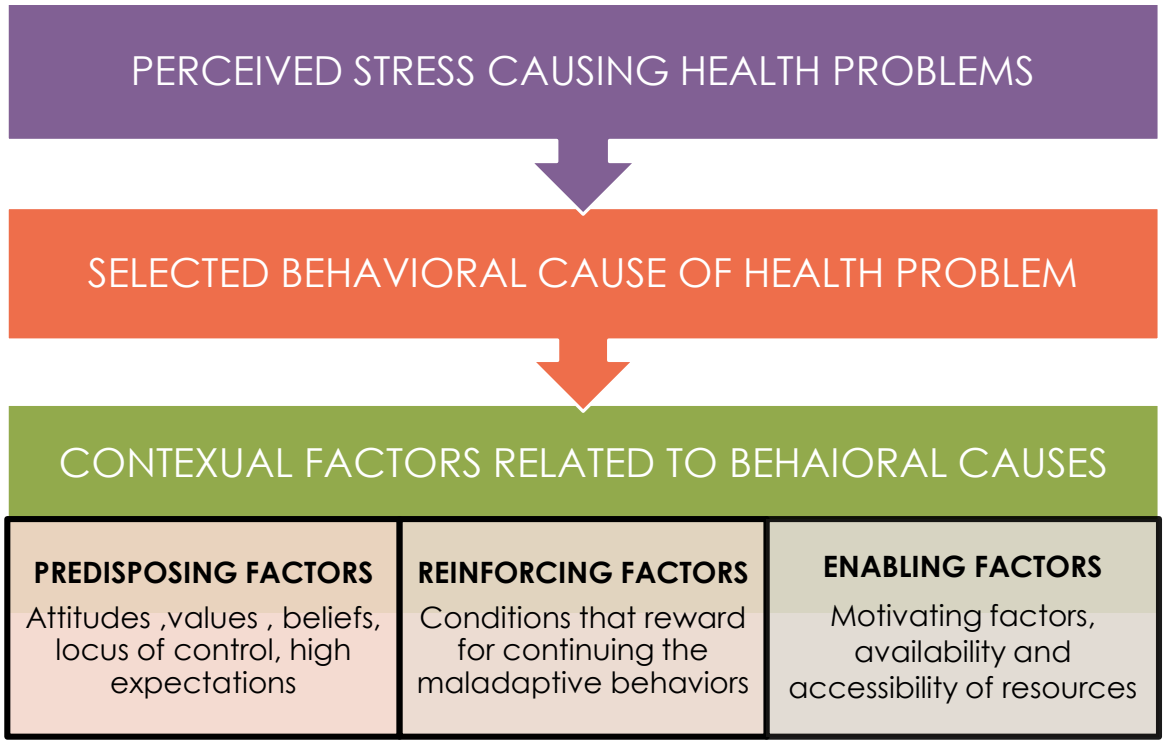

Figure 2. A modified PRECEDE-PROCEED model (Predisposing, Reinforcing, and Enabling Factors). Adapted from "Green et al., Health education planning: a diagnostic approach. (1980).

Aims and Research Questions

The three major goals of this study were:

1. To identify the perceived stressors causing common health problems in young adults, who are enrolled in one of the three nursing programs.
2. To determine the extent to which young adults, enrolled in the three nursing programs, were aware of the resources that were available to them.
3. To determine the extent to which young adults, enrolled in the three nursing programs, used the resources available at the university.

Research Questions

Based upon the above mentioned primary and secondary purposes of the study five research questions were raised and tested.

1. To identify the *perceived stressors* of nursing students at a public university that may have caused health problems.
2. To identify the possible causes of the *stressors* of the nursing students.
3. To determine the extent to which the nursing students were *aware* of the resources available to them on campus to help cope with the stressors or health problems.
4. To determine the extent to which the nursing students *used* university resources to cope with the stressors and reduce the incidences of common health problems.
5. The secondary purpose of this study was to determine if the three nursing groups A-BSN (Accelerated Bachelor of Science in Nursing), RN-BSN (Registered Nurse to Bachelor of Science in Nursing), and ADN-BSN

(Associate Degree in Nursing to Bachelor of Science in Nursing) differed on any of the major variables.

Operational Definitions

Health problems are the common adverse health conditions experienced by students as measured by the Index of Common Health Problems (ICHP) tool.

Nursing Degrees:

- *A-BSN:* The acronyms stand for Accelerated-Bachelor of Science in Nursing. These students enrolled in this program hold a minimum of a BA or BS degree. It is accelerated because of the intensity of the program.
- *ADN-BSN:* This program enables the students enrolled in Associate Degree in Nursing at designated community colleges, to dual enrollment with the affiliated California State University BSN program. These students are identified as ADN-BSN students.
- *RN-BSN:* These students are already licensed as Registered Nurses thus are considered working students. They hold a minimum of associate degree in nursing, they are enrolled in the RN-BSN program to earn their Bachelor of Science in Nursing.

Stressors are stimuli encountered by the student that may cause negative feelings or adverse physiological and/or psychological reactions as measured by the Perceived Stress Scale (PSS) tool.

Utilization of Resources refers to the extent to which student have made use of the university resources available to cope with the stressors.

REVIEW OF LITERATURE

Review of literature was done by using the credible resources on the World Wide Web, Endnote Web, Google Scholar, and published peer review research articles. The published peer review research articles were accessed through CINAHL, EBSCO, and Medline via PubMed, Cochrane library, California State University Northridge Oviatt library search, and Inter Library Loan. "Search keywords were used: "college students," "health problems," "nursing," "sleep habits," "role responsibility", " "truancy," "attrition," and "social support". The review of the literature covered the following areas of factors that affected the health of college students, including:

1. Health Problems
2. Sleep deprivation
3. Eating habits
4. Role Responsibility
5. Alcohol and recreational use of drugs
6. Social and academic support
7. University resources

The review of literature revealed that multiple factors affect the health of college students, Deasy et al. (2015) showed positive correlation between health- risk behaviors of college students and their stress levels. Of the sampled college students, 41.9% reported to experiencing high stress. Those who had experienced high stress levels, they reported to have engaged in the following health risk behaviors such as; alcohol consumption (93.2%), unhealthy diet (26.3%), physical inactivity (26%), tobacco smoking (17%), cannabis use (11.6%). These health risk behaviors may cause detrimental outcomes to the lives of the students. These types of behaviors are well

known in college students and those attending university programs (Deasy et al., 2015; Lee, Wuertz, Rogers, & Chen, 2013).

Health Problems

Research studies on professional education of young adults enrolled in colleges have identified multiple factors that impact students' health during their academic enrollment. Health problems such as anxiety, depression, sleep disturbances were associated with negative outcomes related to academic performance (Chernomas & Shapiro, 2013). The negative academic performances influence the individual student's health, which in its turn impacts the clinical performance of the student. In the same context, students with health problems that result from the academic stressors, if not resolved at school will transfer the stress to their home situation causing problems with their role responsibilities, which creates a vicious cycle. Recent studies have identified the correlation of health problems with high incidences of colds, drowsiness in class due to lack of sleep. These clusters of health problems were found to be related to the psychological distress exhibited by college students (Ahrberg et al., 2012; Asemani et al., 2014; Chambel & Curral, 2005; Deasy et al., 2015).

Sleep Deprivation

Several studies have demonstrated the severe impact of sleep deprivation on the daytime functioning of students affecting their health. Some of the identified risks of sleep deprivation have included low academic performance and created such risk taking behaviors as drug use and risky driving (Ahrberg et al., 2012; Lund et al., 2010; Pilcher, Ginter, & Sadowsky, 1997). The clinical implications of lack of sleep on college students have produced significant concern about the well-being of adult population

attending college in pursuit of their education (Nyer et al., 2013). Multiple studies on medical students and their sleep habits have shown the resulting negative consequences of their health outcomes. These studies were ruminative of nursing professionals working night shift, (Ahrberg et al., 2012; Asemani et al., 2014; Jones & Johnston, 1997; Pilcher et al., 1997).

In a study by Chen, Wang, and Jeng (2006), the findings point to the importance of sleep in college students and its effect on their health. The results of the study show that inadequate sleep had a negative impact on the students' health related behaviors in terms of the young adults' perception and practices of choosing and living a healthy lifestyle, and increased the frequency of visits to the clinic for care. Additionally, Lund et al. (2010) found that sleep deprivation adversely affects an individual's life habits, physical, and mental health performances.

Healthy People 2020 recently added sleep health as one of the objectives with the goal to increase awareness of the importance of enough sleep and the importance of the wellness for improving health and quality of life by preventing disorders associated with poor sleeping habits (Healthy People 2020, 2015).

Eating Habits

Along with alcohol consumption, poor eating habits and limited physical inactivity were common attributes among college students leading to common health problems such as chronic health conditions leading to premature death. These unhealthy behaviors are related to stressors in life and inappropriate way of utilizing coping mechanisms to deal with those stressors (Deasy et al., 2015). In retrospect, significant association was found in adopting a healthy diet along with poor sleeping habits with

significant negative association indicating unhealthy lifestyle leading to poor outcome related to health (Chen et al., 2006). Therefore the researchers emphasized the importance of annual health screening of students by adding the eating and sleeping habits to the screening of the participant. The annual health screenings played a role in the student's life as the predisposing factor of the behavior. It is during the screening that the practitioner identified age related or gender related health conditions that warrant for immediate intervention of prevention.

Role Responsibilities

A Portuguese study findings compared college students' stress and the relationship of work stress with academic stress and role responsibilities, which has yielded a significant relationship of life stressors in relation to their well-being and academic performances (Chambel & Curral, 2005). Another study concurred with the significant relationship between international students' academic performance and their health in relation to portraying of negative behaviors in their everyday performance more so in their academic performances (Misra et al., 2003). Misra's study stressed the relationship between academic performance of the students and their job stressors, the study found no significant differences of stressors between the genders. Other personal factors were found to affect the student's academic performance. Such factors as concerns of a sick child or ill family member, interpersonal relationship challenges as well as caring for a troubled friend causing lifestyle changes that impact the health of the student caring for that person. Additionally, role responsibilities have been found to cause increased anxiety and sleep difficulties in students (Kernan & Wheat, 2008). In

this example, the reinforcing factor was the improved child health that enabled the caring behavior (role responsibility) to continue.

