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An Examination of the Impact of COVID-19 on the Job Satisfaction and Emotional Well-Being of ICU Nurses

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By

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ABSTRACT

An Examination of the Impact of COVID-19 on the Job Satisfaction and

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by

Laura Ruth Daffron

Healthcare systems have been demonstrably altered because of the COVID-19 pandemic. Resources were stretched and patient conditions deteriorated on a scale previously unseen, leaving nurses at the forefront to face the adversities brought about by the pandemic. In this study, a questionnaire was utilized to better understand how COVID-19 has impacted the stress level, resilience/well-being, moral distress, job satisfaction/enjoyment, practice environment, and intent to remain in the nursing profession of nursing alums from East Tennessee State University. This study focused on a subset of nurses working in critical care, to consider the impact that the pandemic had on ICU nurses' emotional well-being and job enjoyment. This study collected general demographics and information regarding how each participant's work was impacted as a result of COVID-19. The Practice Environment Scale of the Nursing Work Index (PES-NWI) questionnaire, Job Enjoyment Scale (JES), and Professional Quality of Life (Pro-QOL) scales were also leveraged to gain an understanding of the participants' perspectives on their work and mental situations. The results showed that critical nurses generally answered more negatively on the PES-NWI, JES, and ProQOL scales. The study concludes that ICU nurses have lower emotional well-being and job enjoyment than nurses in general and may have been more greatly impacted by the COVID-19 pandemic.

DEDICATION

To my dad who encourages me to pursue excellence in all that I do, and to my mom who first

inspired my nursing journey.

ACKNOWLEDGEMENTS

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Chapter 1. Introduction

The expeditious spread of the COVID-19 virus brought about immense uncertainties and rapid changes worldwide as populations were forced to adapt their daily practices to cope with this new disease process. Although almost everyone was impacted in some way by the pandemic, healthcare workers, specifically nurses, were challenged with handling care for the mounting number of extremely sick patients infected with this poorly understood disease.

1.1 │ Purpose

The purpose of this study was to gather a better understanding of the effect that the COVID-19 pandemic had and is still having on ICU nurses compared to nurses in general. The impact on self-reported stress level, resilience/well-being, moral distress, job satisfaction/enjoyment, practice environment, and intent to remain in the nursing profession were all considered. I predicted that nurses working in critical/intensive care units would overall report less job satisfaction and increased feelings of emotional stress related to the impacts of COVID-19 on nursing care, including perilous patient circumstances and outcomes, worsened working conditions and supply shortages, and emotions caused by uncertainties surrounding the virus' disease process and effective treatment methods.

Chapter 2. Literature Review

The world faced universal, unprecedented changes with the spread of the COVID-19 pandemic. This pandemic wreaked havoc on everyday life and has likely left the world changed forever. It had tremendous, devastating effects on the personal lives and social norms of individuals and communities. Families had to learn and work from home and cancel social events and gatherings. People were encouraged to wear masks in public and keep a distance from others. Throughout this time, there were also immense effects that were not as evident to some people, including the massive challenges that COVID-19 brought to the front of healthcare.

SARS-CoV-2 was first documented in Wuhan, Hubei province, China during a pneumonia epidemic in January of 2020 (Ciotti, et al., 2020; Spalluto, et al., 2020). By May of that year, the virus infected almost 5 million people and caused over 300,000 deaths worldwide (Ciotti, et al., 2022). With this rapid and international spread of the disease, the entire world was scrambling to find solutions. The immense numbers of those becoming infected and dying put a huge strain on hospital systems as they dealt with an unprecedented influx of patients. Despite cutting back on elective procedures, the already overwhelmed hospitals struggled to manage massive numbers of patients as the number of infected persons continued to rise. Throughout the hectic beginnings of the COVID-19 pandemic, hospitals made major revisions to their health systems, and many of these changes are still largely seen today almost three years after the start of the pandemic.

The COVID-19 virus targets the lungs, and can cause a variety of symptoms, ranging from mild to severe. Some of the most notable were fever, cough, shortness of breath, vomiting, diarrhea, abdominal pain, pneumonia, and hypoxemia (Ciotti, et al., 2020; Huang, et al., 2020). The COVID-19 pandemic not only flooded hospitals with patients carrying a poorly understood

disease with no well-established treatment, but many of these patients require an extreme level of care and special attention from their nurses and healthcare providers in addition to being highly contagious in a densely packed hospital. In many cases, infected individuals appear asymptomatic and unknowingly transmit the disease to other people (Ciotti, et al., 2020). This virus has also caused long-term effects like cardiovascular, gastrointestinal, kidney, liver, central nervous system (CNS), and ocular damage, which in many cases necessitates patients' admission to intensive care units (ICUs) for critical care (Ciotti, et al., 2020).

Throughout the COVID-19 pandemic, healthcare systems have been forced to revise care to accommodate these times of crisis and increased demand for care. The American Nurses Association (ANA) defines a Crisis Standard of Care as a "substantial change in usual healthcare operations and the level of care it is possible to deliver, which is made necessary by a pervasive (e.g. pandemic influenza) or catastrophic (e.g. earthquake, hurricane) disaster" (American Nurses Association, 2020, p. 2). Pandemics, like COVID-19, require nurses to operate in environments where they must balance professional standards of care and time-limited crisis standards of care. This often includes limited access to resources, having to practice in unusual settings, or working with unfamiliar patient care needs (American Nurses Association, 2020). There is often a shift from patient-centered practice to public-centered practice, where nurses and healthcare teams must promote fair distribution of care and resources to a massive population all simultaneously affected by the crisis (American Nurses Association, 2020). In these public health emergencies, clinicians must modify their practice, often prioritizing community well-being over individual and allocating scarce resources accordingly (Berlinger, et al., 2020). An example typical of health crises, is triaging patients which becomes necessary for ventilatory rationing when supplies become inadequate (Zuzelo P.R., 2020). This process, where nurses are forced to

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allocate their care, can cause immense moral distress, and often guilt in nurses which are associated with frustration, anger, and worry from the inability to perform ethically correct care (Lake et al., 2022; Zuzelo P. R., 2020). The COVID-19 pandemic has placed immense strains on healthcare systems worldwide, putting healthcare workers at risk for moral injury; in the United States, nurses have reported the highest prevalence of moral injury for healthcare workers (Rushton et al., 2022).

The dramatic changes throughout the healthcare system, the growing number of patients falling critically ill, and the lack of knowledge about COVID-19 created an extremely stressful environment, especially for the nurses working closely with these patients. The nurses working in the ICU throughout this pandemic saw, first-hand, the transmission of the virus, its long-term negative impact, and the demise of patients. Although nurses often encounter sickness and death, it is not often that they must face it to the extent of the chaos the COVID-19 pandemic created, and this often had extremely negative effects on a person's mental well-being.

The COVID-19 pandemic caused surpluses of patients in hospitals requiring treatment. With this, there was a strain on the supplies available to nurses. A cross-sectional, correlational survey of mainly acute care, adult ICU, and Emergency Department (ED) nurses, conducted in April 2020 in the Northeastern United States, found that of 307 respondents, 52.8% faced difficulty accessing personal protective equipment (PPE) or cleaning supplies like masks, face shields, and goggles; more than 90% reported reuse or extended use of N95 masks, surgical masks, and face shields; and more than 50% reported difficulty accessing adequate cleaning supplies or having to improvise for necessary cleaning (Lake et al., 2022). This forced nurses to become resourceful in order to protect themselves as they consumed the equipment available to them and worldwide shortages prevented the acquisition of more. Another study in Canada from

the early stages of the pandemic found that Canadian nurses were also concerned about the availability and effectiveness of PPE (Crowe et al., 2021). Working in a potentially lethal environment without essential PPE can cause depression and anxiety, and each exposure to infected patients without proper PPE is associated with worse mental health outcomes (Arnetz et al., 2020). For nurses in the United States, the deficiency of PPE was identified as a major concern (Arnetz et al., 2020). Additionally, nurses expressed difficulties concerning the discomfort associated with wearing burdensome PPE for long shifts (Crowe et al., 2021). The pandemic created many battles concerning PPE, whether not having enough, having to improvise without the correct resources, or fatiguing from constant usage. Nurses were at the forefront of all these battles.

