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The Sources and Effects of Occupational Stress on Recent Graduate Nurses

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Abstract

This paper will examine the underlying stressors and consequences of occupational stress on recent graduate registered nurses and how they cope with it. By exploring the various factors, early interventions and strategies can be implemented to help reduce cases of compassion fatigue, occupational mental illness, and early retirement that is associated with cumulative stress. Stress is not just an occupational hazard, but a significant health problem as well. A nurse's role is associated with physical labor, long work hours, sleep deprivation, and exposure to work-related violence or threats. Thus, the main purpose of this study is to investigate the relation between new graduate nurses' working stress, their responses to stress, and their health-related quality of life.

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The Sources and Effects of Occupational Stress on Recent Graduate Nurses

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Abstract

This paper will examine the underlying stressors and consequences of occupational stress on recent graduate registered nurses and how they cope with it. By exploring the various factors, early interventions and strategies can be implemented to help reduce cases of compassion fatigue, occupational mental illness, and early retirement that is associated with cumulative stress. Stress is not just an occupational hazard, but a significant health problem as well. A nurse's role is associated with physical labor, long work hours, sleep deprivation, and exposure to work-related violence or threats. Thus, the main purpose of this study is to investigate the relation between new graduate nurses' working stress, their responses to stress, and their health-related quality of life.

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Introduction

Healthcare professionals dedicate their lives to taking care of people, but at the end of the day, who takes care of them? If nurses experience occupational stress, this could affect their competence and ultimately affect the delivery of high quality patient care. According to the International Council of Nurses (ICN) Code of Ethics for Nurses, “Nurses have four fundamental responsibilities: to promote health, to prevent illness, to restore health and to alleviate suffering” (ICN Code 2012). As a result, it is important to distinguish interventions and coping mechanisms that can be used to preclude stress and promote optimal patient care.

According to the National Institute for Occupational Safety and Health (NIOSH), occupational stress is defined as “the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker” (NIOSH, 1999). High levels of occupational stress have been linked to an increased risk of depression, anxiety, burnout syndrome (BOS), post-traumatic stress disorder (PTSD), sleep deprivation, alcohol abuse, loss of appetite, and low self-esteem. Stress that persists over a longer period of time can cause distress, which may have debilitating effects on a nurse’s physical and psychological well-being.

Problem Statement

Taking on the full responsibility of caring for an individual is a strenuous job. Nursing requires providing patients with the highest quality of care. They work long, irregular hours and may experience various work-related stress, which can affect their own health and the delivery of care for their patients. Work-related stress not only brings about hazardous impacts on a nurse’s health, but also his or her ability to cope with the job demands. Because newly graduated nurses

have less experience than their co-workers, they may not initially have the coping mechanisms necessary to combat stress in the workplace.

Purpose

The purpose of this study is to identify the effects that occupational stress has on recently graduated nurses and to determine the coping mechanisms that these nurses have developed and utilized to relieve their stress.

Theoretical Framework

The Transactional Model of Stress and Coping, which was developed by Richard S. Lazarus and Susan Folkman, is a framework that evaluates the process of coping with stressful events. According to the model, stress involves an encounter, or “transaction,” between a person and his or her external environment (Mitchell, 2004). Stress happens when there is a deviation between the demands and resources. It depends on the intensity of the demands that an individual is confronted with and how the individual’s sense of control deals with those demands (“Workplace Stress,” 2018).

When an individual is faced with psychological or a physical situation, they perform what is referred to as primary appraisal. In this step, the individual will analyze the situation as harm, loss, threat, or a challenge. If the individual identifies the event as one of these, then the person experiences stress, otherwise the event is benign. If stress is present, then the person progresses onto the secondary appraisal, which focuses on coping resources to get through a difficult situation with a desirable outcome.

In this study, the theoretical model will be used to analyze how nurses interact with their stressors, such as patient acuity and type of unit, in their working environment. Understanding

the Transactional Model of Stress and Coping is imperative to detect the different demands that trigger occupational stress, which will help develop effective strategies for nurses and other healthcare providers to improve their overall sense of well-being.

Methods

The studies included in this literature review were found using the Iceberg online database through the Archbishop Alemany Library page on the Dominican University of California website. Research was not limited to the United States. Search terms included: compassion fatigue, occupational stress, self-care, coping mechanisms, and burnout in nurses.

Literature Review

Stressful Factors

The aim of the study “Effects of Stress on Critical Care Nurses: A National Cross-Sectional Study” was to determine the variables that are positively associated with occupational stress among nurses who work in a critical care setting. The sample involved 17,414 registered nurses who worked in ICUs in Iran and are at least the age of 18. In total, 790 critical care units and 180 private and educational hospitals were involved. Participants were asked to fill out a questionnaire that consisted of 2 parts. Section one consisted of questions regarding socioeconomic, professional, and institutional variables; section two addressed work-related stressors (Azimi et al., 2017). They were then asked to rate the stressors, similar to ones found in nurses in the United States such as shift rotation and inadequate support (Gupta, 2016). The stressors were rated on a 5-point Likert-type scale, ranging from very low to very high stress. Overall, 71% of Iranian nurses reported feeling stressed. Variables that were highly associated with greater levels of stress included minimal collaboration and working with a

supervisor on the unit. Another cited stressor included high patient to nurse ratios, which nurses perceived as unsafe. Unfortunately, the study did not state the standard patient to nurse ratio for an intensive care unit in Iran. Other factors included dealing with death and dying, having difficult patients, decreased collaboration, and poor communication. Interestingly, while the sample size consisted of mostly females (68.9%), the researchers found that being a male nurse was associated with greater levels of stress. On the other hand, the study found that being married was correlated with lower levels of stress. This study suggested that social support can help buffer between the impact of occupational stress and its poor outcomes on psychological and physical health. The findings may not be applicable to other intensive care units in other countries due to variable differences in the Iranian healthcare model. For instance, most intensive care units in the United States are closed whereas intensive care units in Iran are either open or semi-closed (Azimi et al., 2017).