Alcohol and Recreational Use of Drugs

According to the National Institute on Alcohol Abuse and Alcoholism (NIAAA) a subsidiary of National Institute of Health (NIH) college drinking was on the rise among young adults causing multiple negative consequences of death, assault, sexual abuse, unrelated injuries under the influence of alcohol, major academic problems. An alarming report from NIAAA stated that over 150,000 students developed alcohol related drinking health related problems while between 1.5% of students have tried to commit suicide due to the consequences of alcohol consumption or illicit drug use (NIAAA, 2015). It is evident of the multifactorial influence of college drinking, from peer pressure to fitting into the campus culture, the consequences were related to lower academic performance, truancy, accidental injuries, memory lapses, cognitive functioning, and death (White & Hingson, 2013). The feeling of belonging to a group of peers with maladaptive behavior was the reinforcing factor of the unhealthy coping of stressors thus leading to unhealthy adulthood. Young adult students while in nursing programs are not exempt from this type of alcohol drinking or drug abuse type of behavior related incidences.

Subsequent studies indicated the use of alcohol and illicit drugs were common in college students and are more prevalent in students studying health profession, list of illicit drugs such as marijuana or cannabis use were one of the commonly used drugs by students (Baldwin et al., 2006). These types of drinking or illicit drug use behaviors warrant concerns on the professionals providing care, also pause a hazard on the health of the population. In comparison other studies reported findings of college students using

illicit recreational drugs and alcohol are at higher risk of significant behavior problems than non-illicit recreational drug and alcohol using college students which effects their health and social role development (Yang, Yang, Liu, & Ko, 1998).

Social and Academic Support

Young adults' experience during academic studies face many life challenges, such as emotional upset or physical illness related to health conditions and wellbeing. They were found to have numerous stressors due to foreseen academic responsibilities along with daily survival needs. The survival needs were related to their role or family responsibilities. Role responsibilities of family, also of meeting financial needs were crucial and devastating to the student when unmet. Consequently it results in incidences of absenteeism and truancy. These incidences play a role in student's academic commitment of participation and lead to effect attrition rate of the program that the student is enrolled in (Hinsliff-Smith, Gates, & Leducq, 2012; Pryjmachuk et al., 2009). These findings warranted further studies on college students, more specifically, on nursing and/or health science students, and since half of those programs have both academic as well as clinical practice requirements that the students are mandated to participate and complete.

Emotional stress related to role responsibilities and concerns about troubled friendships with family members were found to be associated with anxiety and stress. With timely and effective counseling by the faculty and assistance from the student support services, students can overcome these challenges (Kernan & Wheat, 2008). The awareness and use of the available university resources helped the students manage the

negative effects of stressors on their health, and prevent further health related long-term complications.

Reeve et al. (2013) had done a comprehensive study using two different nursing program students (post-graduate and traditional undergraduate) to evaluate the stressors students experienced while in nursing programs. By use of mixed method of qualitative and quantitative designs, the researchers had found that students' elevated anxiety and depression levels were related to these stress levels. Results of this study had also shown that students had used alcohol to cope with the stressors, as well as they had sought counseling from the instructors to deal with the stressors. Additionally, students found refuge and comfort using their family, spouse, significant other or classmate to cope with the academic stressors. Another study, conducted by (Omigbodun et al., 2006) using graduate nursing students found that students cope with their academic stressors by seeking help and support from their peers and faculty members. The researchers explained their finding from the perspective that returning nurses had better coping skills due to their experiences as professional nurses (Omigbodun et al., 2006). From our theoretical perspective, we can interpret this coping mechanism as the utilization of their maturity and clinical experience as enabling factor to seek support from their peers and teachers instead of alcohol.

University Resources

With ample studies on college students' unhealthy coping mechanisms related to stress, universities had established campus services for students to use with the goal of reducing such unhealthy and risky behaviors. Additionally, colleges provided resources in the form of financial aid to help relieve some of the financial stressors of students.

For this study the identified university resources available for the student were numerous. Resources such as student services for use of the library, information technology (IT), and information about financial aid and scholarships were free of charge to the enrolled student. The Learning Resource Center (LRC) provided assistance in writing and employment opportunities. The Student Health Center had all types of specialty practitioners, and provided immunization, screening and insurance at a lower cost to the students. TELEHEALTH, an electronic app, was available for students to use, which was provided by the University Counseling Services (UCS). It provided services for young adults about health, anxiety, depression, and counseling on health related problems including alcohol and emotional health.

Summary

Based upon the review of the literature, the resources studied cited in the previous sections, one can conclude that there was a need to study and identify the stressors the young adults enrolled in the nursing programs, experienced while they were enrolled at the university, and the health problems that they encounter as a result of these stressors.

Since most universities provide resources for students to deal with the challenges encountered by them, it is also important to find out if students were aware of the availability of the university resources and the extent to which they used and take advantage of these resources to deal with the challenges.

Additionally, a comparative exploratory study between the public university's three nursing programs (Accelerated BSN, RN to BSN, and Collaborative ADN-BSN) were done to determine if the three groups of nursing students differ in their experiences

with respect to health problems, awareness, and the use of campus resources to deal with the stressors while in nursing program.

METHODS

Design

Comparative exploratory design was used with three groups of nursing students: Accelerated BSN, RN to BSN, and Collaborative ADN-BSN. The variables being investigated were health problems, stressors, awareness of resources, and utilization of resources. Figure 3 illustrates the design of the study.

Variables

Groups	Stressors	Health Problems	Awareness of Resources	Utilization of Resources
Accelerated BSN				
RN-BSN				
Collaborative ADN-BSN				

Figure 3: Design of the study.

Subjects

The subjects were young adults in their sixth month of enrollment in one of the three types of Bachelor of Science in nursing programs at a public university in the greater Los Angeles area. There were 50 subjects in each of the groups. The 100% sampling technique used included all students who met the selection criteria and were willing to participate in the study. The inclusion criteria included: (1) nursing students taking 6 units and above in one of the following three matriculated BSN groups at the four year college: A-BSN, RN-BSN, and Collaborative ADN-BSN at California State

University Northridge [CSUN]; (2) having completed a minimum of one semester of academic enrollment in their respective programs; (3) be able to read and write English; and (4) be willing to participate.

Exclusion criteria included: (1) students enrolled in less than 6 units a semester; (2) non-nursing students; (3) not willing to participate; (4) and students who did not meet the inclusion criteria. The extraneous variables of gender, age, socioeconomic status, ethnic background, and marital status were not controlled, but their effect, if any, was accounted for through data analysis.

Instruments

The following four instrument were used: 1) demographic data, (2) perceived stress scale, (3) index of common health problems, and (4) awareness and use of the University Resources Questionnaire.

Demographic Data

The demographic data consisted of 12 items that listed such information about the students as type of nursing program they were enrolled in, gender, age, marital status, number of children, ethnicity, education, family income level, employment, whether or not they received financial aid/scholarship, and the number of days (if any) they had missed class, due to illness, or they had been tardy (see Appendix A).

Perceived Stress Scale

The Perceived Stress Scale (PSS) was a paper and a pencil test that was developed by (Cohen, Kamarck, & Mermelstein, 1983). It consisted of 14 questions that measured situations in one's life, as being perceives stressful. Some of the items (items numbers 4, 5, 6, 7, 9, 10, and 13) were stated positively and some items (item numbers 1, 2, 3, 8, 11,

11, 12, 14) were stated negatively. The values assigned on the negatively stated questions were adjusted (revised). Each question was followed by five Likert-type rating scale ranging from zero (0) indicating never to (4) indicating very often. Since there were 14 questions and each ranges from 0-4, the total score on the questionnaire ranged from zero to 56. High score on the scale indicates high perception of stress.

Cohen et al. (1983) established the initial validity and reliability of the PSS 14 tool by use of three different samples. The samples were of two college students and one group of students who were participating in smoking cessation program. The latter were used to present more heterogeneity to their psychometric reviews. Concurrent and predictive validity were tested on the three samples representing 510 participants. It correlated significantly as predicted, with life events scores ($p <. 01$), depression and physical symptomatology ($p <. 01$), social anxiety ($p <. 001$) and smoking cessation maintenance ($p <. 001$). The coefficient alpha reliability for the tool was .84, .85, and .86 when tested in the three samples. Furthermore, Cohen and Williamson (1988) used the PSS 14 tool in a larger sample of 2,387 participants with a junior high school education, and found the tool to hold its predictive reliability (see Appendix B).

Index of Common Health Problems

The Index of Common Health Problems (ICHP) was a tool developed for this study and consisted of a list of 18 common illness or health conditions commonly experienced by students. It covered evidence-based health issues that were commonly seen among college students and as potential ineffective coping with stress such as alcohol use, binging, and drug use, anxiety, upper respiratory infections, depression, excessive smoking, exhaustion, GI upset, headaches, hypertension, STDs, sleep

difficulty, suicidal tendencies, urinary tract infection and others. Each question item was constructed on a five Likert-type rating scale ranging from zero indicating "never" to four indicating "very often." The validity of this tool was established by two methods:

1. Content validity by backing with literature (Crossland et al., 2014; Tilden, Nelson, & May, 1990; Veneziano & Hooper, 1997).
2. Content validity by a panel of five judges who are nurse researchers in this area with doctoral degrees who evaluated the tool. The percent agreement between the judges was 95%. Reliability of the tool was determined by the test-retest method (see Appendix C). The retest was given two weeks after initial testing. The percent agreement between the test-retest was 95%. The tool was simple to use and required that participants rate each health problem that they have experienced within the last 12 months.

The scoring was done by two methods:

1. The score on each item was calculated by adding the values assigned to each health condition.
2. The total score on the ICHP tool was determined by adding all the values on the total tool. The score could range from zero to 72.

Awareness and Use of University Resources Questionnaire

The Awareness and Use of University Resources Questionnaire (AUURQ) was a list of university resources that tapped the following five areas: (1) *physical health*, (2) *psychosocial*, (3) *financial*, (4) *educational*, and (5) *health promotion and recreational resources*. The tool was constructed where under each category a list of three to seven resource items were listed:

- The illness related for *Physical Health* resources were: Student Health Center (SHC) accessibility, lab services, immediate health care, immunizations, provision of treatments, provision of medications, and specialty referrals, were included.
- The items related for *Psychosocial* resources were: psychosocial care for anxiety, psychosocial care for depression, alcohol and drug rehab, and wellness lounge.
- The items related to *Financial* resources were: financial aid services, scholarships, and finding employment.
- The items related to *Educational* resources were: time management, learning how to study, writing assistance, research assistance, and data entry and analysis assistance.
- The items related to *Health Promotion* resources were: affordable health care, STD/HIV prevention, birth control education, student health fair on campus, and the Student Recreation Center (SRC).