It is not uncommon for nurses to see sickness and death throughout their careers, and they must learn to manage the emotions that come with witnessing the suffering of patients and their families; but, especially in ICUs where the focus is on preserving life, patient death can feel like a failure (Jackson et al., 2020). The pandemic brought about massive numbers of patient deaths that forced nurses to face these emotions daily. At this pandemic level, patients are in critical condition, with extreme measures and intensive care in place to keep them stable, or they are worsening to death. Additionally, with the increased populational need for care associated with rapid spread, nurses were taking on new patients needing extreme treatment as soon as, if not before, their initial patient was gone. This highspeed transaction prevents them from proper allowance to process and properly manage their emotions. Nurses are taking on the burden of their patients, putting on a brave face for their sake, and experiencing every loss as fully as the patient's own family but do not get time to rest. This continuous cycle of patient care results in poor mental well-being for nurses – "nurses generally become nurses because of the desire to

help people regain and maintain optimal health, and here, we have a situation where there may be very few options to help those who are seriously ill because of COVID-19," (Jackson et al., 2020, p. 2).

In the early months of the COVID-19 pandemic, frontline nurses were at risk for immense moral distress related to the new challenges being faced concerning providing adequate care with the great numbers of patients both testing positive and dying from the virus. The limitations induced by the circumstances of the pandemic prevented nurses from providing comprehensive care for their patients (Zuzelo P. R., 2020). Many nurses reported psychiatric symptoms related to the distress of the pandemic, including anxiety, depression, insomnia, poor sleep, feeling withdrawn, fears for personal and family safety, PTSD, and suicidal ideation (Fernandez et al., 2020; Lake et al., 2022; Sagherian et al., 2020; Young et al., 2021). Throughout these pandemic days, nurses experienced insufficient or inadequate PPE; staffing shortages; extended shifts, exceeding 12 hours; rapidly changing advice and understanding of the virus; and significant numbers of dying patients all increasing the prevalence of moral distress (Fernandez et al., 2020; Zuzelo P.R., 2020).

The American Nurses Foundation (ANF) looked at the two-year impact that the COVID-19 pandemic had on nurses and found that acute care nurses are exhausted, stressed, frustrated, and burned out, particularly younger nurses (American Nurses Foundation, 2022). The ANF also found that younger nurses often feel more emotionally unhealthy and report a greater incidence of anxiety, depression, and burnout (American Nurses Foundation, 2022). This indicates that the nursing population most affected by the pandemic's moral distress, moral injury, and emotional toll are those newest to the profession. This is a problem for the future of nursing as many of these nurses are considering leaving the nursing profession (American Nurses Foundation,

2022). The top reasons that nurses reported for wanting to leave the profession included

insufficient staffing, inability to provide quality care consistently, and poor organizational

response to the pandemic (American Nurses Foundation, 2022). Without adequate staffing, it is

difficult to manage high-acuity patients in ICUs, nursing workloads increase, and moral distress

is more evident (Fernandez et al., 2020).

Chapter 3. Research Methods

The data for this study was collected via a REDCap survey**.** REDCap refers to Research Electronic Data Capture, a web application tool that aids clinical and research studies. The survey was developed in REDCap, and it received ETSU IRB approval before being distributed. In March of 2022, the survey was sent to ETSU College of Nursing alumni from East Tennessee State University via email. Participation was voluntary, and participants were allowed to quit in the middle of the survey or skip any questions they did not wish to answer. All participants' responses remain confidential.

Additionally, before starting the survey, participants were asked to consent to volunteer, confirming that they were at least 18 years or older and were physically present in the United States. Upon completion of the survey, participants were given an opportunity to enter a drawing for 1 of 80 $25.00 Amazon gift cards. If participants wished to do so, they were directed to another page where they could submit their personal information to enter the drawing, but this was not tied to their responses on the survey.

The survey questionnaire had a total of 89 questions and included four major sections: general questions pertaining to demographic information, work during COVID, and job demand; the Practice Environment Scale of the Nursing Work Index (PES-NWI); Job Enjoyment Scale (JES); and Professional Quality of Life (ProQOL) Scale.

3.1│General Questions

Thirteen demographic questions were leveraged to gather information pertaining to each participant's nursing experience and geographic information. There were five questions pertaining to work during COVID to gather specific information on how the pandemic had

impacted participants' work hours and experiences. Three job demand questions gathered information regarding recent job changes and future job plans.

3.2 │ PES-NWI Scale

Thirty-one questions were a part of the PES-NWI (Lake, 2002). This tool measures factors that inhibit or enhance a nurse's ability to practice skillfully and deliver quality care (Swiger et al., 2017). The PES-NWI has five subscales, each consisting of 3 to 10 items: Nurse Participation in Hospital Affairs; Nursing Foundations for Quality of Care; Nurse Manager Ability, Leadership, and Support of Nurses; Staffing and Resource Adequacy; and Collegial Nurse Physician Relations (Lake, 2002). Participants were asked to answer based on the extent they felt each item was present in their current job. The response options were set on a Likert Scale and included: 1: Strongly Agree; 2:Agree; 3:Disagree; and 4:Strongly Disagree. Participant responses were collected and then a weighted average response was calculated to compare the responses of the participants.

3.3 │ JES

Seven questions from the JES were used to measure nursing job satisfaction and enjoyment (Taunton et al., 2004; Smith et al., 2020). This scale gauges the participants' feelings toward their workplace and coworkers. Participants were asked to answer based on their belief that each statement pertained accurately to both their unit and the RNs they work with, and the response options were set up as a Likert Scale: 1:Strongly Agree; 2:Agree; 3:Tend to Agree; 4:Tend to Disagree; 5:Disagree; and 6:Strongly Disagree. Participant responses were collected and then a weighted average response was calculated to compare the responses of the participants.

3.4│ProQOL Scale

The final thirty questions were part of the ProQOL scale. This scale evaluates three different criteria: compassion satisfaction (CS), burnout, and compassion fatigue (CF)/secondary trauma (STS) (Stamm, 2005). CS refers to the pleasure an individual feels from the ability to do their work well (Stamm, 2005). Burnout refers to feelings of despondency and the challenges in one's job, and they can be associated with a "very high workload or a non-supportive work environment;" (Stamm, 2005, p. 5). CF, which is also referred to as STS, pertains to a person's exposure to extremely stressful events through their work, whether as primary or secondary exposure (Stamm, 2005). Participants indicated the number of times they experienced each item pertained to their current work situation. Response options were set up as a Likert Scale: 1:Never; 2:Rarely; 3:Sometimes; 4:Often; and 5:Very Often. Participant responses were collected and then a weighted average response was calculated to compare the responses of the participants.

3.5│Data Analysis

This project focused on a smaller, secondary data set from a larger data set of the original research project. This subset of data was narrowed based on the inclusion criteria of responses containing "critical/intensive care" to the following question: Which best describes your work area in the hospital/acute care setting? This question populated on the condition that participants selected "hospital/acute care" to the preceding question: In what type of environment do you work? These specific respondents were considered a subgroup and compared to the entire group of participants.

For this analysis, all responses to the relevant questions were considered. This included some responses from participants that did not fully complete the survey. In the presentation of

the results in Chapter 4, the number of participants that did not respond to the analyzed questions is included. Additionally, it is important to note that when the critical/intensive care responses are compared to the total population responses, the critical/intensive care group was not removed from the total and are represented in both groups.

Participant responses to the PES-NWI, JES, and ProQOL scales were evaluated after calculating a weighted average of the responses. The weighted averages were calculated only using the responses from participants that provided an answer to the provided question, and any participants who left the question blank were excluded from the calculation. Specifics for each scale's weighted average calculation are included under corresponding sections within Chapter 4. Results.