In a cross-sectional study conducted by Ko and Kiser-Larson (2016), it identified stress levels and stressful factors of nurses working in oncology outpatient units. The study included 40 nurses who worked in outpatient units at the Sanford Roger Maris Cancer Center located in North Dakota. Participants completed a questionnaire that asked about their demographics, the Nursing Stress Scale (NSS), and answered three open-ended questions. The Nursing Stress Scale “was used to measure levels of stress frequency and stressful factors” and was validated using the test-retest reliability (Ko & Kiser-Larson, 2016). Each item was scored out of 4 points, with higher scores indicating higher levels of stress. Researchers found that the most stressful factors included workload and patient death and dying, while the least stressful factors were inadequate preparation to care for patients towards the end of life and lack of support from the unit

supervisor. Demographic variables associated with increased stress scores included age and work experience. The researcher also mentioned that other factors that may contribute to stress in the oncology specialty include relationships with the multidisciplinary team, high patient acuity, inadequate training, and lack of time for end of life care (Ko & Kiser-Larson, 2016). Although this study found that younger nurses have lower levels of stress, interventions should be catered to the needs of each individual in order to decrease the incidence of occupational stress. Because the study's sample size (n=40) is fairly small in size and was only conducted in one setting, the stress level factors and intensity can only be applied to this target population.

Rizo-Baeza et al. conducted a study aimed to analyze the association between the psychological effects and factors that contributed to burnout in the palliative care setting, which “is a psychological state of the worker, of chronic maladaptation, related to the work environment, characterized by three dimensions: emotional exhaustion, negative self-evaluation of one's own achievement and/or professional accomplishment and depersonalization” (Rizo-Baeza et al., 2018). This cross-sectional study included 185 nurses who worked in palliative care units in Mexico. It involved 16 public healthcare facilities in the state of Tamaulipas. The only inclusion criteria was that participants had to actively provide direct nursing care to chronic terminal patients. The Maslach Burnout Inventory (MBI), which is similar to the Likert-type scale, was a tool utilized in this study to help predict burnout syndrome in the nurses who work in a palliative care setting. It consists of 22 items, with each item being scored on a point scale from 0 to 6. The lowest score of 0 represented “never experienced,” while the highest score of 6 represented “experienced daily.” A higher level of burnout was discovered in participants who worked night shifts, were single parents, worked more than 8 hours per day,

and lacked self-care activities (Rizo-Baeza et al., 2018). The results of this study yielded different results compared to other similar studies. For example, a study conducted by Payne (2001) found that other factors such as death and dying, personal conflict, and poor coping mechanisms may be associated with a lower quality of professional life. Because this study used a small sample size ($n=185$) and was conducted in a low and middle-income country, the findings may not be generalized to palliative care units in high-income countries such as Australia and the United States (Rizo-Baeza et al., 2018).

Valizaden, Farnam, Zamanzadeh, and Bafandehzende (2012) revealed that stress can be induced by human and environmental factors. Their study included 110 nurses working in NICUs of Tabriz, Maraghe, and Mianeh (cities in East Azerbaijan Province, Iran). Nurses had to work in the neonatal intensive care unit for at least one shift per week and for at least 6 months, and have a high school diploma, bachelor's, or master's degree in nursing. Nurses who experienced severe stress in the past such as losing a loved one in the last 4 weeks or had a history of mental illnesses were excluded from the study. The researchers used a self-report questionnaire that consisted of demographics and several variables that trigger stress. This is a limitation to the study since self-report questionnaires may be exaggerated, recorded incorrectly, and skew the results due to various biases. Each item was graded out of 6 points, with 1 being "I have not encountered this problem" to a rating of 6 as "very highly stressful." Overall, human factors significantly caused more stress than environmental factors ($p < 0.05$). Human factors positively associated with high levels of stress included health and safety risks, death and dying, unorganized shift schedules, healthcare providers not being present in emergency situations, feelings of incompetence, poor time management, getting criticized from members of the

healthcare team, and being overworked. On the other hand, environmental factors included sudden and unexpected alarm sounds from monitors, an influx of patients, continuous noises from monitors and equipment, and noise pollution (Valizaden et al., 2012). The literature reviewed in this study validated that their results (human factors caused significantly more stress than environmental factors) were consistent with other similar studies.

Consequences of Occupational Stress

Stress can be experienced on a broad spectrum ranging from eustress to burnout syndrome. Eustress is associated with positive forms of stress that includes a beneficial effect on health. Referring back to the study “Effects of Stress on Critical Care Nurses: A National Cross-Sectional Study,” it states on the other hand that the effects of prolonged stress can cause physical and psychiatric disorders (2017). The researchers’ findings were based off of a questionnaire that nurses filled out, which was validated using a three classic round Delphi technique (Azimi et al., 2017). They found that social dysfunction was the most prevalent psychiatric disorder (71%). Other psychiatric disorders include depression, anxiety, burnout syndrome (BOS), and post-traumatic stress disorder (PTSD). Overtime, nurses may develop maladaptive coping mechanisms to the point where their body’s immune system becomes weakened, leading to exhaustion. Furthermore, exhaustion is positively associated with post-shift and near accidents because nurses struggle to stay awake as a consequence of working consecutive shifts. Occupational stress also worsens cardiovascular, gastrointestinal, and/or musculoskeletal symptoms. “Muscle cramps and spasms, arthralgia, and back and neck pain are associated with job demands, social support, job strain, overcommitment, and higher stress” (Azimi et al., 2017).