The purpose of the tool was to determine whether or not the students were aware of the availability of the university resources and whether or not they had used them.

Content validity of this tool is derived from the literature (ACHA-NCHA II, 2013). For each answer of "yes" a point value of one was given, for each answer of "no" a point value of zero was given. The score for *awareness of resources* ranged from zero to 26, simultaneously the score for *use of the resources* ranged from zero to 26.

Psychometric Characteristics of Aggregate Scores

Table 6 findings of 14 items report the combined scale scores of: Total Stress (14 items), Total Health Problems (18 items), Total Awareness and Total Use of the 26 University Resources consists each of; physical health (7 items), psychosocial (4 items), financial (3 items), educational (6 items), and health promotion (6 items). Cronbach alpha of 0.88 for all the aggregate 14 scales indicted the psychometric characteristics and reliability coefficients for the tools used. Total Stress and Total Health Problems had a mean score of M = 1.69 and M =1.04 respectively. Whilst, the students awareness and use of university resources had the highest level of awareness for financial resources (M = 80.91), and lowest for educational resources (M = 49.39). Similarly, for the use of the university resources the highest score was for physical health (M = 22.21) and the lowest reported for psychosocial (M = 3.41). Thus, the Cronbach reliability coefficients for the 14 scale scores ranged in size from $\alpha = .30$ to $\alpha = .94$ with the median sized coefficient being $\alpha = .82$. The inspection of the individual coefficients found all but three to have the generally accepted alpha level of $\alpha > .69$ (Polit. & Beck, 2012).

To interpret the strength of the correlation in this study Cohen's guidelines (1988) were used. Cohen has interpreted the strength of the correlation at three levels; weak, moderate, and strong correlations. Furthermore, Cohen had identified the strength of the correlation by absolute values for each; weak value of $r = .10$ (r^2 = one percent of the variance explained), an absolute value of $r = .30$ (r^2 = nine percent of the variance explained) for moderate, and a strong correlation had an absolute value of $r = .50$ (r^2 = 25 percent of the variance explained). Therefore, the results of this study were primarily based on those correlations that were of moderate strength value with the intent to

minimize the potential of Type I error resulting from interpretations and conclusions based on missed correlations.

Procedure

After permission was obtained from the University Institutional Review Board (IRB) and from the Director of the School of Nursing, the researcher approached the classroom teacher and obtained permission from her/him to distribute the questionnaires to the students.

Prior to distributing the questionnaire to the students, their verbal consent was obtained. The following instructions were given to the students (see Appendix E):

a) The sample selection criteria were read to them.

b) The purpose of the study was explained to them.

c) Those who were willing to participate in the study, and those who met the inclusion criteria were included in the study.

d) They were told that if they were willing to answer the questionnaires, it constituted the consent to participate in the study.

e) They were also told that their participation is voluntary and that they can discontinue participation at any time without any adverse effect on their grades or standing in the school.

The questionnaire took approximately 15 minutes to complete. Upon completion of the questionnaire, students were thanked.

Data Analysis

Data were initially tabulated as deemed appropriate using standard summary statistics (means, standard deviations, frequencies, and percentages) in Tables 1 through

8. Spearman correlations were used to examine the associations between selected demographic variables with survey responses (Tables 7, 8, 11, 12). One-way ANOVA tests were used to compare mean scores across the three nursing programs along with eta coefficients, which measured the strength of the relationship (Tables 10, 14). In addition, chi-square tests with Cramer's V tests were used to examine the associations between selected demographic variables with which nursing program the student attended.

RESULTS

The three major goals of this study were: (a) to identify the perceived stressors of the nursing students causing common health problems; (b) to determine the extent to which nursing students are aware of the resources that are available to them; and (c) to determine the extent to which nursing students use the resources available at the university. Surveys from 110 nursing students were used.

Results are presented in the order of: 1) Descriptive analysis of the demographic characteristics of each of the groups including the major variables. Including the descriptive analysis of the major variables in terms of frequencies, means, standard deviations, percentage ranges. 2) Results on the major research questions are presented next. 3) Additional findings related to the relationship between the demographics, data, and the major variables are presented last.

Descriptive Analysis of the Demographic Data of the Major Variables

Table 1 displays the frequency counts for the following selected demographic data: Type of three programs, age, number of children, ethnic background, household income, hours worked per week, financial responsibility for family, and the number of classes they have missed during the past six months. Three different programs were examined: Accelerated BSN (50.0%), RN-BSN (27.3%), and ADN-BSN (22.7%). Most nursing students (81.8%) were female. The student's ages ranged from 20 to 57 years old (M = 30.41, SD = 7.56). Two-thirds were single and 20.9% had children. The most common racial/ethnic groups were Caucasian (42.7%) and Asian (25.5%). All but seven students (93.6%) had at least an associate's degree and 56.4% had at least bachelor's degree. Household income ranged from "$25,000/year or below (43.6%)" to "$100,000

and above (10.9%)" with the median income being $38,000 / year. Hours of weekly work ranged from 0 to 46 hours (*M* = 12.79, *SD* = 16.03). Sixty-five percent of the sample had financial responsibility for at least one other household member. Forty-six percent received financial aid. As for missing classes, 55.5% reported never missing class and another 40.9% reported missing class between one to three times (see Table 1).

Table 1

Frequency Counts for Selected Demographic Variables (N = 110)

Variable	Category	*n*	%
Nursing Program			
	Accelerated BSN	55	50.0
	RN-BSN	30	27.3
	ADN-BSN	25	22.7
Gender			
	Male	20	18.2
	Female	90	81.8
Age Group [a]			
	20 to 24 years	17	15.5
	25 to 29 years	48	43.6
	30 to 39 years	30	27.3
	40 to 57 years	15	13.6
Marital Status			
	Single	74	67.3
	Married	29	26.4
	Separated	2	1.8
	Divorced	5	4.5
Have Children			
	No	87	79.1
	Yes	23	20.9
Ethnic/Racial Background			
	American Indian	4	3.6
	White/Caucasian	47	42.7
	Black/African-American	6	5.5
	Hispanic	17	15.5
	Asian	28	25.5
	Other	8	7.3

[a] Age: M = 30.41, SD = 7.56.

Table 1 *Continued*

Table 1 *Continued*

Variable	Category	*n*	%
Highest Education			
	High School	7	6.4
	Associate Degree	41	37.3
	BA/BS	54	49.1
	Masters	8	7.3
Household Income [b]			
	$25,000/year or below	48	43.6
	$26,000-$50,000	16	14.5
	$51,000-$75,000	14	12.7
	$76,000-$100,000	20	18.2
	$100,000 and above	12	10.9
Hours Worked Weekly [c]			
	None	57	51.8
	1 to 19 hours	15	13.7
	20 to 29 hours	13	11.8
	30 to 39 hours	13	11.8
	40 to 46 hours	12	10.9
Number Financially Responsible for in Household			
	None	38	34.5
	One	45	40.9
	Two	17	15.5
	Three to five	10	9.1
Receive Financial Aid			
	No	59	53.6
	Yes	51	46.4
Times Missed Class			
	Never	61	55.5
	One to three times	45	40.9
	Four or more times	4	3.6

[b] Income: *Mdn* = $38,000 / year.
[c] Hours: *M* = 12.79, *SD* = 16.03.

With respect to the major variables of perceived stress, common health problems, awareness and use of university resources available, Table 2 displays the descriptive statistics for the 14 *perceived stress* items sorted by the highest mean. These ratings were based on a 5-point Likert type rating scale with 0 = *Never* to 4 = *Very Often*. Eight of the items were reverse-scored because a rating of *Never* reflected a higher level of perceived stress. The highest stress rating was for item 3, "Felt nervous and "stressed" ($M = 3.06$)" while the lowest mean stress rating was for item 12, "Reversed-Found yourself thinking about things that you have to accomplish ($M = 0.70$)".

Table 2

Individual Perceived Stress Scale Items Sorted by the Highest Mean (N = 110)

Item	*M*	*SD*
3. Felt nervous and "stressed"	3.06	0.90
1. Been upset because of something that happened unexpectedly	1.97	1.06
2. Felt that you were unable to control the important things in our life	1.92	1.11
14. Felt difficulties were piling up so high that you could not overcome them?	1.89	1.05
11. Been angered because of things that happened that were outside of your control	1.84	1.15
8. Found that you could not cope with all the things that you had to do	1.82	1.03
10. Reversed-Felt that you were on top of things	1.78	0.86
13. Reversed-Been able to control the way you spend your time	1.68	0.87
7. Reversed-Felt that things were going your way	1.67	0.79
5. Reversed-Felt that you were effectively coping with important changes that were occurring in your life	1.42	0.86
9. Reversed-Been able to control irritations in your life	1.42	0.82
4. Reversed-Dealt successfully with irritating life hassles	1.28	0.88
6. Reversed-Felt confident about your ability to handle our personal problems	1.16	0.84
12. Reversed-Found yourself thinking about things that you have to accomplish	0.70	0.89

Note. Ratings were based on a 5-point metric: 0 = *Never* to 4 = *Very Often.* Some items were reverse-scored because a rating of *Never* reflected a higher level of perceived stress.

Table 3 displays the ratings for the 17 **common health problem** items sorted by the highest mean. These ratings were based on a 5-point metric: 0 = *Never* to 4 = *Very Often*. The highest frequency health problem was item 9, "exhaustion / fatigue (*M* = 2.55)" while the lowest frequency health problem was item 14, "sexually transmitted disease (*M* = 0.10)".

Table 3

Individual Index of Common Health Problems Items Sorted by the Highest Mean (N = 110)

Item	*M*	*SD*
9. Exhaustion / Fatigue	2.55	1.11
2. Anxiety	2.43	1.10
15. Sleep difficulty	1.96	1.20
11. Headache	1.95	1.14
4. Common cold / Flu like symptoms	1.42	0.93
5. Depression	1.39	1.17
10. GI-upset (nausea, vomiting, diarrhea)	1.26	1.22
1. Alcohol Use (2 glass/day or more)	0.86	0.93
7. Excessive Eating disorder	0.84	1.22
13. Psychological disturbance	0.75	1.04
12. High Blood Pressure	0.69	1.04
3. Binge drinking (4-5 drinks in a row)	0.44	0.80
17. Urinary Tract Infection	0.36	0.81
8. Smoking	0.30	0.74
16. Suicidal thoughts/suicidal attempts	0.26	0.71
6. Drug Use (Recreational use)	0.15	0.45
14. Sexually Transmitted Disease	0.10	0.45

Note. Ratings were based on a 5-point metric: 0 = *Never* to 4 = *Very Often*.