Chapter 4. Results

The questionnaire was emailed to a total of 8198 people; of these, only 8120 were delivered. From this group, 274 people initiated the survey, though two were not consenting. Of the 272 consenting participants, 93 responses were initiated but not completed – 62 completed some information and 31 initiated the survey but did not provide any answers. 178 fully completed the questionnaire and 62 completed some data for a total of 240 responses with all or some data. Of these respondents, 38 people selected that they work in the hospital's critical/intensive care setting, and 34 of those participants completed every question from the survey.

4.1 | Demographic Information

The following demographic statistics relate to the 38 participants who answered critical/intensive care setting as their work environment, and the 240 participants who responded to all or some of the questions. It is important to note that the population of 240 participants includes 38 critical/intensive care participants. Of the 38 critical/intensive care responses, 81.6% were female and 18.4% were male, compared to the general population of nurses where 87.9% of participants were female. The average age of the critical/intensive care participants was 32.68, with the youngest being 22 and the oldest 53. To compare, the average age of all participants was 43.5, with the youngest being 22 and the oldest being 82. Most respondents from both the critical/intensive care participants and all participants reported that they primarily work in Tennessee, 71% of critical/intensive care nurses and 65.4% of all nurses. North Carolina was the second most worked in state for the two groups, with 67.6% of critical/intensive care nurses and 7.9% of the total nurses. Most nurses from both groups of participants indicated that they hold a BSN as their highest nursing degree. While all of the 38 critical/intensive care participants

indicated that they work in the critical/intensive care environment, most of them indicated that they work in the hospital/acute care setting – 46%. Of all the participants who work in the hospital/acute care setting, the majority (33%) reported working in the critical/intensive care setting, 26.1% selected that they work in another setting, 14.8% selected that they work in a med-surg unit, and 9.6% selected that they work in the perioperative setting. Additionally, 20% of all respondents reported working in another (non-hospital/acute care) setting, and 11.2% reported working in an academic setting. Again, most of the critical/intensive care and all nurse participants work in non-rural locations. Of the critical/intensive care participants, 86.8% reported that their primary job title is that of clinical/staff nurse with an average time at thier current place of employment to be 4.9 years. Looking at all the participants, 43.3% work as a clinical/staff nurse – their second largest job title was educators at 10% - and they average 6.2 years of work at their current place of employment. The total number of years working as a nurse was an average of 6.6 years for critical/intensive care nurses and 16 years for the entire group of participants. The least number of years' experience as a nurse reported by critical/intensive care nurse was less than one year, and the most was 27 years. To compare, the least number of years' experience for all nurses was less than one year, while the most was 53 years. Most of the critical/intensive care respondents (65.8%) reported that they work 12-hour shifts, and 26.3% reported that they work shifts that are greater than 12 hours. However, when looking at the total population of nursing responses, the highest reported shifts were 8 hours (34.6%) and 12 hours (30%).

4.2│Work During COVID-19

Regarding the impact that the COVID-19 pandemic had on critical/intensive care nurses, 71% of respondents reported that they worked more hours than their usual schedule during the

pandemic. This compares to 47.5% of all respondents who reported they were scheduled for more hours than normal. Additionally, 60.5% of critical/intensive care respondents reported working in their usual unit throughout the pandemic, 23.7% reported being pulled outside of their usual unit, and 15.8% reported being pulled to a different unit within their usual practice area. Considering all the responses, 57.1% reported that they worked in their usual unit, while 20% reported that they worked outside of their usual practice area/field. Furthermore, 94.7% of critical/intensive care participants reported that they cared for at least one patient who was positive for COVID-19, and of these, 65.8% reported that they cared for positive COVID-19, or presumed positive COVID-19 patients daily during their peak month of the pandemic. Additionally, 42.1% of critical/intensive care respondents reported that they cared for 21-50 COVID-19, or presumed positive COVID-19 patients in their peak-pandemic month. This compares to the 65.4% of all participants who reported that they cared for at least one COVID-19 patient. Of all respondents, 36.3% did not report how often they cared for COVID-19, or presumed positive COVID-19, patients during their peak month, while 32.1% reported caring for a COVID-19, or presumed positive COVID-19, patients daily. Finally, 35.4% of all the respondents did not respond to the question regarding how many COVID-19, or presumed positive COVID-19, patients during their peak month, and 21.3% of all respondents reported that they cared for 21-50 COVID-19, or presumed positive COVID-19, patients during their peak month.

Concerning job conditions and plans related to the impact that the COVID-19 pandemic had on the nursing profession, 55.3% of the critical/intensive care participants indicated that they had not changed jobs or positions in the past 18 months, while 44.7% indicated that they changed jobs or positions in that time. Of those that showed a change, 14.7% (5) started working for a

travel nursing agency, 11.8% (4) started attending school full time, 8.8% (3) transferred to another facility in a similar position, 2.9% (1) left nursing but stayed employed, 2.9% (1) retired or stopped working altogether, and 2.9% (1) transferred to another unit in their facility. Additionally, regarding the critical/intensive care participants' job plans for the next 18 months, 39.5% of participants indicated that they intend to stay in their current unit, 23.5% (8) were unsure of their plans at the time of the survey, 10.5% plan to transfer to another facility in a different position, 10.9% plan to attend school full time, 8.8% (3) plan to start working for a travel nursing agency, 7.9% plan to transfer to another facility in a similar position, and 7.9% plan to retire or stop working full time. Comparatively, looking at the all the participants' job plans for the next 18 months, 46.7% indicated that they plan to stay on their current unit, 18.3% were unsure of their future plans at the time of the survey, 4.2% plan to transfer to another facility in a different position, 5.4% plan to attend school full time, 5.4% plan to start working for a travel nursing agency, 6.3% plan to transfer to another facility in a similar position, 1.3% plan to retire or stop working full time, and 7.5% plan to retire or stop working altogether.

4.3 │ PES-NWI Scale

The results off the questions from the PES-NWI scale are summarized in Table 4.1. The table provides a comparison off the results from critical/intensive care respondents to those of all responding nurses. Nurses were asked to consider each of the statements in the table about their current work situation and indicate responses with regard to how they feel each is present in their current job. The table includes responses from all respondents that completed all or part of the survey. There are four possible responses based on a four-point scale (1: Strongly Agree, 2: Agree, 3: Disagree, 4: Strongly Disagree). A weighted average was calculated by dividing the sum of the product of the response values and the number of responses by the total number of

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responses – it is important to note that the values calculated for "All Nurses" also include the

responses for the participants that indicated that they work in critical/intensive care. The

weighted average response value can be used to compare responses from critical/intensive care

nurses to those of all respondents. Arrows in the table indicate the relative quality of life impact

from critical/intensive care nurses relative to the overall response. Since critical/intensive care

nurses reported more frequent contact with COVID-19 patients, responses are likely influenced

by this experience.

More detailed results from this portion of the survey are presented in Appendix C and

raw data is included in Appendix B.

Table 4. 1 │Summary of Results of the PES Questions

Career development/clinical ladder opportunity		
	All Nurses	2.17
	Critical/ Intensive Care Nurses	2.14 ↔
Opportunity for staff nurses to participate in policy decisions		
	All Nurses	2.50
	Critical/ Intensive Care Nurses	2.63 ↔
A chief nursing officer which is highly visible and accessible to staff		
	All Nurses	2.42
	Critical/ Intensive Care Nurses	2.72 ↓
A chief nursing officer equal in power and authority to other top level hospital executives		
	All Nurses	2.45
	Critical/ Intensive Care Nurses	2.46 ↔
Opportunities for advancement		
	All Nurses	2.28
	Critical/ Intensive Care Nurses	2.22 ↔
Administration that listens and responds to employee concerns		
	All Nurses	2.50
	Critical/ Intensive Care Nurses	2.78 ↓
Staff nurses are involved in internal governance of the hospital (e.g., practice and policy committees)		
	All Nurses	2.58
	Critical/ Intensive Care Nurses	2.77 ↔
Staff nurses have the opportunity to serve on hospital and nursing committees		
	All Nurses	2.22
	Critical/ Intensive Care Nurses	2.09 ↑
Nursing administrators consult with staff on daily problems and procedures		
	All Nurses	2.46
	Critical/ Intensive Care Nurses	2.86 ↓