Ahwal and Arora also agree that occupational stress causes hazardous impacts on nurse's physical, psychological, and emotional well-being and their ability to cope (2015). Stress impacts not only their clinical practice, but their personal lives as well. This may include sleep deprivation, alcohol abuse, loss of appetite, and lower self-esteem. Through the researchers literature review, they discovered that feelings of distress and anger were common outcomes of stress among emergency nurses and that they are 3.5 times more likely to use illegal substances (Ahwal & Arora, 2015).

Nurses are not the only ones who are affected by an increase in occupational stress. Patient safety becomes compromised due to medical errors, decreased safety compliance associated with an increase in stress, long work hours, feelings of fatigue, and high patient demand (Azimi et al., 2017). A nurse's workload is linked to their patient outcomes. Because nurses are constantly at the bedside and serve as a liaison between the patient, their family members, and the healthcare team, it is essential that they ensure patient safety even when their ability to provide safe patient care becomes compromised. Nurses can do this by developing their Quality and Safety Education for Nurses (QSEN) competencies, which will help guide nurses to "redesign the 'What' and 'How' they deliver nursing care, so that they can ensure high-quality, safe care" (Flavin, 2018).

Hasan (2018) found that stress and depression are prevalent among psychiatric nurses. This was found using the Beck Depression Inventory (BDI), which was validated using the retest reliability that ranged from 0.75 to 0.78. About 75.7% of the participants experienced a high level of depression. Their results coincided with other studies that also reported occupational stress may cause depression and other mental problems. The researchers emphasized that

improving coping strategies will help reduce the psychological distress and other problematic behaviors through implemented programs that are aimed to teach nurses how to deal with occupational stress and its effects.

Coping Mechanisms for Occupational Stress

Happell, Reid-Searl, Dwyer, Gaskin, & Burke (2012) conducted a qualitative study involving focus groups to learn about various coping strategies that nurses utilize outside of the work environment to cope with stress in the workplace. They interviewed 38 acute care nurses in Australia and found that staff identified both positive and negative coping mechanisms. Positive mechanisms that they used involved social activity, including using the staff social club to interact with their colleagues, social networking sites, and time with family. Negative behaviors that the nurses used were using substances such as alcohol and tobacco, avoiding other people after a stressful shift, and displacing their frustration onto other people. A limitation of the study is it solely focuses on the coping mechanisms, and not necessarily on how effective they are at managing workplace stress.

Gifkins, Loudoun, and Johnston (2017) examined the coping mechanisms of nurses when working outside of regular daytime hours. In 2015, they conducted individual interviews with nine of the nurses had only worked less than one year and 12 nurses that had worked for at least three years at the time of the interview. All 21 of the nurses were female, and most of them identified rest and sleep prior to and after shift work as the most important coping mechanism. The second most commonly identified mechanism of coping was being able to schedule their workdays and request certain days off. Both the experienced and inexperienced nurses highlighted the need for social support from their families, friends, and other nurses. One

experienced nurse described her family as “helpful,” detailing how her family assists her with domestic chores at home. However, more inexperienced nurses described feeling isolated and distant from family and friends. Inexperienced nurses also detailed support by senior nursing staff, whereas the experienced nurses expressed their belief that they were not supported by older nurses and nursing management at work. A limitation of the study is that both groups of nurses worked in different workplaces. The experienced nurses worked primarily in acute care, while the inexperienced nurses were employed in general hospital wards. So, their perspectives may be variable because of the difference in work demand.

Effectiveness of Coping Mechanisms

Healy and McKay (2000) performed a study to assess the possible effects that humor may have on nurses’ stress, and how job satisfaction can affect the balance between stress and mood. The writers utilized five standardized questionnaires that explored the frequency of stressful situations, efforts to manage stressful events, and opinion on the use of humor to manage stress. They distributed the questionnaires to 129 registered nurses in Australia, and the results of data collection indicated that workload was the most common stressor in the workplace. They found that planful problem solving was the most commonly used strategy to manage stress at work. However, no positive effect was found between humor coping and nursing stress, although there was a positive effect of humor on job satisfaction. Because this study was performed 2000, additional studies may be necessary to assess the development of a correlation between humor and stress over time.

Farrington (1998) performed a qualitative study that involved interviews of clinical nursing students about what coping strategies they utilized in response to stress, and how

effective their strategies were in addressing their stress. The writer interviewed two groups of students: one group was in a high technology clinical course, and the other was in a rehabilitative nursing setting. A majority of the students discussed how communication with others as a major coping strategy. They detailed how they would socialize with their family and friends, whether it was to express their feelings or to justify how the stressful event occurred. Other students identified avoidance as another used mechanism. However, when the students were asked about the effectiveness of their coping strategies, the results were variable. One student indicated that talking about their stress with colleagues allowed for relief by uniting the staff together. Another student described how staff talked about a stressful incident at work, but discussing the matter did not necessarily resolve the situation. When talking about the effectiveness of avoidance, a student said that it was not an effective mechanism of coping. A better strategy would have been to address the issue directly. In conclusion, interpersonal communication was a common strategy for managing stress in nursing, but these discussions can be seen as either beneficial or ineffective. The unproven effectiveness of the communication as a coping mechanism is a definite limitation of the study. In addition, the coping mechanisms of the students cannot be generalized to the registered nurse population. Instead, a study should be done on licensed nurses with experience to evaluate the development of additional coping skills with increased exposure to stressful situations.