Table 4 displays the frequency counts for awareness of the 26 university resources available for students to use. The highest levels of awareness were for item 12, "university financial aid (93.6%)," item 1, "student health center accessibility (87.3%)," and item 13, "scholarships (85.5%)." The lowest levels of awareness were for item 20, "analysis assistance (37.3%)," and item 19, "data entry assistance (39.1%)".

Table 5 displays the frequency counts of students' use of 26 university resources available for them to cope with the stressors. The highest utilization was for item 12, "university financial aid (42.7%)" and item 1, "student health center accessibility (37.3%)." Inspection of the table also revealed that 15 of the 26 resources were utilized by less than 10% of the respondents.

Table 4

Awareness of Selected University Resources Sorted by the Highest Frequency (N = 110)

University Resource	*n*	%
12. University Financial Aid	103	93.6
1. Student Health Center (SHC) accessibility	96	87.3
13. Scholarships	94	85.5
4. Immunization	91	82.7
26. Student Recreation Center (SRC)	88	80.0
17. Writing assistance	82	74.5
5. Provision of treatment	80	72.7
3. Accessibility of Immediate health care	80	72.7
2. Accessibility of lab	80	72.7
24. Birth control education	77	70.0
7. Availability of referrals	77	70.0
22. STD prevention	76	69.1
23. HIV prevention	76	69.1
6. Provision of medications	75	68.2
25. Student Health Fair	75	68.2
9.Psychosocial care for depression	73	66.4
8. Psychosocial care for anxiety	73	66.4
14. Other supportive resources (eg: Work study)	70	63.6
21. Affordable Health care	67	60.9
10. Alcohol and drug rehab.	63	57.3
18. Research assistance	60	54.5
11. New Oasis Wellness Center	56	50.9
16. Learning how to study	52	47.3
15. Time management	48	43.6
19. Data entry assistance	43	39.1
20. Analysis assistance	41	37.3

Note. Respondents were allowed to endorse awareness of multiple resources.

Table 5

Utilization of Selected University Resources Sorted by the Highest Frequency (N = 110)

University Resource	*n*	%
12. University Financial Aid	47	42.7
1. Student Health Center (SHC) accessibility	41	37.3
4. Immunization	40	36.4
26. Student Recreation Center (SRC)	35	31.8
2. Accessibility of lab	28	25.5
5. Provision of treatment	19	17.3
3. Accessibility of Immediate health care	19	17.3
21. Affordable Health care	18	16.4
6. Provision of medications	17	15.5
22. STD prevention	12	10.9
17. Writing assistance	11	10.0
13. Scholarships	10	9.1
25. Student Health Fair	9	8.2
24. Birth control education	8	7.3
23. HIV prevention	8	7.3
16. Learning how to study	7	6.4
15. Time management	7	6.4
7. Availability of referrals	7	6.4
18. Research assistance	7	6.4
11. New Oasis Wellness Center	6	5.5
8. Psychosocial care for anxiety	5	4.5
9. Psychosocial care for depression	4	3.6
14. Other supportive resources (eg: Work study)	2	1.8
19. Data entry assistance	2	1.8
20. Analysis assistance	1	0.9
10. Alcohol and drug rehab.	0	0.0

Note. Respondents were allowed to endorse utilization of multiple resources.

In order to interpret the strength of the correlations and the results of the selected statistical tests, additional tests were done. Table 6 displays the psychometric characteristics for the 14 scale scores. Total stress had a mean score of $M = 1.69$ and total health problems had a mean score of $M = 1.04$, both on a 5-point metric (0 = *Never* to 4 = *Very Often*). The awareness and utilization scores were expressed as the percentage of endorsed items for that scale. The highest level of awareness was for financial resources ($M = 80.91$) while the lowest awareness was for educational resources ($M = 49.39$). For the utilization domains, the highest was for physical health ($M = 22.21$) while the lowest was for psychosocial ($M = 3.41$). The Cronbach reliability coefficients for the 14 scale scores ranged in size from $\alpha = .30$ to $\alpha = .94$ with the median sized coefficient being $\alpha = .82$. Inspection of the individual coefficients found all but three to have the generally accepted alpha level of $\alpha > .69$ (Polit & Beck, 2012).

Table 6

Psychometric Characteristics for the Aggregated Scale Scores (N = 110)

Scale Score	Number of Items	*M*	*SD*	Low	High	α
Total Stress	14	1.69	0.59	0.29	4.00	.88
Total Health Problems	18	1.04	0.47	0.00	2.24	.79
Total Awareness	26	66.29	29.15	0.00	100.00	.94
Aware-Physical Health	7	75.19	34.16	0.00	100.00	.90
Aware-Psychosocial	4	60.23	41.52	0.00	100.00	.87
Aware-Financial	3	80.91	28.36	0.00	100.00	.63
Aware-Educational	6	49.39	40.76	0.00	100.00	.92
Aware-Health Promotion	6	69.55	37.43	0.00	100.00	.90
Total Utilization	26	12.94	13.41	0.00	73.08	.82
Use-Physical Health	7	22.21	27.88	0.00	100.00	.82
Use-Psychosocial	4	3.41	10.96	0.00	50.00	.48
Use-Financial	3	17.88	21.97	0.00	100.00	.30
Use-Educational	6	5.30	14.09	0.00	83.33	.70
Use-Health Promotion	6	13.64	22.71	0.00	100.00	.77

Note. The total stress and the total health problems scales were based on a 5-point metric: 0 = *Never* to 4 = *Very Often*. All the awareness and utilization scores were expressed as the percentage of endorsed items for that scale.

Cohen (1988) suggested some guidelines for interpreting the strength of linear correlations. He suggested that a weak correlation typically had an absolute value of r = .10 (r^2 = one percent of the variance explained), a moderate correlation typically had an absolute value of r = .30 (r^2 = nine percent of the variance explained) and a strong correlation typically had an absolute value of r = .50 (r^2 = 25 percent of the variance explained). Therefore, for the sake of parsimony, this Results Chapter will primarily highlight those correlations that were of at least moderate strength to minimize the potential of numerous Type I errors stemming from interpreting and drawing conclusions based on potentially spurious correlations.

Findings of the Major Research Questions

Research Question 1 was, "What are the common health problems that are associated with their perceived stress level as a nursing student?" To answer this question, Table 7 displays the Spearman correlations for the total health problems scale score and the 17 individual common health problems with the student's perceived stress scale score. Inspection of the table found that 11 of the 18 correlations were significant. The largest correlations were for perceived stress with: (a) the total health problems scale (r_s = .63, p < .001); (b) anxiety (r_s = .52, p < .001); (c) common cold / flu like symptoms (r_s = .52, p < .001); (d) depression (r_s = .56, p < .001); and (e) exhaustion / fatigue (r_s = .51, p < .001).

Table 7

Spearman Correlations for Common Health Problems with Perceived Stress Level (N = 110)

Health Problem	Stress Scale	
Total Health Problems Scale	.63	****
Alcohol Use (2 glass/day or more)	.01	
Anxiety	.52	****
Binge drinking (4-5 drinks in a row)	.14	
Common cold / Flu like symptoms	.52	****
Depression	.56	****
Drug Use (Recreational use)	.10	
Excessive Eating disorder	.18	
Smoking	.10	
Exhaustion / Fatigue	.51	****
GI-upset (nausea, vomiting, diarrhea)	.37	****
Headache	.26	**
High Blood Pressure	.25	**
Psychological disturbance	.38	****
Sexually Transmitted Disease	.03	
Sleep difficulty	.39	****
Suicidal thoughts/suicidal attempts	.31	****
Urinary Tract Infection	.13	

* $p < .05$. ** $p < .01$. *** $p < .005$. **** $p < .001$.

Research Question 2 was, "What are the possible causes of the stressors of nursing students?" To answer this question, Table 8 displays the Spearman correlations for 14 demographic variables with the student's perceived stress score. Three of the 14 correlations were significant at the $p < .05$ level but none of the correlations were of at least moderate strength using the Cohen (1988) criteria.

Table 8

Spearman Correlations for Demographic Variables with Perceived Stress Level (N = 110)

Demographic Variable	Stress Scale	
Accelerated Program [a]	-.22	*
RN-BSN Program [a]	.20	*
ADN-BSN Program [a]	.05	
Gender	-.01	
Age	-.10	
Married [a]	.01	
Number of Children	.00	
Caucasian [a]	-.13	
Highest Education	-.25	**
Household Income	.09	
Hours Worked Weekly	.13	
Number of People Responsible for Financially	.03	
Receive Financial Aid [a]	-.14	
Number of Missed Classes	-.02	

* $p < .05$. ** $p < .01$. *** $p < .005$. **** $p < .001$.
[a] Coding: 0 = *No* 1 = *Yes.*
[b] Gender: 1 = *Male* 2 = *Female*.

To further examine this research question, a stepwise regression model (Table 9) was utilized to predict the perceived stress score based on the same 14 demographic variables. The final 1-variable model was significant (p = .02) and accounted for 5.3% of the variance in perceived stress. Specifically, perceived stress was higher for those with less education (β = -.23, p = .02),

Table 9

Stepwise Multiple Regression Model Predicting the Total Stress Score Based on the Demographic Variables (N = 110)

Variable	*B*	*SE*	β	*p*
Intercept	2.17	0.20		.001
Highest Education	-0.19	0.08	-.23	.02

Note. Final Model: F (1, 108) = 6.03, p = .02. R^2 = .053. Candidate variables = 14.

Research Question 3 was, "To what extent nursing students are aware of the university's resources available to them?" This question was previously answered in Table 4 and Table 6. To recap, the highest levels of awareness were for item 12, "university financial aid (93.6%)," item 1, "student health center accessibility (87.3%)," and item 13, "scholarships (85.5%)." The lowest levels of awareness were for item 20, "analysis assistance (37.3%)," and item 19, "data entry assistance (39.1%)" (Table 4). As for the awareness scale scores, the highest level of awareness was for financial resources (M = 80.91) while the lowest awareness was for educational resources (M = 49.39) (see Table 6).