Active staff development or continuing education programs for nurses		
	All Nurses	1.99
	Critical/ Intensive Care Nurses	1.97 ↔
High standards of nursing care are expected by the administration		
	All Nurses	1.69
	Critical/ Intensive Care Nurses	1.65 ↔
A clear philosophy of nursing that pervades the patient care environment		
	All Nurses	2.12
	Critical/ Intensive Care Nurses	2.21 ↔
Working with nurses who are clinically competent		
	All Nurses	1.97
	Critical/ Intensive Care Nurses	2.12 ↔
An active quality assurance program		
	All Nurses	2.12
	Critical/ Intensive Care Nurses	2.26 ↓
A preceptor program for newly hired RNs		
	All Nurses	2.14
	Critical/ Intensive Care Nurses	1.91 ↓
Nursing care is based on a nursing, rather than medical, model		
	All Nurses	2.25
	Critical/ Intensive Care Nurses	2.35 ↔
Written, up to date nursing care plans for all patients		
	All Nurses	2.39
	Critical/ Intensive Care Nurses	2.50 ↔
Patient care assignments that foster community of care, i.e., the same nurse cares for the patient from one day to the next		
	All Nurses	2.25
	Critical/ Intensive Care Nurses	2.48 ↓
Use of nursing diagnoses		
	All Nurses	2.71
	Critical/ Intensive Care Nurses	2.97 ↓
A supervisory staff that is supportive of the nurses		
	All Nurses	2.05
	Critical/ Intensive Care Nurses	2.26 ↓
Supervisors use mistakes as learning opportunities, not criticism		
	All Nurses	2.20
	Critical/ Intensive Care Nurses	2.38 ↔
A nurse manager who is a good manager and leader		
	All Nurses	2.10
	Critical/ Intensive Care Nurses	2.35 ↓
Praise and recognition for a job well done		
	All Nurses	2.20
	Critical/ Intensive Care Nurses	2.47 ↓
A nurse manager who backs up the nursing staff in decision making, even if the conflict is with a physician		
	All Nurses	2.15
	Critical/ Intensive Care Nurses	2.35 ↓
Adequate support services allow me to spend time with my patients		
	All Nurses	2.59
	Critical/ Intensive Care Nurses	2.85 ↓

Enough time and opportunity to discuss patient care problems with other nurses		
	All Nurses	2.36
	Critical/ Intensive Care Nurses	2.56 ↓
Enough registered nurses to provide quality patient care		
	All Nurses	2.83
	Critical/ Intensive Care Nurses	3.21 ↓
Enough staff to get the work done		
	All Nurses	2.80
	Critical/ Intensive Care Nurses	3.09 ↓
Physicians and nurses have good working relationships		
	All Nurses	1.94
	Critical/ Intensive Care Nurses	2.03 ↔
A lot of teamwork between nurses and physicians		
	All Nurses	1.97
	Critical/ Intensive Care Nurses	2.00 ↔
Collaboration (joint practice) between nurses and physicians		
	All Nurses	3.96
	Critical/ Intensive Care Nurses	3.62 ↓

4.4 | JES

A series of eight questions in the survey related to job satisfaction. Table 4.2 provides a

summary of the results form these questions and compares the results from critical/intensive care

respondents to those of all responding nurses. The table includes responses from all respondents

that completed all or part of the survey. There were six possible responses based on the degree of

agreement with the statements (1: Strongly Agree, 2: Agree, 3: Tend to Agree, 4: Tend to

Disagree, 5: Disagree, 6: Strongly Disagree). A weighted average was calculated by dividing the

sum of the product of the response values and the number of responses by the total number of

responses – it is important to note that the values calculated for "All Nurses" also includes the

responses for the participants that indicated that they work in critical/intensive care. The

weighted average response value can be used to compare responses from critical/intensive care

nurses to those of all participants. Arrows in the table indicate the relative job satisfaction that

critical/intensive care nurses experience relative to the overall response. Since critical/intensive

care nurses reported more frequent contact with COVID-19 patient's responses are likely

influenced by this experience.

More detailed results from this portion of the survey are presented in Appendix C and

raw data is included in Appendix B.

Table 4. 2 │Summary of Results of JES Questions

A . As RNs we are fairly well satisfied with our job on our unit		
	All Nurses	3.24
	Critical/ Intensive Care Nurses	4.00 ↓
B. RNs on our unit would not consider taking another job		
	All Nurses	4.05
	Critical/ Intensive Care Nurses	4.44 ↓
C. I have to force myself to come to work much of the time		
	All Nurses	3.88
	Critical/ Intensive Care Nurses	3.39 ↓
D. RNs on our unit are enthusiastic about our work almost every day		
	All Nurses	3.61
	Critical/ Intensive Care Nurses	4.21 ↓
E. RNs on our unit like our jobs better than the average RN does		
	All Nurses	3.22
	Critical/ Intensive Care Nurses	3.65 ↓
F. I feel that each day on my job will never end		
	All Nurses	3.73
	Critical/ Intensive Care Nurses	3.56 ↓
G. We find real enjoyment in our work on our unit		
	All Nurses	3.05
	Critical/ Intensive Care Nurses	3.38 ↓

Figure 4.1 provides a graphic representation of the data included in the table above. The

letters on the vertical axis refer to the question in the survey and are also indicated on Table 4.2

above, and the values on the horizontal axis represent the weighted average response to each

question by all respondents (orange) and by the critical/intensive care nurses (grey). It is

important to note that the structure of the statements is such that higher numbers could indicate

more or less job satisfaction accordingly. This can make the data represented in the figure look

misleading.
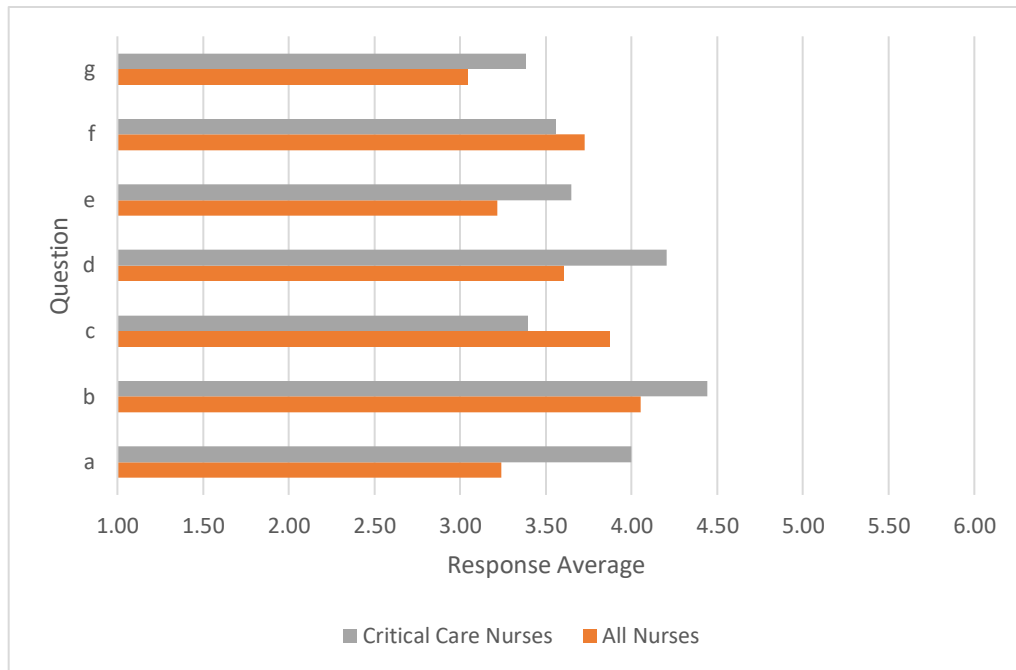
Figure 4. 1 │ Responses to Job Enjoyment Scale Questions

Another question explored was how the length of nursing experience impacted the participant's job satisfaction. To determine if there was any correlation between how participants responded to the JES and their length of experience working as a nurse, the survey population was condensed to the participants who reported work experience of 0-20 years. This data was compared to the 38 critical/intensive care nursing participants as well as the 240 total participants. There was no significant correlation between the amount of nursing experience reported with the participant's suggested job satisfaction and emotional distress. A more detailed analysis regarding this can be found in Appendix C – Figure A.1-A.7.