In their quantitative study, Chang, Daly, Hancock, Bidewell, Johnson, Lambert, and Lambert (2006) performed four different questionnaires were provided to 320 Australian registered nurses working in acute care to determine the relationship among stress, coping methods, and mental health. The writers found that the most common cause of stress among the

nurses was workload, and that more recurrent stress was positively correlated with diminished mental health. Their results also indicated that nurses, who worked longer on the unit and utilized distancing as a coping mechanism, had increased mental health scores. Distancing may prevent nurses from dwelling on stressful situations in the workplace. On the other hand, mental health scores decreased among the nurses that utilized escape-avoidance, and experienced lack of support or increased workload, or self-control. The nurses interpreted the reasoning for their results by concluding that experience on the floor may contribute to a lower rate of role ambiguity as well as an increased likelihood of understanding their expectations.

Suggestions for Coping

Molehabangwe, Sehularo, and Pienaar (2018) conducted a qualitative study, interviewing ten nurses in a mental health facility in the North West province of South Africa to assess the coping mechanisms of nurses. From the information gathered from the interviewed, they identified four common themes: psychosocial support, coaching and mentoring, stakeholder support, and suggestions to improve coping. The nurses identified the availability of an Employee Assistance Programme that allows them to relieve their stress, improving the overall wellness of staff. Another effective intervention was staff appreciation and employee engagement. If nurses are rewarded for their hard work, then they are more likely to be engaged and effectively cope with work. Staff also indicated that reflective meetings will allow nurses to be able to cope with work and deal with stressful situations. Career advancement may also allow staff to grow professionally and develop skills necessary to cope with the stress of work. The writers' article is useful in providing recommendations on what external factors may be utilized to empower nurses to develop coping skills. However, a prominent limitation of this study is that

it does not discuss internal coping mechanisms that nurses have already utilized to deal with occupational stress. Rather, the nurses only make suggestions of what employers may offer to reduce nurses' stress in the workplace.

The Study

Objective

The purpose for this study was aimed to identify the most prevalent stressors among new graduate registered nurses and examine their responses to stress.

The significance of this research proposal was to allow new graduate nurses the opportunity to reflect on the major workplace stressors of the nursing profession. By identifying occupational stressors, interventions could be implemented to improve the overall well-being of nurses and patient outcomes. It could also allow the opportunity to reflect on the coping mechanisms they have utilized in response to stress in the workplace. It could provide more insight on what coping strategies nurses use to prevent occupational stress and burnout and improve nurse satisfaction and overall patient outcomes.

Study Design

This was a descriptive cross-sectional study. The data collection tool was a questionnaire that asked about demographic information, occupational stressors, and coping mechanisms. Descriptive and analytical statistics were used to analyze the data in Statistical Package for the Social Sciences software.

Based on literature review, the researchers extracted many dimensions of occupational stressors in acute care settings and coping mechanisms nurses frequently used. To determine the

validity of the instrument design, the researchers gathered viewpoints from a registered nurse who has research experience.

Participants

The target population was new graduate nurses, who graduated from Dominican University of California's nursing program, with six months to three years of acute care experience. Participation was solicited by distributing the instrument to members of the Dominican Department of Nursing alumni through the private alumni nursing cohort groups on Facebook by Lisa Wagenhurst, the Administrative Coordinator of the Department of Nursing. The final sample consisted of 18 new graduate nurses.

Data Collection

The instrument was a survey link created through Google Forms. It asked about the participant's demographic information, the stressors he or she experiences in the workforce, how often and how severely these impacts their physical and mental wellbeing, and the coping mechanisms the participant's uses in order to relieve his/her stress. The creation of the survey was created similarly to the ones used in the literature review. The survey was validated by Dr. Kathleen Beebe, who made certain that the most relevant questions, that pertained to the research topic, were asked. The study was then approved by the Institutional Review Board for the Protection of Human Participants (IRBPHP application #10786). The inclusion criteria for the study was that participants graduated from the nursing program at Dominican University of California, have experienced stress in the workplace, and have practiced as a registered nurse in an acute care setting between six months to three years. Only if the participants said yes to all

three questions, they could continue with the survey. The survey took at least 10-15 minutes to complete and was completely voluntary.

Ethical Considerations

The potential risk to the study was reflection on past occupational stress that could cause some emotional distress for the participants. To minimize this potential risk, a disclaimer was provided in the consent form (Appendix B) regarding the potential for emotional distress upon reflection on workplace stress. Participants were able to withdraw from the study and refrain from answering any questions that may cause distress. It was also recommended in the consent form to contact his/her respective employee or primary care physician for counseling or followup that may result from distress. The main benefit and significance of this research proposal was to allow new graduate nurses the opportunity to reflect on the major workplace stressors of the nursing profession and to reflect what coping strategies they have utilized in response to stress in the workplace. Allowing participants to reflect on coping mechanisms could help them in providing safe patient care. It was important to understand how work-associated stress affects nurses, and what factors in their working environment cause the greatest burden. It was also of great importance to gain more knowledge about nurses' working conditions, occupational stress and job satisfaction-knowledge that might be used to decrease their occupational stress and increase their job satisfaction.