Research Question 4 was, “To what extent nursing students are using the university’s resources available to them?” This question was previously answered in Tables 5 and 6. To recap, the highest utilization was for item 12, “university financial aid (42.7%)” and item 1, “student health center accessibility (37.3%).” Inspection of the table also revealed the 15 of the 26 resources were utilized by less than 10% of the respondents (Table 5). As for the utilization scale scores, for the utilization domains, the highest was for physical health (M = 22.21) while the lowest was for psychosocial (M = 3.41) (see Table 6).

Research Question 5 was, “Are there differences in the major variables between the three nursing groups?” The question was answered three ways: (1) one-way ANOVA tests, in Table 10; (2) Spearman correlations comparing the three groups for the 14 scale scores, in Table 11); and (3) Spearman correlations comparing the three groups for 11 demographic variables, in Table 12.

For the first comparison, one-way ANOVA tests were used along with eta coefficients (Pearson correlation between a nominal / categorical variable and a continuous variable) to compare each of the major variables between the three groups. Table 10 shows the comparison on the following 14 categories (six comparison for awareness, six comparison on utilization, one comparison for stress, and one comparison for health problems). Inspection of Table 10 table found, 8 of 14 ANOVA tests to be significant and two of the eta coefficients to be of moderate strength using the Cohen (1988) criteria. Specifically, awareness-physical health was significant higher for the accelerated students (M = 86.23) compared to the ADN-BSN (M = 58.86) (p = .003). In

addition, for awareness-psychosocial, accelerated students (M = 73.18) were significantly higher when compared to the ADN-BSN (M = 42.00) (p = .006).

Table 10

One-Way ANOVA Tables Comparing Scales Scores Based on Nursing Program (N = 110)

Scale Score	Nursing Program	*n*	*M*	*SD*	η	*F*	*p*
Total Stress [a]					.25	3.54	.03
	1. Accelerated BSN	55	1.56	0.56			
	2. RN-BSN	30	1.90	0.66			
	3. ADN-BSN	25	1.71	0.50			
Total Health Problems [a]					.27	4.15	.02
	1. Accelerated BSN	55	0.92	0.50			
	2. RN-BSN	30	1.19	0.36			
	3. ADN-BSN	25	1.13	0.46			
Total Awareness [b]					.22	2.66	.07
	1. Accelerated BSN	55	71.89	24.67			
	2. RN-BSN	30	64.49	30.78			
	3. ADN-BSN	25	56.15	34.10			
Aware-Physical Health [c]					.34	6.99	.001
	1. Accelerated BSN	55	86.23	24.58			
	2. RN-BSN	30	68.57	37.59			
	3. ADN-BSN	25	58.86	40.26			
Aware-Psychosocial [d]					.32	6.28	.003
	1. Accelerated BSN	55	73.18	36.28			
	2. RN-BSN	30	51.67	43.02			
	3. ADN-BSN	25	42.00	42.52			
Aware-Financial [b]					.04	0.08	.93
	1. Accelerated BSN	55	80.00	29.81			
	2. RN-BSN	30	81.11	28.61			
	3. ADN-BSN	25	82.67	25.68			

[a] Scheffe post hoc tests: 2 > 1 (p = .03); no other significant differences at p < .05.
[b] Scheffe post hoc tests: no significant differences at p < .05.
[c] Scheffe post hoc tests: 1 > 3 (p = .003); no other significant differences at p < .05.
[d] Scheffe post hoc tests: 1 > 3 (p = .006); no other significant differences at p < .05.

Table 10 *Continued*

Table 10 *Continued*

Scale Score	Nursing Program	*n*	*M*	*SD*	η	*F*	*p*
Aware-Educational [b]					.16	1.41	.25
	1. Accelerated BSN	55	45.15	40.78			
	2. RN-BSN	30	60.00	36.78			
	3. ADN-BSN	25	46.00	44.43			
Aware-Health Promotion [b]					.21	2.35	.10
	1. Accelerated BSN	55	76.97	32.31			
	2. RN-BSN	30	64.44	41.46			
	3. ADN-BSN	25	59.33	40.85			
Total Utilization [b]					.18	1.76	.18
	1. Accelerated BSN	55	15.10	13.75			
	2. RN-BSN	30	9.49	8.85			
	3. ADN-BSN	25	12.31	16.47			
Use-Physical Health [b]					.23	2.99	.05
	1. Accelerated BSN	55	28.57	29.23			
	2. RN-BSN	30	15.24	23.71			
	3. ADN-BSN	25	16.57	27.26			
Use-Psychosocial [b]					.24	3.14	.05
	1. Accelerated BSN	55	5.91	13.58			
	2. RN-BSN	30	1.67	9.13			
	3. ADN-BSN	25	0.00	0.00			
Use-Financial [b]					.07	0.26	.77
	1. Accelerated BSN	55	19.39	22.85			
	2. RN-BSN	30	16.67	20.99			
	3. ADN-BSN	25	16.00	21.77			

[b] Scheffe post hoc tests: no significant differences at $p < .05$.

Table 10 *Continued*

Table 10 *Continued*

Scale Score	Nursing Program	*n*	*M*	*SD*	η	*F*	*p*
Use-Educational [e]					.27	4.37	.02
	1. Accelerated BSN	55	1.52	6.63			
	2. RN-BSN	30	10.00	17.83			
	3. ADN-BSN	25	8.00	18.71			
Use-Health Promotion [f]					.26	4.03	.02
	1. Accelerated BSN	55	16.97	24.53			
	2. RN-BSN	30	3.89	11.32			
	3. ADN-BSN	25	8.00	25.87			

[e] Scheffe post hoc tests: 2 > 1 (p = .03); no other significant differences at p < .05.
[f] Scheffe post hoc tests: 1 > 2 (p = .04); no other significant differences at p < .05.

The second comparison to determine differences in major variables between the three groups was via the Spearman correlations between the 14 scale scores and each of the three programs. Results are presented in Table 11. For the resulting 42 correlations, 15 were significant at the p < .05 level and three were of moderate strength using the Cohen (1988) criteria. Specifically, when compared to the other two programs, accelerated students had more awareness of psychosocial resources (r_s = .31, p < .001) but significantly less utilization of educational resources (r_s = -.32, p < .001). In addition, when compared to the other two programs, RN-BSN students had less utilization of the health promotion resources (r_s = -.33, p < .001).

Table 11

Spearman Correlations for the Scale Scores Based on Nursing Program (N = 110)

Scale Score	Accelerated [a]		RN-BSN [a]		ADN-BSN [a]	
Total Stress Score	-.22	*	.20	*	.05	
Total Health Problems	-.29	***	.23	*	.10	
Total Awareness	.15		-.03		-.15	
Aware-Physical Health	.29	***	-.13		-.21	*
Aware-Psychosocial	.31	****	-.13		-.23	*
Aware-Financial	-.01		.00		.01	
Aware-Educational	-.10		.18		-.07	
Aware-Health Promotion	.19	*	-.10		-.12	
Total Utilization	.18		-.13		-.07	
Use-Physical Health	.25	**	-.17		-.12	
Use-Psychosocial	.27	***	-.13		-.18	
Use-Financial	.07		-.03		-.05	
Use-Educational	-.32	****	.28	***	.09	
Use-Health Promotion	.18		-.33	****	.14	

* $p < .05$. ** $p < .01$. *** $p < .005$. **** $p < .001$.
[a] Coding: 0 = *No* 1 = *Yes.*

The third comparison to determine differences in the major variables between the three groups were used the Spearman correlations between 11 demographic variables and each of the three programs. Results are presented in Table 12. For the resulting 33 correlations, 19 were significant at the $p < .05$ level and nine were of at least moderate strength. The largest correlations were that accelerated students had higher educational backgrounds than the other two programs ($r_s = .80$, $p < .001$). In addition, RN-BSN students when compared to the other two groups had less education ($r_s = -.48$, $p < .001$),

more household income (r_s = .51, p < .001) and worked more hours per week (r_s = .69, p < .001).

Table 12

Spearman Correlations for Demographic Variables Based on Nursing Program (N = 110)

Demographic Variable	Accelerated [a]		RN-BSN [a]		ADN-BSN [a]	
Gender [a]	.09		-.08		-.03	
Age	-.09		.34	****	-.26	**
Married [b]	-.02		.14		-.13	
Number of Children	-.29	***	.23	**	.09	
Caucasian [b]	.28	***	-.12		-.21	*
Highest Education	.80	****	-.48	****	-.45	****
Household Income	-.35	****	.51	****	-.12	
Hours Worked Weekly	-.42	****	.69	****	-.24	**
Number of People Financially Responsible for	-.24	**	.25	**	.02	
Receive Financial Aid [b]	.20	*	-.32	****	.10	
Number of Missed Classes	.07		.18		-.27	***

* p < .05. ** p < .01. *** p < .005. **** p < .001.
[a] Gender: 1 = *Male* 2 = *Female*.
[b] Coding: 0 = *No* 1 = *Yes*.

Additional Findings

Results in the relationship the selected demographic data and the major variables are presented in Tables 13 and 14. Only the tests that were significant are presented. Table 13 displays the chi-square tests comparing selected demographic variables with the student's choice of nursing program. The analyses presented are a subset of all the chi-square tests in that only those tests that yielded significant associations are shown. In

addition, the Cramer's *V* statistic (Pearson correlation between two nominal variables) is shown as a measure of the strength of the relationship.

Inspection of the Table 13 found six demographic variables that had significant associations with the student's choice of nursing program. Specifically, when compared to the other two groups, accelerated students had less children ($V = .30$, $p = .007$) and had more prior education ($V = .60$, $p = .001$). The RN-BSN students, when compared to the other two groups: (a) had more household income ($V = .44$, $p = .001$); (b) were more likely to work ($V = .51$, $p = .001$); and (c) were less likely to receive financial aid ($V = .32$, $p = .003$). In addition, ADN-BSN students, when compared to the other two groups of students were less likely to have missed class in the previous six months ($V = .28$, $p = .02$).

Table 14 displays the results of the one-way ANOVA tests comparing the student's choice of nursing program with four selected demographic variables that were on interval/ratio scale. For age, RN-BSN students ($M = 34.60$) were significantly older than were the accelerated students ($p = .01$) and the ADN-BSN students ($p = .001$). For number of children, RN-BSN students ($M = 0.63$) had significantly more children than did the accelerated students ($p = .03$). For hours worked each week, RN-BSN students ($M = 32.47$) worked more hours than did the accelerated students ($p = .001$) and the ADN-BSN students ($p = .001$). In addition, for the number in their household they were financially responsible for, RN-BSN students ($M = 1.43$) had significantly more than did the accelerated students ($p = .05$) (see Table 14).