4.5 │ ProQOL Scale

The results off the questions from the ProQOL scale are summarized in Table 4.3. The table provides a comparison off the results from critical/intensive care respondents to those of all responding nurses. Nurses were asked to consider each of the questions in the table about their current work situation and indicate responses regarding how often they had these feelings over

the last month. The table includes responses from all respondents that completed all or part of the survey. There are five possible responses based on a five-point scale (1: Never, 2: Rarely, 3: Sometimes, 4: Often, 5: Very Often). A weighted average was calculated by dividing the sum of the product of the response values and the number of responses by the total number of responses – it is important to note that the values calculated for "All Nurses" also include the responses for the participants that indicated that they work in critical/intensive care. The weighted average response value can be used to compare responses from critical/intensive care nurses to those of all respondents. Arrows in the table indicate the relative quality of life impact from critical/intensive care nurses relative to the overall response. Since critical/intensive care nurses reported more frequent contact with COVID-19 patients, responses are likely influenced by this experience.

More detailed results from this portion of the survey are presented in Appendix C and raw data is included in Appendix B.

Table 4. 3 │Summary of Results of the Pro-QOL

I am happy		
	All Nurses	3.74
	Critical/ Intensive Care Nurses	3.29 ↓
I am preoccupied with more than one person I have cared for		
	All Nurses	3.21
	Critical/ Intensive Care Nurses	3.32 ↔
I get satisfaction by being able to care for people		
	All Nurses	4.24
	Critical/ Intensive Care Nurses	4.03 ↓
I feel connected to others		
	All Nurses	3.91
	Critical/ Intensive Care Nurses	3.74 ↓
I jump or am startled by unexpected sounds		
	All Nurses	2.65
	Critical/ Intensive Care Nurses	2.88 ↓
I feel invigorated after working with those that I have cared for		
	All Nurses	3.35
	Critical/ Intensive Care Nurses	3.12 ↓

I find it difficult to separate my personal life from my life as a nurse		
	All Nurses	2.70
	Critical/ Intensive Care Nurses	2.88 ↔
I am not as productive at work because I am losing sleep over traumatic experiences of a person I cared for		
	All Nurses	2.02
	Critical/ Intensive Care Nurses	2.35 ↓
I think that I might have been affected by the traumatic stress of those that I have cared for		
	All Nurses	2.60
	Critical/ Intensive Care Nurses	3.24 ↓
I feel trapped by my job as a nurse		
	All Nurses	2.39
	Critical/ Intensive Care Nurses	2.88 ↓
Because of my job as a Nurse I have felt "on edge" about various things		
	All Nurses	2.80
	Critical/ Intensive Care Nurses	3.32 ↓
I like my work as a nurse		
	All Nurses	3.92
	Critical/ Intensive Care Nurses	3.65 ↓
I feel depressed because of the traumatic experiences of the people that I cared for		
	All Nurses	2.30
	Critical/ Intensive Care Nurses	2.82 ↓
I feel as though I am experiencing the trauma of someone that I cared for		
	All Nurses	2.24
	Critical/ Intensive Care Nurses	2.74 ↓
I have beliefs that sustain me		
	All Nurses	4.08
	Critical/ Intensive Care Nurses	3.53 ↓
I am pleased with how I am able to keep up with nursing techniques and protocols		
	All Nurses	3.69
	Critical/ Intensive Care Nurses	3.53 ↓
I am the person that I always wanted to be		
	All Nurses	3.66
	Critical/ Intensive Care Nurses	3.26 ↓
My work makes me feel satisfied		
	All Nurses	3.70
	Critical/ Intensive Care Nurses	3.26 ↓
I feel worn out because of my work as a nurse		
	All Nurses	3.46
	Critical/ Intensive Care Nurses	4.00 ↓
I have happy thoughts and feeling for those that I cared for and how I could help them		
	All Nurses	3.82
	Critical/ Intensive Care Nurses	3.53 ↓
I feel overwhelmed because my workload seems endless		
	All Nurses	3.12
	Critical/ Intensive Care Nurses	3.62 ↓
I believe that I can make a difference through my work		
	All Nurses	3.85
	Critical/ Intensive Care Nurses	3.44 ↓

I avoid certain activities or situations because they remind me of freighting experience of people I have cared for		
	All Nurses	1.99
	Critical/ Intensive Care Nurses	2.38 ↓
I am proud of what I do to care for people in the hospital		
	All Nurses	3.94
	Critical/ Intensive Care Nurses	3.85 ↔
As a result of my job I have intrusive, freighting thoughts		
	All Nurses	1.93
	Critical/ Intensive Care Nurses	2.35 ↓
I feel "bogged down" by the system		
	All Nurses	3.08
	Critical/ Intensive Care Nurses	3.71 ↓
I have thought that I am a "success" as a nurse		
	All Nurses	3.66
	Critical/ Intensive Care Nurses	3.47 ↓
I cannot recall important parts of my work with traumatic victims		
	All Nurses	1.98
	Critical/ Intensive Care Nurses	2.32 ↓
I am a very caring person		
	All Nurses	4.32
	Critical/ Intensive Care Nurses	4.29 ↔
I am happy that I chose to do this work		
	All Nurses	3.96
	Critical/ Intensive Care Nurses	3.62 ↓

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Chapter 5. Discussion and Conclusions

The questionnaire responses provided interesting information regarding the overall impact that the COVID-19 pandemic had and are continuing to have on nurses in general as well as those in the critical/intensive care setting.

To determine the impact of COVID on critical/intensive care nurses, first, the PES-NWI Scale was utilized to assess factors present in participants' current jobs that they feel either inhibit or enhance their ability to practice nursing skillfully and deliver quality care for their patients (Swiger et al., 2017). First, looking at how participants regard nursing participation in hospital affairs, two questions from the scale produced noteworthy results. Considering the weighted average response from critical/intensive care nurses compared to all 240 participants, critical/intensive care nurses tended to agree less with the question: "administration that listens and responds to employee concerns." The critical/intensive care average was 2.78, compared with the average from all 240 responses, 2.50. For this set of questions, a lower score (on a scale from 1-4) indicates more agreement, and a higher score indicates more disagreement. Thus, the critical/intensive care nurses indicated that they have a less responsive administration within their facilities. Similarly, for the statement critical/intensive care nurses tended to disagree more with the statement regarding having "enough registered nurses to provide quality patient care." The critical/intensive care average answer was 3.21, indicating many of the participants disagreed and even strongly disagreed with the statement with respect to their current job. Comparatively, the average answer for all participants was 2.83, indicating more overall agreement with the statement than that of the crucial/intensive care nurses. This response indicates that crucial/intensive care nurses are dissatisfied with the staffing and resource adequacy available in their current job. Additionally, critical/intensive care nurses indicated

lower levels of agreement regarding having "enough staff to get the work done," with an average response of 3.09, compared to the average of all participants – 2.80. Again, this indicates a greater level of discontent related to the availability of resources and staffing for critical/intensive care nurses.

Next, the JES was used to gain an understanding of nursing feelings towards their workplace and coworkers. Participants were asked to answer based on their belief that each statement pertained accurately to both their unit and the RNs they work with. Critical/intensive care nurses tended to agree more than all the nursing participants regarding: "I have to force myself to come to work much of the time." The critical/intensive care nurses had a weighted average response of 3.39 compared to an average response of 3.88 for all nursing participants. Similarly, critical/intensive care nurses tended to agree slightly more that "I feel that each day on my job will never end," with an average response of 3.56 compared to 3.73 for all participating nurses. Furthermore, critical/intensive care nurses tended to disagree more than all 240 participating nurses regarding the following statements: "As RNs we are fairly well satisfied with our job on our unit," "RNs on our unit would not consider taking another job," and "RNs on our unit are enthusiastic about our work almost every day." These responses indicate that critical/intensive care nurses have less satisfaction and enjoyment from their jobs and are more likely to consider looking for or taking another job. Additionally, this is further supported by the critical/intensive care participant indication regarding personal job plans; 24.6% of participants indicated they plan to change positions – whether transferring facility, joining a travel agency, or leaving nursing entirely – 10.9% indicated they plan to attend school full-time, and 23.5% were unsure at the time of survey completion. Only 39.5% of the critical/intensive care nurses indicated that they plan to stay in their current unit.