Findings

Demographics

A total of 18 recent graduate nurses participated in our study; four participants were male and 14 participants were female. About three quarters of the participants (77.8%) were 22 to 25

years old. About two thirds of the participants (66.7%) were Caucasian, one third of the participants (33.3%) were Asian, one participant was African American, and another participant was Pacific Islander. Eight of the participants worked between six months to one year, another eight worked between one to two years, and two participants worked between two to three years (mean = 1.42, $SD = 0.799$). Most of the participants worked in an acute care setting such as the Medical/Surgical Unit (40.0%); six participants worked in the critical care unit such as the Emergency Department, ICU, NICU, or PICU; two worked in Pediatrics; two worked in Hematology; one worked in Labor and Delivery/Postpartum; and one worked in the Perioperative Care Unit, such as the OR and PACU.

Stressors

Among the 20 listed factors affecting occupational stress in nurses, having to handle patients' families and staffing schedule had the highest impact; subsequently followed by patient acuity level and having to work through breaks. Table 2 lists the other stressors. When asked to rate these stressors on a Likert-type scale from 0-10, a mean score of 6.61 was rated for how *often* the stressors negatively impacted their wellbeing ($SD = 1.944$) while a mean score of 6.44 was rated for how *severely* the stressors negatively affected their wellbeing ($SD = 2.175$).

Impact

To assess the impact stress had on new graduate nurses, participants were asked if their job interfered with their family and social obligations or personal needs and if so, to explain. This was a free response question, where participants could openly discuss the impact stress had on their personal lives. Some common themes found were participants experienced mental and physical exhaustion, felt overworked, felt stressed and upset, and experienced lack of sleep.

Some participants worked night shifts and expressed rarely being able to eat dinner or spend time with their friends or family. One participant stated, “I try to keep my work and personal life as separate as possible. However, there are times during my days off when I get worried about the stress I will deal with when I go back to work. During work, I often put my work before my own needs, including eating my meals and staying adequately hydrated. I don’t feel comfortable taking my breaks when I still have much work to do.” Since they are new graduate nurses, participants also expressed having low seniority to their work schedule, meaning they had to work more often during weekends and holidays.

To further assess the impact stress had on new graduate nurses, participants were also asked if they ever had thoughts of leaving their current job and if they ever had thoughts of leaving the nursing profession. 14 participants (77.8%) said yes to having thoughts of leaving their current job, and four participants (22.2%) said no. Three participants (16.7%) said yes to having thoughts of leaving the nursing profession, and 15 participants (83.3%) said no.

Coping Mechanisms

To assess the utilization and effectiveness of coping mechanisms, participants were asked, “If you have experienced stress in your workplace, what coping mechanisms have you used to relieve your stress?” Among the 15 listed coping mechanisms, social support by friends or family (spending time with them, expressing emotion/feelings about the situation with co-workers or fellow nursing friends) had the highest impact; subsequently followed by self-care (shopping, spa/massages, pedicure/manicure, etc.), exercise, humor therapy (laughing it off, making jokes), and flexible scheduling of work shifts. When asked to rate their combined coping mechanisms on a Likert-type scale from 0-10, a mean score of 6.78 was rated for how *effective*

their combined coping mechanisms have been in addressing their stress.

Table 1: Demographic Characteristics

Gender	Male: 4 (22.2%) Female: 14 (77.8%)
Age	18-21: 0 22-25: 14 (77.8%) 27-29: 2 (11.1%) 30+: 2 (11.1%)
Years Working as a Nurse	0.5-1 year: 8 (44.4%) 1-2 years: 8 (44.4%) 2-3 years: 2 (11.1%)
Ethnicity	Caucasian: 12 (66.7%) Hispanic: 0 Asian: 6 (33.3%) African American: 1 (5.6%) Pacific Islander: 1 (5.6%)
Department	Critical Care (ED, ICU, NICU, PICU): 6 (33.3%) Labor and Delivery/Postpartum: 1 (5.6%) Pediatrics: 2 (11.1%) Acute Psychiatric Care: 0 Acute Care (Medical/Surgical, Step down): 8 (44.4%) Perioperative Care (OR, PACU): 1 (5.6%) Hematology: 2 (11.1%)

Table 2: Stressors

Stressors	Number of Participants
Inadequate experience	9 (50%)
Unsure how to operate an equipment	9 (50%)
Difficulty with another coworker	7 (38.9%)

Lack of support from coworkers	6 (33.3%)
Discrimination against sex	2 (11.1%)
Conflict with supervisor	2 (11.1%)
Conflict with a primary healthcare provider	8 (44.4%)
Dealing with violent/abusive patients	8 (44.4%)
Death of a patient	10 (55.6%)
Disagreement about a patient's treatment	6 (33.3%)
Having to handle patients' families	13 (72.2%)
Patient acuity level	11 (61.1%)
Insufficient time to complete tasks	9 (50%)
Computer/EHR issues	3 (16.7%)
Staffing schedule	15 (83.3%)
Having to work through breaks	11 (61.1%)
Nurse to patient ratio	4 (22.2%)
Lack of consistent training schedule	1 (5.6%)

Table 3: Coping Mechanisms

Coping Mechanism	Number of Participants
Social support by friends or family	16 (88.9%)
Support by senior nursing staff and/or management	6 (33.3%)
Staff appreciation and/or employee recognition	4 (22.2%)
Reflective meetings with staff	1 (5.6%)
Addressing the issue directly	7 (38.9%)
Having a mentor	5 (27.8%)
Flexible scheduling of work shifts	8 (44.4%)
Substance use (alcohol, smoking, sleeping pills, etc.)	4 (22.2%)
Herbal supplements	2 (11.1%)
Escaping/avoiding the stressful situation (avoiding the patient/staff member, calling off work, etc.)	4 (22.2%)
Relaxation techniques (meditation, hypnosis, mindfulness, deep breathing, etc.)	4 (22.2%)