Table 13

Chi-Square Comparisons between Selected Variables and Nursing Program (N = 110)

		Accelerated		RN-BSN		ADN-BSN	
Variable	Category	*n*	%	*n*	%	*n*	%
Have Children [a]							
	No	50	90.9	19	63.3	18	72.0
	Yes	5	9.1	11	36.7	7	28.0
Highest Education [b]							
	HS or Associate	1	1.8	27	90.0	20	80.0
	BA/BS	47	85.5	2	6.7	5	20.0
	Masters	7	12.7	1	3.3	0	0.0
Household Income [c]							
	$25,000/year or less	35	63.6	1	3.3	12	48.0
	$26,000-$50,000	4	7.3	4	13.3	8	32.0
	$51,000-$75,000	4	7.3	9	30.0	1	4.0
	$76,000 or more	12	21.8	16	53.3	4	16.0
Employed [d]							
	No	37	67.3	3	10.0	17	68.0
	Yes	18	32.7	27	90.0	8	32.0
Financial Aid [e]							
	No	24	43.6	24	80.0	11	44.0
	Yes	31	56.4	6	20.0	14	56.0
Missed Class [f]							
	Never	28	50.9	13	43.3	20	80.0
	Once or More	27	49.1	17	56.7	5	20.0

[a] χ^2 (2, N = 110) = 9.91, p = .007. Cramer's V = .30.
[b] χ^2 (4, N = 110) = 79.23, p = .001. Cramer's V = .60.
[c] χ^2 (6, N = 110) = 41.93, p = .001. Cramer's V = .44.
[d] χ^2 (2, N = 110) = 28.90, p = .001. Cramer's V = .51.
[e] χ^2 (2, N = 110) = 11.53, p = .003. Cramer's V = .32.
[f] χ^2 (2, N = 110) = 8.34, p = .02. Cramer's V = .28.

Table 14

One-Way ANOVA Tables Comparing Selected Demographic Variables Based on Nursing Program (N = 110)

Demographic Variable	Nursing Program	*n*	*M*	*SD*	η	*F*	*p*
Age [a]					.37	8.47	.001
	1. Accelerated BSN	55	29.69	6.57			
	2. RN-BSN	30	34.60	8.91			
	3. ADN-BSN	25	26.96	5.59			
How Many Children [b]					.27	4.03	.02
	1. Accelerated BSN	55	0.16	0.57			
	2. RN-BSN	30	0.63	0.96			
	3. ADN-BSN	25	0.48	0.87			
Hours Worked Weekly [c]					.76	71.02	.001
	1. Accelerated BSN	55	5.48	9.82			
	2. RN-BSN	30	32.47	12.86			
	3. ADN-BSN	25	5.24	9.20			
Number in Household [d]					.24	3.22	.04
	1. Accelerated BSN	55	0.82	1.02			
	2. RN-BSN	30	1.43	1.10			
	3. ADN-BSN	25	1.12	1.17			

[a] Scheffe post hoc tests: 2 > 1 (p = .01); 2 > 3 (p = .001); 1 ≈ 3 (p = .28).
[b] Scheffe post hoc tests: 2 > 1 (p = .03); no other significant differences at p < .05.
[c] Scheffe post hoc tests: 2 > 1 (p = .001); 2 > 3 (p = .001); 1 ≈ 3 (p = 1.00).
[d] Scheffe post hoc tests: 2 > 1 (p = .05); no other significant differences at p < .05.

DISCUSSION

The three primary purposes of this study were: 1) to identify the perceived stressors of nursing students at a public university that cause health problems, 2) To identify the possible causes of the stressors of the nursing students. 3) To determine the extent to which the nursing students are aware of the resources available to them on campus to help cope with the stressors or health problems; 4) To determine the extent to which the nursing students use university resources to cope with the stressors and reduced the incidences of common health problems.

The secondary purpose of this study was to determine if the three nursing groups (A-BSN, RN-BSN, and ADN-BSN) differed on any of the major variables. Based upon the above primary and secondary purposes of the study five research questions were raised and tested.

Results are discussed in the order of the five research questions followed by the additional findings related to the relationship of the demographic data to the major variables. Implications of the study to health promotions and illness prevention related to stressors in nursing students are discussed next. Limitations of the study, suggestions for future research and summary and conclusions are presented last.

Discussion of Research Questions

The first research question tested was: What are the common health problems of BSN nursing students of the three programs (A-BSN, RN-BSN, and ADN-BSN) that are associated with their perceived stress levels? Table 2 and 3 present the rank order of perceived stress levels and the reported *common health problems* experienced by the total groups (N = 110) respectively. Of the 14 *perceived stress* items sorted by the highest

mean, the highest stress rating was for "Felt nervous and stressed" (*M* =3.06, *SD* = 0.9), followed by the following five items that were ranked as stressful:

1. "Been upset because of something that happened unexpectedly" (*M* = 1.97. *SD* = 1.11).
2. "Felt difficulties are piling up so high that you would not overcome them?" (*M* = 1.89, *SD* = 1.05).
3. "Been angered because of things that happened that were outside of your control" (*M* = 1.84, *SD* = 1.15).
4. "Found that you could not cope with all the things that you had to do" (*M* = 1.82, *SD* = 1.03).

Of the 14 perceived stress items, the lowest mean stress rating was for "Found yourself thinking about things that you have to accomplish" (*M* =0.70, *SD* = 0.89). The other seven items that were on the lower end of the stress scale were such things as "Felt that you were on top of things" (*M* = 1.78, *SD* = 0.86), "Been able to control the way you spend your time" (*M* = 1.68, *SD* = 0.07).

Inspection of Table 2 that rank orders the stress items, shows that those items that are ranked on the higher level are those things in one's life and circumstances that the individual does not feel that he/she has control over them. The person seems to feel powerless to deal with or to cope with. Whereas those in the lower end of the scale are the opposite. The individual feels that he/she has control over his environment and on his life's circumstances.

With respect to the type of *health problems* these nursing students as a whole were experiencing, the rank ordering of the *17 common health problems* sorted by the

highest mean presented in Table 3 reveals that the highest frequency health problem was "Exhaustion/Fatigue" (*M* = 2.55) followed by anxiety (*M* = 2.43), sleep difficulty (*M* =1.96), headaches (*SD* = 1.95), common cold/flu like symptoms (*M* = 1.42), depression (*M* = 1.39), gastro intestinal upset (*M* = 1.26), alcohol use (*M* = 0.86), excessive eating disorder (*M* = 0.84), psychosocial disturbance (*M* = .75), high blood pressure (*M* = 0.69), binge drinking (*M* = 0.44), urinary tract infection (*M* = 0.36), smoking (*M* = 0.15). The lowest frequency was sexually transmitted disease (*M* = 0.10).

The mean for the existence of health problems for the total group was 1.04. The top seven health problems are above the mean and they were related with health problems that are commonly seen with students (Chernomas & Shapiro, 2013). Depression which ranks 6th on the list is one of the more serious health problems student are encountering.

To further answer the first research question, to determine whether or not there is the relationship between the stressors and the health problems, Spearman correlations were conducted between the total health problems score and the 17 individual common health problems, and their perceived stress levels. Results presented in Table 7 showed that 11 of the 18 correlations were significant. The highest correlations were for perceived stress with total health problems (r_s = .63, p < .001); anxiety (r_s = .52, p < .001); common cold / flu like symptoms (r_s = .52, p < .001); depression (r_s = .56, p < .001); and exhaustion/fatigue (r_s = .51, p < 001). Moderate strength relationships were found between stress level and GI upset (r_s = .37, p < .001); psychosocial disturbances (r_s = .38, p < .001); suicidal thoughts/attempts (r_s = .31, p < .001); and sleep difficulty (r_s = .39, p < .001). Headache (r_s = .26, p < .01); and high blood pressure (r_s = .25, p < .01) were related to stress level but the strength of the relationship was low.

Inspection of findings presented in Tables 2, 3 and 7 show that indeed the total stress level score and the total health problems are highly related ($r_s = .63$, $p < .001$). As mentioned previously and as observed in Table 2, the situations in student's environment, and in life situation that the individual feels having no control over them pauses greater stress in students. When the coping mechanism is not adequate to deal with the stressors, it most likely results in a health problem (Chernomas & Shapiro, 2013; Deasy et al., 2015).

These findings can be explained through the theoretical framework of the Precede Model. According to this model, three factors that are contextual in nature determine the behavioral causes of the health problem: Predisposing factors, Reinforcing factors, and Enabling Factors. The relationship of stressors to health problems observed can be explained through the role of the Predisposing factors. Among many causes of stress, the individual's environmental (school) requirements, roles, responsibilities, physical and social factors outside of individual's control can exacerbate the problems (Deasy et al., 2015). Additionally, the individual's attitudes, perspective knowledge, belief system, locus of control also contribute to the severity of the problem. If the individual does not have the coping mechanism (enabling factors) in terms of the knowledge base of the resources that are available to him/her to deal with the stressors, then he/she may start feeling things are getting out of their control, feeling of overwhelmed and feelings of perceived stress. Multiple studies about college students report that cumulative stress leads to unhealthy behaviors subsequently leading to health problems (Chernomas & Shapiro, 2013; Linnan et al., 2005; Selye, 1985).

This study's findings are also consistent with the studies of (Asemani et al., 2014; Chambel & Curral, 2005; Deasy et al., 2015; Lund et al., 2010). All of these studies have shown that college students, in general, who are experiencing pressures and conflicts between being a student and maintaining normal life, have higher incidences of health problems, such as lack of sleep to finish a school work, and driving with very little night sleep and having a car accident. When the student's lifestyle (contextual factors) demands high performance and yet the student does not have the coping mechanism to deal with the situation, it causes stress. High stress causes health problems (Deasy et al., 2015; Selye, 1985).

The second research question was: What are the possible causes of the stressors of the nursing students? Results of Spearman rank correlations that are presented in Table 8 shows that of the 14 demographic variables that could have served as predisposing factors for stressors leading to health problems, only three were significant at the .05 level. These correlations although statistically significant, are considered to be weak using Cohen's 1988 criteria. Findings show that the *type of program* that the students are enrolled in, specifically those in the ABSN and those in the RN-BSN programs seem to be one of the possible causes of higher level of stress. The only demographic data that was inversely and significantly related to the stress level at $p < 0.05$ level was the *level of education* (see Table 9), meaning the lower the education level the higher the stress. This can be explained by the fact that with more education comes the higher order of cognitive skills of prioritizing, problem solving, and critical thinking to deal with the stressors (S. Pryjmachuk & D. A. Richards, 2007; Sheu, Lin, & Hwang, 2002; H. F. Wang & Yeh, 2005).