Finally, the ProQOL Scale was utilized to assess nursing compassion satisfaction (CS), burnout, and compassion fatigue (CF) by having participants indicate how often they had the indicated feelings regarding their current work situation over the previous month (Stamm, 2005). The weighted average was calculated, with lower scores (on a scale from 1-5) indicating never or rarely having a feeling and higher scores indicating having that feeling often or very often; in this scale, a response of 3.00 indicates that a participant sometimes has that feeling. To first look at CF accrued from exposure to stressful work events, critical/intensive care nurses expressed greater levels of fatigue and secondary trauma (STS). Critical/intensive care nurses indicated more frequently feel: "I think that I might have been affected by the traumatic stress of those I have cared for." The average response for critical/intensive care nurses regarding this statement was 3.24, while it was only 2.60 for all 240 participants. This is significant because it shows that while all nursing participants tend to have this feeling more rarely, critical/intensive care nurses tend to have this feeling more often. Additionally, critical/intensive care nurses reported feeling: "I am not as productive at work because I am losing sleep over traumatic experiences of a person I have cared for," and "I feel as though I am experiencing the trauma of someone that I cared for," more often than all the participating nurses. This suggests that critical/intensive care nurses feel more CF and STS related to their current work situation than other nurses. Furthermore, looking at the critical/intensive care participant indications of feelings of burnout, the following statements were considered: (1) "I feel trapped by my job as a nurse;" (2) I feel worn out because of my work as a nurse;" and (3) "I feel overwhelmed because my workload seems endless." Regarding the first of these statements, critical/intensive care nurses indicated that they feel trapped by their work more often than the population of all 240 nursing participants. Critical/intensive care nurses had an average reported answer of 2.88, as compared to 2.39 for all

participants. Additionally, critical/intensive care nurses reported that they feel worn out because of their work more often than all participants – the weighted average answer of 4.00 vs. 3.46. Critical/intensive care nurses also reported feelings of an endless workload more often than all participants – a weighted average of 3.62 vs. 3.12. Overall, the critical/intensive care nurses expressed feelings of burnout more frequently than all the nurses, and these feelings are associated with a "high workload or non-supportive work environment," (Stamm, 2005, p. 5). Finally, CS refers to the pleasure associated with doing one's work well (Stamm, 2005). The critical/intensive care nursing participants reported that they less often feel: "I like my work as a nurse. The weighted average response for critical/intensive care nurses regarding this statement was 3.65, compared to an average response of 3.92 from all nursing participants. Critical/intensive care nurses also reported less frequently feeling: "My work makes me feel satisfied," "I believe that I can make a difference through my work," and "I am happy that I chose to do this work." While all the weighted average responses from the critical/intensive care nursing participants for these statements are above 3.00, indicating that they do feel these things often, they did not report these feelings as often as all 240 nursing participants. This indicates that critical/intensive care nurses have less CS related to feelings of being satisfied and fulfilled by their work. However, one question related to CS produced very similar answers from both critical/intensive care nurses and all the nursing participants: "I am proud of what I do to care for people in the hospital." The critical/intensive care nurses had an average response of 3.85, and all the nursing participants had an average response of 3.94. These responses are very similar and indicate that both groups of participants often feel pride in the care that they are able to provide for their patients.

5.1 │ Limitations

This study is limited by the use of a convenience sample as a means of data collection. This method of sampling allows for potential bias; additionally, it causes generalizations to be made that may not represent the true representation of the entire population that is trying to be examined. By only collecting data from the ETSU alumni that chose to complete the survey, results may hold biases related to the reason that some people chose to participate while others did not.

Another limitation of this study is the small sample size. Although the survey was widely distributed, the data collected from those who chose to participate represent a fraction of the population that was invited. The small sample size restricts the broad applicability of the conclusions drawn from the data. Thus, conclusions may not be reliable for the larger nursing populations.

Time constraints pose another limitation to this study. Given more time to comb through data from more angles and comparisons, more questions could have been explored, and more detailed conclusions might have been drawn from the data.

5.2 │ Conclusion

COVID-19 resulted in extremely volatile conditions for healthcare workers, especially for the nurses who worked most directly with infected patients. This likely caused feelings of heightened stress, emotional turmoil, and fear for the nurses that were at the forefront of these challenges. The data collected in this study shows that critical/intensive care nurses cared for more COVID-19 positive or presumed positive patients. They tended to respond more negatively to the PES-NWI Scale questions, indicating that they experienced more hindrances in providing quality care for patients. Critical/intensive care respondents also answered all the JES questions

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more negatively, signifying less satisfaction and fulfillment from their work. They generally tended to produce more negative responses to the Pro-QOL portion of the questionnaire, potentially indicating that they have a decreased quality of life. Because participants were asked to provide responses related to their experiences throughout COVID-19, particularly peak COVID-times for their unit, the results indicate that the emotional stress of critical/intensive care nurses may be linked directly to the devastating impacts of COVID-19 on their units – limited necessary supplies, worsened patient conditions and outcomes, and uncertainty of how to properly handle and treat the virus. Overall, the critical/intensive care nurses cared for more COVID-19 patients and, as a result, exhibited more negative reactions toward their work and personal well-being than nurses in other units who cared for fewer COVID-19 positive, or presumed positive patients.

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Appendix A: Questionnaire

An Examination of Nurses Well-Being During COVID

Please complete the survey below.

Thank you!

INFORMED CONSENT

This Informed Consent will explain about being a participant in a research study. It is important that you read this material carefully and then decide if you wish to voluntarily participate.

Dear Participant:

My name is Dr. Patty A. Harnois-Church, and I am an Assistant Professor in the College of Nursing at East Tennessee State University. The name of our research study is An Examination of Nurse Well-Being During COVID: A Nursing Alumni Survey.

The purpose of this study is to explore:

the overall work experience of nurses during the pandemic your self-reported well-being the relationship between COVID-19 and your work experience.   I am asking you to complete a brief online survey that should only take about 20 minutes using REDCap. The risk of discomfort or stress while completing this survey is minimal. You may discontinue the survey at any time without any penalty. There are no direct benefits to you for participating in this research.

You can enter your email to volunteer to participate in future ETSU College of Nursing research studies about work environment. Once you have completed the survey, you will have the option to enter your email to be entered in a random drawing for one of several $25.00 Amazon gift cards as a thank you for taking part in the study. The drawing will take place after the survey closes. Winners will be notified via email.

No personally identifiable data will be reported as a part of the study, and no individual results will be included in our final report. Taking part in this study is voluntary. You may decide not to take part in this study. You can quit at any time. You may skip any questions you do not want to answer, or you can exit the online survey form if you want to stop completely.

If you have any research-related questions or problems, you may contact me, Dr. Patty A. Harnois-Church, at 423-439-4395/harnoischurc@etsu.edu, or my research partner, Dr. Vallire Hooper, at 423-439-4082/hooperv@etsu.edu. You may also contact the ETSU IRB at 423-439-6054 or IRB@etsu.edu for any issues, questions or input that you may have about the research or your rights as a research participant.

Sincerely,
Patty A. Harnois-Church, PhD, MSN, MHA, RN

Clicking the AGREE button below indicates

I have read the above information. I agree to volunteer, I am at least 18 years old. I am physically present in the United States. Approved by ETSU/VA Medical IRB /Approval Date: April 12, 2022

○ Agree
○ Do Not Agree

What is your age?