Self-care (shopping, spa/massages, pedicure/manicure, etc.)	15 (83.3%)
Humor therapy (laughing it off, making jokes, etc.)	10 (55.6%)
Exercise	11 (61.1%)
Other: Journaling	1 (5.6%)
Other: Travelling	1 (5.6%)

Table 4: Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Years at job	18	2.500	.500	3.000	1.42128	.799056
Frequency of Stress Exposure	18	8	1	9	6.61	1.944
Severity of Stress Exposure	18	9	1	10	6.44	2.175
Effectiveness of Combined Coping Measures Use	18	7	3	10	6.78	1.896
Valid N (listwise)	18					

Table 5: Correlations

		Years at job	Frequency of Stress Exposure	Severity of Stress Exposure	Effectiveness of Combined Coping Measures Use
Years at job	Pearson Correlation	1	.026	.038	.454
	Sig. (2-tailed)		.917	.880	.059
	N	18	18	18	18
Frequency of Stress Exposure	Pearson Correlation	.026	1	.794**	-.360
	Sig. (2-tailed)	.917		.000	.142
	N	18	18	18	18
Severity of Stress Exposure	Pearson Correlation	.038	.794**	1	-.517*
	Sig. (2-tailed)	.880	.000		.028
	N	18	18	18	18
Effectiveness of Combined Coping Measures Use	Pearson Correlation	.454	-.360	-.517*	1
	Sig. (2-tailed)	.059	.142	.028	
	N	18	18	18	18

Discussion

Nurses are dedicated individuals who work very hard to improve and enhance the lives of their patients. They need to ensure their own wellness is prioritized in order to counteract and manage the stresses of the profession. To do this, at first, stressors need to be identified and

procedures should be followed to balance these factors. According to the results of this study, moderate to high levels of occupational stress were observed among nurses, as shown by the frequency and severity of stress exposure displayed in Table 4.

The highest rate of severity and frequency of occupational stress was found in participants who worked for one year or less. This may be related to increase in skills and better coping mechanisms as a nurse gains more work experience.

Table 5 shows a correlation chart comparing stress (frequency and severity) and coping scales with each other along with how long the participants worked as a registered nurse. There was a close to but not quite significant trend ($r = .454$, $p = .059$) showing a moderate positive relationship between longer time on the job and more effectiveness of coping. It was not surprising that there was a strong association between perceived frequency and severity of stressors ($r = .794$, $p = .000$), but an interesting finding was the significant inverse relationship between severity of stress exposure and effectiveness of coping measures used. This meant that as the severity increased, coping effectiveness decreased ($r = -.517$, $p = .028$).

It seemed that by paying more attention to dealing with patients' families and staffing schedule can decrease occupational stress significantly. Competent communication with patients' families is important in delivering high-quality care. Therefore, more training interventions should be designed to increase confidence in nurses, especially new graduate nurses, to help manage stressful family encounters. Inadequate staffing and schedule management were contributing factors to stress in a work environment, which can lead to a decrease in the quality of services. Supervisors should schedule according to the needs of patients and assign tasks that are fair and equitable, which can lead to greater job satisfaction.

Two of the four male participants in this study identified “discrimination against sex” as a stressor they encountered in the workplace. In contrast, none of the 14 female participants encountered “discrimination against sex” as a stressor. The four male participants rated the effectiveness of their coping mechanisms with an average score of 8 out of 10. The fourteen female participants rated the effectiveness of their coping mechanisms with an average score of 6.43 out of 10. However, to have a better reliability of the results, future research studies should include a higher number of male participants to better assess male nurses coping mechanisms in comparison to those of female participants.

As a whole, the participants rated their effectiveness of coping mechanisms an average score of 6.78 out of 10. About three fourths (77.8%) of the participants had thoughts of leaving their current job. However, only 16.7% of the participants had thoughts of leaving the nursing profession. A possible explanation for this finding could be that these nurses acknowledge the stress that they are facing on a daily basis. However, a majority of these new nurses would not leave the nursing profession because their coping mechanisms may play a factor in being able to handle and cope with such a stressful career.

The three most common coping mechanisms utilized by new graduate nurses were social support by friends or family, self-care, and exercise. All of these are strategies that are used outside of the hospital. This can be interpreted as nurses cope with stress primarily when they are away from the stressful situation in the hospital. Participants with less than a year of working as a registered nurse rated the effectiveness of their coping mechanisms with an average score of 5.75 out of 10. On the other hand, participants with more than two years of working as a registered nurse rated the effectiveness of their coping mechanisms with an average score of 8.17

out of 10. This shows that with longer experience working as a nurse is correlated with greater effectiveness of coping mechanisms in addressing occupational stress.

Implications for nursing practice was to develop interventions to decrease stress levels and to establish more supportive work environments by developing interventions including increasing the number of staff members, providing more breaks, and offering additional supervisor support. By way of screening, hospitals could administer surveys to detect which subjects may have high risk for poor health outcomes due to stress and their level of job satisfaction. The information gathered from the surveys would help with its prevention.

Strengths and Limitations

A limitation to this study was that it offered a limited view on the participants' stress and coping mechanisms by asking the participants to select the scenarios that were relevant to them. Instead, we could have conducted an interview with each of the participants to allow them the opportunity to explain their stress, its impact, and how they have dealt with it. In addition, this research only examined the most prominent stress factors in the nursing workforce in general, but it is not only organizational factors and tasks that cause occupational stress. The interaction between organizational factors and the characteristics of individual workers also play a significant role. Because of different working conditions, education, social status and the autonomy of nurses in different culture, it can be assumed that occupational stress differs between cultures. Another limitation was our small survey sample of only 18 participants. In the future, we would hope to reassess the participant's stress within the next 10 years to see if their coping mechanisms were more effective over time with experience in the workfield. This information would determine if there is a correlation between a nurse's number of years of

experience in relation to their stress level and how effective their coping mechanisms are in addressing it.