Additionally, inspection of Table 2, which rank orders the perceived stressors of nursing students, sheds further light to the possible causes of stressors. As mentioned previously those items in their school environment or life circumstances that the students felt they have no control over, were found to be ranked higher in terms of severity of the stressors. One of the possible explanations of these findings, in accordance with the precede model, may be the role of their predisposing factors, such as the demands placed upon them by the type of nursing programs they are enrolled in makes them feel that they have no control over the expectations once they are enrolled, may cause powerlessness and stress (Deasy et al., 2015; Selye, 1985). These findings are consistent with studies of ACHA-NCHA II (2015) and (Chambel & Curral, 2005; Reeve et al., 2013) that showed the demands placed upon students due to academic rigor and challenge were some of the reasons cited for stress.

The third research question was: To what extent nursing students were aware of the university resources available to them? Results presented in Table 4 shows the rank ordering of the awareness of the university resources by the nursing students. The results show that of the 26 university resources financial aid ranked as the highest (93.6%) in terms of awareness followed by the Student Health Center (87.3%), scholarships (85.5%), immunization (82.7%), Student Recreation Center (80%), writing assistance (74.5%), provision of treatment, accessibility of immediate health care, and lab were all scored at the same level of awareness (72.7%). The lowest levels of awareness were for data entry analysis (39.1%), and analysis assistances. (37.3%).

Inspection of Table 4 shows that 70% of the students were aware of the resources related to Financial Aid and immediate accessibility of health related issues. The latter

two areas were ranked in the top 10 in terms of awareness of resources. The only exception in the top 10 was the writing assistance. The resource that the students were least aware was analysis assistance (37.3%). The other three resources that less than 50% of the students were aware of, were related to Educational resources such as data entry assistance (39.1%), learning how to study (43.6%) and time management (47.3%). Further inspection of table 4 shows that these items are vital to the students' financial survival, as well as dealing with immediate health problems have the highest awareness scores. Demographic characteristics of these students presented in Table 1 shows that over 43% of students enrolled in these programs had a total household income of $25,000//year or less. This is below federal poverty level. Also, 14.5% had $50,000/year or less total annual household income. Approximately two thirds (65.5%) of the total students population are financially responsible for other family members ranging from one to five other dependents. With this type of financial need, it explains why financial aid is ranked as the highest, whereas the ones that are ranked at the lowest were not crucial for their survival or to their roles as a nursing student at the baccalaureate level. These findings can be explained from Maslow's hierarchy of needs theoretical framework (MASLOW, 1954; Taormina & Gao, 2013) which places the fulfillment of an individual's basic needs of food, safety, water, love, shelter in top priority. Meeting these basic needs requires financial resources. These findings are consistent with the studies of (Chernomas & Shapiro, 2013; Timmins & Kaliszer, 2002) as well as biennial reports of ACHA-NCHA II (2013, 2015).

The fourth research question was: To what extent the nursing students used the available university resources to cope with the stressors? Inspection of the results

presented in Table 5 display the rank ordering of the use of the university resources by the nursing students. The results indicate the use of the overall 26 resources the university offers, use of university financial aid ranked highest (42.7%) followed by the accessibility of the Student Health Center (37.3%), immunization (36.4%, and student recreation center (31.8%), accessibility of lab (25.5%), provision of treatment and accessibility of immediate health care ranked (17.3%), and provision of medication (15.5%). The lowest uses of university resources were assistance with data analysis (0.9%), and alcohol and drug rehab (0.0%) where none of the students reported having used as a university resource. One interesting finding was that 71.7% of the student responses, regarding utilization of resources, were for the top 10 items that dealt with financial survival and resolving immediate health problems. These findings are very similar to the awareness of resources.

These findings can be interpreted both from the Precede's model perspective as well as Maslow's hierarchy of needs. The fact that both awareness and utilization of resources paralleled each other, it can be viewed as the enabling factors to cope with the stressor (financial and immediate physical health problems). In this study the students were aware of the resources that were appropriate for their needs (financial and immediate physical health).

The fact that the top 10 of the 26 resources were utilized by 71.7% of the respondent indicates the relevance of these resources to the nursing students to deal with the problems (stressors). Financial aid makes possible and enables the students to meet their basic survival need. A case in point is that 43% of the participants had an annual family income of $25,000 or less, and 65.5% of participants were financially responsible

for other family member ranging from 1-5 dependents (see Table 1). Thus, one may implicate that if nursing students are to survive and be successful in their studies and deal with minor illnesses and stressors successfully they needs to be not only aware of the financial and immediate physical health resources but be able to use them.

The fifth research question was: Are there differences between the three groups with respect to the major variables and the demographic data? This question was answered by the following methods: 1) One way ANOVA along with eta coefficients (Pearson correlations between a nominal/categorical variable and a continuous variable) to compare the three groups on each of the major variables. 2) Spearman rank correlation comparing the three groups to major variables as well as to the demographic data.

Results of comparisons presented in Table 10, 11, and Table 12 shows that accelerated students (A-BSN) compared to ADN-BSN were significantly more *aware* of the resources for physical health ($p < .001$) and for psychosocial health ($p < .003$). Also, A-BSN students in comparison to RN-BSN students, were significantly ($p < 0.1$-$.03$ levels) <u>less</u> stressed ($p < .03$), had less total health problems ($p < .02$); and used less educational resources ($p < .02$), used more health promotion resources ($p < .02$). Although, the A-BSN students in comparison to RN-BSN and ADN-BSN used more physical health resources and psychosocial resources (p value of .05), however, when Scheffe post hoc test was done, it showed no significant difference between the three groups.

One possible reason for the favorable outlook of A-BSN over the other two Associate degree graduates (AND-BSN and RN-BSN) is that A-BSN students have additional university level educations. Having previous experience as a university

student, they may have learned how to access university resources and developed a more adoptive coping mechanism to deal with their daily stressors than both the ADN-BSN and RN-BSN students. For both of these groups university life is new. The stressors of academia and the intensity and complexity of nursing as a discipline may have been harder on both the ADN-BSN and RN-BSN students in comparison to the A-BSN.

These findings are consistent again with Precede's model of predisposing and enabling factors. In the case of the A-BSN, their higher educational background and previous experience with university life are two predisposing factors that enable them to cope better with stressors than the two ADN program students. Also, the fact that RN-BSN students are older than the other two groups and had more dependents who relied on them for their financial support and worked more hours while going to school, are two additional predisposing factors for the RN-BSN students that could have accounted for their higher stress and higher total number of health problems that the A-BSN students.

These findings of students' health problems related to their stress levels, are consistent with (Chernomas & Shapiro, 2013; Deasy et al., 2015; Lee et al., 2013) studies. They found that student stress levels adversely affect their health and they engage in such health risk behaviors as alcohol use, drugs, and tobacco use. Additionally, cluster of health problems were found to be related to psychological distress exhibited by college students (Ahrberg et al., 2012; Asemani et al., 2014; Chambel & Curral, 2005).

With respect to the characteristics of the ADN-BSN group, they were the youngest of three groups, especially in comparison to the RN-BSN group and had the least level of education in comparison to A-BSN, worked less that the RN-BSN and

missed the least number of classes in comparison to the other two groups. They also were significantly less Caucasian, in comparison to the A-BSN group. They were the least aware of the physical health and psychosocial resources, as well as the least use of physical health and psychosocial resources. One explanation for those differences may be that they're younger students are just getting into the nursing program and their excitement that they are enrolled in both community college and simultaneously at a four year college and doing well in their classes may have served as the enabling factor to cushion the stressors encountered at school.

Implication of the Study

The implications of this study are in three areas: (1) The importance of health promotion of nursing students by reducing their stress levels; (2) health policy development at the university and at the department of nursing levels; (3) nursing education and curriculum development. Although the sample size of this study was 110, cautious generalization can be made based upon the findings of this study.

One of the major implications of the study is in the area of health promotion and illness prevention by reducing the stressors in students' learning environment at school. One of the findings of this study was that nursing students are stressed, especially the working RN-BSN students. This group scored the highest in stress levels in comparison to the accelerated BSN and the collaborative ADN-BSN students. Findings show that lack of financial resources especially if they have dependents is one of the major sources of stress. It is therefore important for schools of nursing to provide and emphasize the availability of financial resources and aids to reduce the illness causing stress levels. Awareness of resources is the first step but not sufficient for utilization. It may be

helpful if instruction for accessing the needed financial resources can be placed in the student handbook or of the department website.

Another implication of the study is based on the fact that students did not feel that they had control over their learning environment. The way they expressed this opinion was that they "felt nervous and exhausted, anxious (ranked 1st), when things happen to them unexpectedly (ranked 2nd), or would not cope with all the things they had to do. Difficulties piling up so high that they could not overcome". These stressors made them very nervous and anxious. One of the recommendations of this study is that strategies to include the students' feedback in the development of schedule of classes. It would be helpful to the students if the course requirements and expectations are given to the students well in advance of the start of the course so that they can plan their lives around them. It may be necessary that during the orientation period as they start the program or the course, students are given instructions about time management. There are life's skills that can be generalized to other aspects of their family life. Additionally, within reason, flexibility of faculty in setting deadlines for submission of course work on assignment and asking the students to meet them will also contribute to reduction of stress in student who are working and have other family and financial responsibilities. Following the adult learning principles in dealing with working nursing student sis one of the recommendations of this study.

With respect to implication of this study to administration of the department of nursing and the university, it is based on the findings that awareness of the resources does not necessarily indicate the use of the resources. The overall mean for awareness of resources for the entire group was 66.9, but for the utilization of resources was 12.94

(Table 6). One of the recommendations of this study is to have the list of the university and SON resources be listed in the student handbook, if it is not already there, and for faculty to refer the students to the specific resources as necessary and appropriate.