_____

With which gender do you most closely identify?   ○ male
○ female
○ non-binary/third
○ prefer not to answer

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State in which you primarily work	○ Alabama
	○ Alaska
	○ Arizona
	○ Arkansas
	○ California
	○ Colorado
	○ Connecticut
	○ Delaware
	○ District of Columbia
	○ Florida
	○ Georgia
	○ Hawaii
	○ Idaho
	○ Illinois
	○ Indiana
	○ Iowa
	○ Kansas
	○ Kentucky
	○ Louisiana
	○ Maine
	○ Maryland
	○ Massachusetts
	○ Michigan
	○ Minnesota
	○ Mississippi
	○ Missouri
	○ Montana
	○ Nebraska
	○ Nevada
	○ New Hampshire
	○ New Jersey
	○ New Mexico
	○ New York
	○ North Carolina
	○ North Dakota
	○ Ohio
	○ Oklahoma
	○ Oregon
	○ Pennsylvania
	○ Rhode Island
	○ South Carolina
	○ South Dakota
	○ Tennessee
	○ Texas
	○ Utah
	○ Vermont
	○ Virginia
	○ Washington
	○ West Virginia
	○ Wisconsin
	○ Wyoming

What is your highest nursing degree?	○ Diploma
	○ ADN
	○ BSN
	○ MSN
	○ DNP/PhD

| Do you hold a professional certification? | ○ Yes |
| | ○ No |

| Are you licensed as an APRN? | ○ Yes |
| | ○ No |

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In what type of environment do you work?	☐ hospital/acute care ☐ long-term care/rehabilitation ☐ home health ☐ community/public health ☐ primary care ☐ academics ☐ school health ☐ other
Which best describes your work area in the hospital/acute care setting?	○ Medical/Surgical ○ Progressive Care ○ Critical/Intensive Care ○ Perioperative/perianesthesia/procedural ○ Oncology ○ Pediatrics ○ Other
Please indicate the location of your facility	○ rural ○ non-rural
What is your primary job title?	○ clinical/staff nurse ○ case manager ○ nurse manager/assistant nurse manager ○ CNS ○ NP ○ CRNA ○ administration ○ educator ○ research scientist ○ performance/quality improvement ○ other
What is your total number of years at your current place of employment?	_____
What is the total number of years that you have been in nursing practice?	_____
Typically, how many hours is your work shift?	○ 8 ○ 10 ○ 12 ○ >12
Please identify how your work hours have been impacted by the COVID-19 pandemic.	○ I worked my usual schedule ○ I was scheduled for less hours ○ I worked more hours than my usual schedule ○ I was furloughed ○ I was laid off
Please indicate how your work location has been impacted by the COVID pandemic.	○ I worked in my usual unit. ○ I was pulled to a different unit within my usual practice area/field. ○ I was pulled outside of my usual practice area/field.
Did you care for at least one COVID-19 patient?	○ Yes ○ No

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How frequently did you care for COVID-19 or presumed positive COVID-19 patients during your peak month?	○ several times in the month ○ weekly ○ daily
Thinking back on your peak month, how many COVID-19 or presumed COVID-19 positive patients did you care for in total?	○ 0 ○ 1-5 ○ 6-10 ○ 11-20 ○ 21-50 ○ more than 50
Have you changed jobs or positions in the past 18 months?	○ Yes ○ No
Please indicate the job change that most closely matches your change.	○ Transfered to another unit in my facility. ○ Transfered to another facility in a similar position. ○ Transfered to another facility in a different position. ○ Started working for a travel nursing agency. ○ Started attending school full time. ○ Left nursing but stay employed. ○ Retired or stopped working altogether.
What are your job plans for the next 18 months?	○ Plan to stay on my current unit ○ Plan to transfer to another unit in my facility. ○ Plan to transfer to another facility in a similar position. ○ Plan to transfer to another facility in a different position. ○ Plan to start working for a travel nursing agency. ○ Plan to attend school full time. ○ Plan to leave nursing but stay employed. ○ Plan to retire or stop working altogether. ○ Unsure of future plans at this time

For each item, please indicate the extent to which you agree that the item is present in your current job.

	Strongly agree	Agree	Disagree	Strongly disagree
Career development/clinical ladder opportunity	O	O	O	O
Opportunity for staff nurses to participate in policy decisions	O	O	O	O
A chief nursing officer which is highly visible and accessible to staff	O	O	O	O
A chief nursing officer equal in power and authority to other top level hospital executives	O	O	O	O
Opportunities for advancement	O	O	O	O
Administration that listens and responds to employee concerns	O	O	O	O
Staff nurses are involved in the internal governance of the hospital (e.g., practice and policy committees)	O	O	O	O
Staff nurses have the opportunity to serve on hospital and nursing committees	O	O	O	O
Nursing administrators consult with staff on daily problems and procedures	O	O	O	O

For each item please indicate the extent to which you agree that item is present in your current job.

	Strongly agree	Agree	Disagree	Strongly disagree
Active staff development or continuing education programs for nurses	O	O	O	O
High standards of nursing care are expected by the administration.	O	O	O	O
A clear philosophy of nursing that pervades the patient care environment.	O	O	O	O
Working with nurses who are clinically competent.	O	O	O	O
An active quality assurance program.	O	O	O	O
A preceptor program for newly hired RNs	O	O	O	O
Nursing care is based on a nursing, rather than medical, model.	O	O	O	O
Written, up to date nursing care plans for all patients	O	O	O	O
Patient care assignments that foster community of care, i.e., the same nurse cares for the patient from one day to the next.	O	O	O	O
Use of nursing diagnoses	O	O	O	O

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For each item, please indicate the extent to which you agree that the item is present in your current job.

	Strongly agree	Agree	Disagree	Strongly Disagree
A supervisory staff that is supportive of the nurses.	○	○	○	○
Supervisors use mistakes as learning opportunities, not criticism.	○	○	○	○
A nurse manager who is a good manager and leader.	○	○	○	○
Praise and recognition for a job well done.	○	○	○	○
A nurse manager who backs up the nursing staff in decision making, even if the conflict is with a physician.	○	○	○	○

For each item, please indicate the extent to which you agree that the item is present in your current job.

	Strongly agree	Agree	Disagree	Strongly disagree
Adequate support services allow me to spend time with my patients.	O	O	O	O
Enough time and opportunity to discuss patient care problems with other nurses.	O	O	O	O
Enough registered nurses to provide quality patient care.	O	O	O	O
Enough staff to get the work done.	O	O	O	O

For each item, please indicate the extent to which you agree that the item is present in your current job.

	Strongly agree	Agree	Disagree	Strongly disagree
Physicians and nurses have good working relationships.	O	O	O	O
A lot of team work between nurses and physicians	O	O	O	O
Collaboration (joint practice) between nurses and physicians.	O	O	O	O

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Based on your experience, please indicate your agreement or disagreement with the following statements about your unit and the RNs with whom you work.

	Strongly agree	Agree	Tend to agree	Tend to disagree	Disagree	Strongly disagree
As RNs, we are fairly well satisfied with our jobs on our unit.	O	O	O	O	O	O
RNs on our unit would not consider taking another job.	O	O	O	O	O	O
I have to force myself to come to work much of the time.	O	O	O	O	O	O
RNs on our unit are enthusiastic about our work almost every day.	O	O	O	O	O	O
RNs on our unit like our jobs better than the average RN does.	O	O	O	O	O	O
I feel that each day on my job will never end.	O	O	O	O	O	O
We find real enjoyment in our work on our unit.	O	O	O	O	O	O

Consider each of the following questions about you and your current work situation. Please indicate your response to the following items with regards to how often you have had these feelings over the last month.