A strength to this study is that responses were gathered from different fields of nursing. In addition, the gender ratio of 14:4 (female:male) presented an accurate depiction of how the field of nursing actually is. Generally, there are more women in nursing than men. Another strength of this study was that it collected both qualitative and quantitative data. The free response question allowed participants to reflect how the stressors affected their lifestyle and interpersonal relationships with their family, coworkers, friends, etc.

Conclusion

Nurses are predisposed to occupational stress at higher rates than most other professions. The day to day demands of nursing may be influenced by potential physical stressors, including dealing with death and dying, being overworked, noisy working environments, lack of support from members of the healthcare team, and high patient acuity.

It is vital to understand how occupational stress affects nurses, and what factors in their working environment have detrimental effects on the nurses' physical and mental health. Providing care to the sick and vulnerable can take a tremendous impact on caregivers, physically and emotionally. It can in turn lead to a deterioration in the efficacy of health services delivery. Occupational stress will remain a major barrier to nurse's goals of safety, health and wellness. Therefore, hospital managers should implement strategies to reduce the amount of occupational stress among nurses and provide more support to nurses to help cope with their stress.

It was evident in our results that nurses do experience a considerable amount of stress at their workplace due to various causes which has an impact on their work performance. Out of all,

having to handle patients' families, death of a patient, and issues with the staffing schedule are major contributors of stress. Stress reduction activities such as social support from friends/family and self-care activities should be practiced.

Younger nurses are at a greater risk for developing stress because of the new work environment and lack of experience. Therefore, it is recommended that the focus should be on their coping strategies, whether it is in the hospital, such as a senior nurse or supervisor to mentor and support them deal with stressful situations, or at home, such as spending time with friends and family and doing self-care. Nurses with strong support systems and effective coping mechanisms may be more motivated to engage in their workplace, leading to increased staff performance and better patient outcomes.

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Appendix A

Dominican University of California**Institutional Review Board for the Protection of Human Participants****INITIAL APPLICATION**

*All information must be typed and submitted electronically to irbphp@dominican.edu
Handwritten applications will be returned to researcher.
A signature page must accompany all applications. Numbers in parentheses refer to explanatory sections in the IRBPHP Handbook. Please use these as a guide in providing the requested information.*

APPLICANT INFORMATION (8.1)

Name: Mirabella Mercado and Athena Pham

Date: March 3, 2019

School: Dominican University of California

Department: Nursing

Campus or Local Address: 50 Acacia Avenue, San Rafael CA 94903

Home Address:

(Note: If different from campus/local address please provide home address for contact during periods when you may not be living on campus or locally)

Local Phone:

Mirabella Mercado: (650) 270-0751

Athena Pham: (510) 365-9440

E-mail Address:

mirbellakayla.mercado@students.dominican.edu, athena.pham@students.dominican.edu

(Note: All communication regarding your application will be by email so be sure you include a functional email address)

Name(s) of Co- Investigator(s): N/A

FACULTY ADVISOR INFORMATION: (8.2)

Name: Kathleen Beebe

Campus Phone: (707) 318-7492

E-mail Address: kathleen.beebe@dominican.edu

Note: All communication regarding a student's application will be by email. Advisors will be copied on all correspondence so be sure to provide a functional email address.

RESEARCH PROJECT INFORMATION: (8.3)

Exact Title of Project: The Sources and Effects of Occupational Stress on Recent Graduate Nurses

Duration of Project (cannot exceed 1 year): 4 months

Category of Review:

Exempt (5.3.1)

Expedited (5.3.2)

Full Board Review (5.3.3)

Background and Rationale (no more than 300 words). Describe nature of research problem and purpose of current study. **(8.4)** Include references at end for any works cited.

Taking on the full responsibility of caring for an individual is a strenuous job. Nursing requires providing patients with the highest quality of care. They work long, irregular hours and may experience various work-related stress, which can affect their own health and the delivery of care for their patients. Work-related stress not only brings about hazardous impacts on a nurse's health, but also his or her ability to cope with the job demands. Because newly graduated nurses have less experience than their co-workers, they may not initially have the coping mechanisms necessary to combat stress in the workplace.

The purpose of this study is to identify the effects that occupational stress has on recently graduated nurses and to determine the coping mechanisms that these nurses have developed and utilized to relieve their stress.

Description of Sample: (check the boxes that pertain to your sample) **(8.5)**

Patients as participants

Non-patient volunteers

Students as participants

Minor participants (less than 18 years)

Participants whose major language is not English (Note: include copies of translated documents)

Mentally disabled patients

Prisoners, parolees or incarcerated participants

Other vulnerable or sensitive populations (children, persons with alcoholism or drug addiction, LGBT individuals, etc.) Please identify:

Participants studied at non-Dominican locations

Filming, video or voice recording of participants

Data banks, data archives and/or registration records

There is a dual relationship between researcher and participant (explain):

Recruitment Procedure: Indicate how applicant will solicit participation (face-to-face, phone contact, mail, email, etc) along with copies of materials used to recruit participants and permission letters if applicable: **(8.6)**

Participation will be solicited by posting the survey link to the private alumni nursing cohort groups on Facebook by Lisa Wagenhurst, the Administrative Coordinator of the Department of Nursing.

Subject Consent Process: Attach Informed Consent Forms to be used. If consent forms are not to be used, explain why and provide copy of the Consent Cover Letter. **(8.7)**

Please see Appendix A.