Implications to nursing education and to the faculty of schools of nursing fall into the area of curriculum development and adoption of teaching strategies appropriate for adult learners. The nursing major within a university is a complex, high intensity and a demanding discipline. Tremendous responsibility and pressure are placed upon students not to make any mistakes while learning how to take care of patients, because one small mistake in medication calculation can kill a patient. About 48.2% if the participants work on the side to meet their financial needs and 65.5% have dependents for whom they are financially responsible. All these factors place demands on their time and adversely affects their study time. A curriculum for the returning RNs and for the accelerated programs has to take into consideration adult learning principles to enable these students to retain the knowledge and manage their time effectively. Otherwise, in order to meet the requirements on time they are going to sacrifice their sleep time and other health promotion behaviors, be under pressure, stressed, exhausted, and overwhelmed. These are all pre-cursors and predisposing factors for health problems in nursing students. This study recommends that the curriculum and the teaching strategies utilized be appropriate for the type of students we have.

Limitations of the Study

Although the sample size was adequate for this study, but not large enough to generalize universally, it was gathered from one public institution. Thus generalizations should be made with caution. Another limitation of the study was that it was a

descriptive study. A sample of convenience with 100% sampling technique was used with each of the groups. This was not an experimental design study with controlled conditions, thus no cause-and-effect relationship can be made.

Suggestions for Future Study

Replicate the study with a larger number to increase its generalizability. Also, when the recommendation of the study are implemented, to induct an evaluative study to determine their effectiveness. For example, include the university and the Department of Nursing resources in the student handbook and evaluate its effectiveness. Also, adoption of adult learning principles as the model of instruction for RN-BSN and A-BSN programs and evaluate its effectiveness.

Conclusion

The major finding of this study were that nursing students like other college students, who are stressed exhibit such health behaviors as exhaustion and anxiety, sleep difficulty, headaches, flu and common cold, depression, GI upset, alcohol use, eating disorders, and psychological disturbances. These were the top 10 health problems encountered by the nursing students. Another major finding was that awareness of university and DON resources does not mean that they are using the resources. Thus, it is recommended that nursing curricula adopt adult learning principles that are appropriate for working nursing students. As well, encourage nursing students to use the university resources as necessary and appropriate.

In conclusion, this detailed study of young adults enrolled in three different nursing programs at CSUN revealed significant findings that warrant for additional research. The information gained from the analyses, enables us to identify the student's

needs for support. Attention needs to be given to students' awareness of the resources available for them to use and support them to utilize those resources. Additional research is needed to further improve the wellness of nursing programs based on the students' needs for resources. Further research needs to be done on the nursing students who are returning to school and continue to work such as the RN-BSN students in this study where they had the highest level of stress scores and worked with financial responsibility of family and education. This is the endangered professionals in need of advocates for support.

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APPENDIX A

DEMOGRAPHIC DATA

Do NOT write your name on the survey. Please check as appropriate.

1.	**In which nursing program are you currently enrolled?** □ Accelerated BSN □ RN-BSN □ Collaborative ADN-BSN
2.	**Gender** □ Male □ Female □ Transgender
3.	**What is your age in years?** _____
4.	**Marital status** □ Single □ Married □ Separated □ Divorced
5.	**Do you Have Children?** □ Yes If Yes, How many? _____ □ No
6.	**What Ethnic Background do you associate most?** □ American Indian □ White □ Black □ Hispanic □ Asian □ Other
7.	**What is the highest education level you have completed?** □ High School □Associate Degree □ BS/BS □ Masters □ Other
8.	**Your household annual income** □ $25,000/year or below □ $26,000 - $50,000 □ $51,000 - $75,000 □ $76,000 - $100,000 □ up to $150,000 - $200,000 □ above $200,000
9.	**Do you currently work?** □ No □ Yes, if Yes, How many hours per week? _____
10.	**How many people are you financially responsible for in your household?** _____
11.	**Do you currently receive financial aid?** □ Yes □ No
12.	**Within the last 6 months, how many times have you missed classes for any reason?** □ Never □ one to three times □ three to 5 times □ More than five times

APPENDIX B

PERCEIVED STRESS SCALE

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate *how often you* felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

For each question choose from the following alternatives:

0. Never
1. Almost never
2. Sometimes
3. Fairly often
4. Very often

Perceived Stress Scale

Do NOT write your name on the survey. Please check as appropriate.

For each question choose from the following alternatives Ranging from "0" to "4"		0 Never	1 Almost Never	2 Sometimes	3 Fairly Often	4 Very Often
1	In the last month, how often you have been upset because of something that happened unexpectedly?					
2	In the last month, how often have you felt that you were unable to control the important things in our life?					
3	In the last month, how often have you felt nervous and "stressed"?					
4*	In the last month, how often have you dealt successfully with irritating life hassles?					
5*	In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?					
6*	In the last month, how often have you felt confident about your ability to handle our personal problems?					
7*	In the last month, how often have you felt that things were going your way?					
8	In the last month, how often have you found that you could not cope with all the things that you had to do?					
9*	In the last month, how often have you been able to control irritations in your life?					
10*	In the last month, how often have you felt that you were on top of things?					
11	In the last month, how often have you been angered because of things that happened that were outside of your control?					
12	In the last month, how often have you found yourself thinking about things that you have to accomplish?					
13*	In the last month, how often have you been able to control the way you spend your time?					
14	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?					

*Scored in the reverse direction.

APPENDIX C

INSTRUCTION TO THE JUDGES FOR ICHP TOOL

Attached you will find a questionnaire Index of Common Health Problems encountered by college students according to the literature. The purpose of this tool is to determine the frequency of the incidences of common health problems in college students.

Below you will find a list of common health problems that students encounter while in college. Please indicate by writing the word “yes” or “no” in the column to the left of the index if you think these items measure common health problems in students. If you answer “no,” please suggest an alternative to the health condition on the right.

Index of Common Health Problems

Please indicate "yes" or "no"	Have you had any of the following challenges or health issues?	0 Never	1 Almost Never	2 Sometimes	3 Fairly Often	4 Very Often	Alternative health condition if answer is "no"
1	Alcohol Use (2 glass/day or more)						
2	Anxiety						
3	Binge drinking						
4	Common cold/Flu like symptoms						
5	Depression						
6	Drug Use (Recreational use)						
7	Excessive Eating disorder						
8	Excessive smoking						
9	Exhaustion / Fatigue						
10	GI-upset (nausea, vomiting, diarrhea)						
11	Headache						
12	Hypertension						
13	Psychological disturbance						
14	Sexually Transmitted Disease						
15	Sleep difficulty						
16	Suicidal tendency						
17	Urinary Tract Infection						
18	Other (please specify)						

APPENDIX C-1

INDEX OF COMMON HEALTH PROBLEMS

Do NOT write your name on the survey. Please check as appropriate.

	Have you had any of the following challenges or health issues?	**0** Never	**1** Almost Never	**2** Sometimes	**3** Fairly Often	**4** Very Often
1	Alcohol Use (2 glass/day or more)					
2	Anxiety					
3	Binge drinking					
4	Common cold/Flu like symptoms					
5	Depression					
6	Drug Use (Recreational use)					
7	Excessive Eating disorder					
8	Excessive smoking					
9	Exhaustion / Fatigue					
10	GI-upset (nausea, vomiting, diarrhea)					
11	Headache					
12	Hypertension					
13	Psychological disturbance					
14	Sexually Transmitted Disease					
15	Sleep difficulty					
16	Suicidal tendency					
17	Urinary Tract Infection					
18	Other (please specify)					

APPENDIX D

AUURQ TOOL

Below is the Awareness and Use of University Resources Questionnaire (AUURQ) obtained from the university resources. Please check "yes" or "no" for each of Awareness of Resources whether or not you are aware of its existence, and a "yes" or "no" for each of Use of the Resources if you have used them.

Awareness and Use of University Resources Questionnaire

Do NOT write your name on the survey. Please check as appropriate.

List of Resources	Available University Resources	Awareness of Resources		Use of the Resources	
		YES	NO	YES	NO
Physical Health	Student Health Center (SHC) accessibility				
	Accessibility of lab				
	Accessibility of Immediate health care				
	Immunization				
	Provision of treatment				
	Provision of medications				
	Availability of referrals				
Psychosocial	Psychosocial care for anxiety				
	Psychosocial care for depression				
	Alcohol and drug rehab.				
	New Oasis Wellness Center				
Financial	University Financial Aid				
	Scholarships				
	Other supportive resources (eg: Work study)				
Educational	Time management				
	Learning how to study				
	Writing assistance				
	Research assistance				
	Data entry assistance				
	analysis assistance				
Health Promotion	Affordable Health care				
	STD prevention				
	HIV prevention				
	Birth control education				
	Student Health Fair				
	Student Recreation Center (SRC)				

APPENDIX E

INSTRUCTION TO STUDENTS:

Dear students,

I Rosine Der-Tavitian, am conducting a research study for my doctoral project. I am studying stress in nursing students. The survey of the project will help me identify the stressors that are causing health problems. The study will help me determine the extent to which students are aware of the university resources available to help them deal with the stressors, also the extent to which students have used the university resources to cope with the stressors, and reduce the incidences of common health problems.

The secondary purpose of my study is to determine if the students enrolled in the three types of nursing programs differ in their experiences of health problems, awareness, and utilization of campus resources to deal with the stressors while a nursing student.

You are asked to participate in a pencil and papery survey. You will answer four short sections of questionnaire that will take you about 15 minutes to complete. The four sections are:

1) The demographic data of the nursing students participating in the study.
2) PSS: Perceived Stress Scale measures situations in one's life as being stressful. In this section you will be asked to indicate *how often you* felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.
3) ICHP: Index of common health problems is related to the most common health problems that students experience during their academic studies. Each listed health issue in the questionnaire is followed by five Likert type rating scale ranging from (0) indicating never to highest number (4) indicating very often.
4) AUURQ: Awareness and Use of University Resources Questionnaire is related to Identifying the university resources available and to the extent which you have used to cope with the stressors.

Your participation in this survey is voluntary, at any point you may stop if you choose not to continue. If you choose to stop and not continue it will not have any adverse effect on your grade, or standing in the program. If you choose to continue it will constitute as your consent to participate.

To participate in the study you will need to be enrolled in a minimum of six units of study during your second semester as a nursing student. Anonymity is of utmost importance. If you have any questions about your participating rights you may contact the

Office of University Research, CSU Fullerton, 800 North State College Blvd, Fullerton CA. 92831, telephone (657) 278-3336 or email dnp@fullerton..edu.

By participating in this study, you will benefit the knowledge of the university resources available to you, and be part of building an Evidence Base Practice research study to benefit future nursing students. The study will enable nursing students to identify stressors that cause health problems and learn of university resources available to coping with the stressors.

Thank you for your voluntary participation.
Rosine Der-Tavitian, DNP student