Procedures: Describe in detail what your participants will experience and include copies of all written materials participants will see including surveys, questionnaires, interview questions, etc. Permission to use any copyrighted materials should be included. **(8.8)**

1. Obtain IRB approval from Dominican University of California.
2. Contact the Dominican University of California Department of Nursing for permission to post the survey link on the private alumni nursing cohort groups on Facebook.
3. Individuals will be contacted via the Dominican Department of Nursing private alumni cohort Facebook group pages about interest in participating in the research study.
4. The participants will provide implied informed consent, and the survey will be administered through a survey link via Google Forms. Participants will fill out the survey with the requested information and submit it to the researchers at a time of convenience.

5. Data and demographics will be stored and analyzed separately. Data will be stored in a secured locked cabinet.

Potential Risks to Participants: Describe all potential risks.

Note: All research projects involve some potential risks to participants. Applications that do not address risks will be returned. (8.9)

Reflection on the past occupational stress may cause some emotional distress for the participant.

Minimization of Potential Risk: Describe ways the Potential Risks to Participants (detailed in section above) will be minimized by researcher. (8.10)

A disclaimer is provided in the consent form regarding the potential for emotional distress upon reflection on workplace stress. Participants are able to withdraw from the study and may refrain from answering any questions that may cause distress. It is recommended in the consent form to contact his/her respective employee or primary care physician for counseling or followup that may result from distress.

Potential Benefits to Participants: Describe in detail all potential benefits to the individual (focus is individual not society). There is always some benefit – why else do the study. (8.11)

The significance of this research proposal is to allow new grad nurses the opportunity to reflect on the major workplace stressors of the nursing profession. By identifying occupational stressors, interventions can be implemented to improve the overall well-being of nurses and patient outcomes. It can also allow the opportunity to reflect on the coping mechanisms they have utilized in response to stress in the workplace. It can provide more insight on what coping strategies nurses can use to prevent occupational stress and burnout and can improve nurse satisfaction and overall patient outcomes.

Costs to the Participants: Describe any costs to participants (transportation, time, effort, etc.). (8.12)

Participants will require 10 to 15 minutes to complete the survey.

Reimbursement or Compensation to Participants: Describe and provide rationale for any reimbursement or compensation in response to participation in the research. (8.13)

There will be no reimbursement or compensation. Participation is completely voluntary.

Confidentiality of Records: (8.14)

Data will be anonymous

How will anonymity be ensured?

 Data will not be anonymous

How will data be kept confidential? Who will see it?

Although the survey is intended to be anonymous, and while no information will be collected with the intention of identifying the participant, because the participants are former Dominican students, there is a remote chance that identity could be ascertained through survey participation. In that event, confidentiality of all information will be scrupulously preserved.

Google forms allows us to make the survey anonymous, but given recent breaches through social media sites, we acknowledge some risk of identity breach.

The only people who will have access to the data is Mirabella Mercado, Athena Pham, and Dr. Kathleen Beebe.

How will raw data and computerized data be stored?

Data will be stored on a secured computer owned by the researcher and kept in their possession. All raw data will be destroyed after a period of one year following completion of the research project.

How will participant identity be kept separate from participant data?

No identifying information will be collected from participants.

(Note: all tapes and records should be destroyed after a period of one year following completion of the research project)

Appendix B



Letter of Introduction to Participants in Anonymous Survey Research

Dear Study Participant,

Our names are Mirabella Mercado and Athena Pham and we are fourth year undergraduate nursing students at Dominican University of California. We are conducting a research project as part of our senior thesis requirements, and this work is being supervised by Dr. Kathleen Beebe RNC-OB, PhD, Professor of Nursing at Dominican University of California. We are requesting your voluntary participation in our study, which concerns the sources and effects of occupational stress, the use of coping mechanisms and its effectiveness in response to occupational stress.

Participation in this study involves filling out a survey that requests demographic information and contains both open-ended and closed-ended questions. Please note that reflection on the past occupational stress may cause some emotional distress, such as apathy, difficulty making decisions, change in eating or sleeping habits, or being more emotional. It is recommended to contact your respective employee or your primary care physician for counseling or followup that may result from distress.

Please note that your participation is **completely voluntary** and you are **free to withdraw your participation at any time**. Although the survey is intended to be anonymous, and while no information will be collected with the intention of identifying you as the participant, there is a remote chance that identity could be ascertained through survey participation. In that event, confidentiality of all information will be scrupulously preserved. Data will be stored on a secured computer owned by the researchers and kept in their possession. All raw data will be destroyed after a period of one year following completion of the research project. Filling out the survey is likely to take approximately 15 minutes of your time.

If you choose to participate in this study, please fill out the survey as honestly and completely as possible. Please do not put your name or any other identifying information on your survey form.

If you have questions about the research you may contact us at the email address below. If you have further questions you may contact our research supervisor, Kathleen Beebe, at the email

address below, or the Dominican University of California Institutional Review Board for the Protection of Human Participants (IRBPHP), which is concerned with protection of volunteers in research projects. You may reach the IRBPHP Office by calling (415) 482-3547 and leaving a voicemail message, or FAX at (415) 257-0165, or by writing to IRBPHP, Office of Associate Vice President for Academic Affairs, Dominican University of California, 50 Acacia Avenue, San Rafael, CA 95901.

If you would like to know the results of this study once it has been completed, a summary of the results will be presented at Dominican University of California's Academic Showcase on April 17, 2019. Contact us at the email address below for further information.

Thank you in advance for your participation.

Sincerely,

Mirabella Mercado and Athena Pham

Nursing Students

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