	Never	Rarely	Sometimes	Often	Very often
I am happy.	O	O	O	O	O
I am preoccupied with more than one person I have cared for.	O	O	O	O	O
I get satisfaction from being able to care for people.	O	O	O	O	O
I feel connected to others.	O	O	O	O	O
I jump or am startled by unexpected sounds.	O	O	O	O	O
I feel invigorated after working with those I have cared for.	O	O	O	O	O
I find it difficult to separate my personal life from my life as a nurse.	O	O	O	O	O
I am not as productive at work because I am losing sleep over traumatic experiences of a person I have cared for.	O	O	O	O	O
I think that I might have been affected by the traumatic stress of those I have cared for.	O	O	O	O	O
I feel trapped by my job as a nurse.	O	O	O	O	O
Because of my job as a nurse, I have felt "on edge" about various things.	O	O	O	O	O
I like my work as a nurse.	O	O	O	O	O
I feel depressed because of the traumatic experiences of the people I have cared.	O	O	O	O	O
I feel as though I am experiencing the trauma of someone I have cared for	O	O	O	O	O
I have beliefs that sustain me.	O	O	O	O	O
I am pleased with how I am able to keep up with nursing techniques and protocols.	O	O	O	O	O
I am the person I always wanted to be.	O	O	O	O	O
My work makes me feel satisfied.	O	O	O	O	O

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I feel worn out because of my work as a nurse.	O	O	O	O	O
I have happy thoughts and feelings about those I have cared for and how I could help them.	O	O	O	O	O
I feel overwhelmed because my workload seems endless.	O	O	O	O	O
I believe I can make a difference through my work.	O	O	O	O	O
I avoid certain activities or situations because they remind me of frightening experiences of the people I have cared for.	O	O	O	O	O
I am proud of what I can do to care for people in the hospital.	O	O	O	O	O
As a result of my job, I have intrusive, frightening thoughts.	O	O	O	O	O
I feel "bogged down" by the system.	O	O	O	O	O
I have thoughts that I am a "success" as a nurse.	O	O	O	O	O
I can't recall important parts of my work with trauma victims.	O	O	O	O	O
I am a very caring person.	O	O	O	O	O
I am happy that I chose to do this work.	O	O	O	O	O

Appendix B: Survey Results

Appendix B includes the raw data collected from the survey responses in the attached excel file. Additionally, it includes the pdf of the data dictionary code books used to interpret the responses.

RDC Thesis Data.csv

Data Dictionary Codebook 1.pdf

Appendix C: Analyzed Data

Nurses were asked to consider each of the statements in the following table and indicate how much they agree that each item is present in their current job. The table includes responses from all participants that completed all or part of the survey. There are four possible responses based on four-point scale (1:Strongly Agree, 2:Agree, 3:Disagree, and 4:Stronly Disagree). A weighted average was calculated by dividing the sum of the product of the response values and number of responses by total number of responses. The weighted average response value can be used to compare responses from critical nurses to those of all participants. Since critical care nurses reported more frequent contact with COVID-19 patients, responses are likely influenced by this experience.

Table C. 1 │Results of the PES-NWI Scale

Survey Question	Response	All Nurses		Critical Care Nurses		
		Number of Responses	Percent of Responses	Number of Responses	Percent of Responses	
Career development/clinical ladder opportunity	1:Strongly Agree	43	17.92%	6	15.79%	There is little difference between responses from critical care nurses and all nurses responding to this survey question
	2:Agree	95	39.58%	20	52.63%	
	3:Disagree	42	17.50%	9	23.68%	
	4:Strongly Disagree	17	7.08%	1	2.63%	
	No Response	43	17.92%	2	5.26%	
	Average	2.17		2.14		
Opportunity for staff nurses to participate in policy decisions	1:Strongly Agree	26	10.83%	3	7.89%	There is little difference between responses from critical care nurses and all nurses responding to this survey question
	2:Agree	80	33.33%	14	36.84%	
	3:Disagree	55	22.92%	12	31.58%	
	4:Strongly Disagree	34	14.17%	7	18.42%	
	No Response	45	18.75%	2	5.26%	
	Average	2.50		2.63		

A chief nursing officer which is highly visible and accessible to staff	1:Strongly Agree	33	13.75%	2	5.26%	On average, critical care nurses tended to disagree more that there is a CNO who is visible and accessible to staff than nurses in general (weighted average 2.72 vs 2.42)
	2:Agree	70	29.17%	15	39.47%	
	3:Disagree	62	25.83%	10	26.32%	
	4:Strongly Disagree	26	10.83%	9	23.68%	
	No Response	49	20.42%	2	5.26%	
	Average		2.42		2.72	
A chief nursing officer equal in power and authority to other top level hospital executives	1:Strongly Agree	28	11.67%	3	7.89%	There is little difference between responses from critical care nurses and all nurses responding to this survey question
	2:Agree	70	29.17%	16	42.11%	
	3:Disagree	69	28.75%	13	34.21%	
	4:Strongly Disagree	22	9.17%	3	7.89%	
	No Response	51	21.25%	3	7.89%	
	Average		2.45		2.46	
Opportunities for advancement	1:Strongly Agree	33	13.75%	5	13.16%	There is little difference between responses from critical care nurses and all nurses responding to this survey question
	2:Agree	94	39.17%	20	52.63%	
	3:Disagree	50	20.83%	9	23.68%	
	4:Strongly Disagree	19	7.92%	2	5.26%	
	No Response	44	18.33%	2	5.26%	
	Average		2.28		2.22	
Administration that listens and responds to employee concerns	1:Strongly Agree	34	14.17%	1	2.63%	On average, critical care nurses tended to feel less like administration listens and responses to employee concerns than nurses in general (weighted average 2.78 vs 2.50)
	2:Agree	63	26.25%	13	34.21%	
	3:Disagree	64	26.67%	15	39.47%	
	4:Strongly Disagree	34	14.17%	7	18.42%	
	No Response	45	18.75%	2	5.26%	
	Average		2.50		2.78	
Staff nurses are involved in the internal governance of the hospital	1:Strongly Agree	23	9.58%	3	7.89%	There is little difference between responses from critical care nurses and all nurses responding to this survey question
	2:Agree	63	26.25%	8	21.05%	
	3:Disagree	77	32.08%	18	47.37%	
	4:Strongly Disagree	28	11.67%	6	15.79%	
	No Response	49	20.42%	3	7.89%	
	Average		2.58		2.77	

Staff nurses have the opportunity to serve on hospital and nursing committees	1:Strongly Agree	31	12.92%	6	15.79%	On average, critical care nurses tended to agree more that staff nurses on their unit can serve on hospital and nursing committees (weighted average 2.09 vs 2.22)
	2:Agree	106	44.17%	21	55.26%	
	3:Disagree	37	15.42%	7	18.42%	
	4:Strongly Disagree	18	7.50%	1	2.63%	
	No Response	48	20.00%	3	7.89%	
	Average		2.22		2.09	
Nursing administrators consult with staff on daily problems and procedures	1:Strongly Agree	34	14.17%	0	0.00%	On average, critical care nurses tended to agree less that nursing admin on their unit consult with staff on daily problems and procedures (weighted average 2.86 vs 2.46)
	2:Agree	69	28.75%	16	42.11%	
	3:Disagree	57	23.75%	9	23.68%	
	4:Strongly Disagree	33	13.75%	11	28.95%	
	No Response	47	19.58%	2	5.26%	
	Average		2.46		2.86	
Active staff development or continuing education programs for nurses	1:Strongly Agree	42	17.50%	7	18.42%	There is little difference between responses from critical care nurses and all nurses responding to this survey question
	2:Agree	111	46.25%	21	55.26%	
	3:Disagree	29	12.08%	6	15.79%	
	4:Strongly Disagree	6	2.50%	0	0.00%	
	No Response	52	21.67%	4	10.53%	
	Average		1.99		1.97	
High standards of nursing care are expected by administration	1:Strongly Agree	78	32.50%	14	36.84%	There is little difference between responses from critical care nurses and all nurses responding to this survey question
	2:Agree	95	39.58%	18	47.37%	
	3:Disagree	11	4.58%	2	5.26%	
	4:Strongly Disagree	4	1.67%	0	0.00%	
	No Response	52	21.67%	4	10.53%	
	Average		1.69		1.65	
A clear philosophy of nursing that pervades the patient care environment	1:Strongly Agree	40	16.67%	6	15.79%	There is little difference between responses from critical care nurses and all nurses responding to this survey question
	2:Agree	96	40.00%	16	42.11%	
	3:Disagree	40	16.67%	11	28.95%	
	4:Strongly Disagree	11	4.58%	1	2.63%	
	No Response	53	22.08%	4	10.53%	
	Average		2.12		2.21	

Working with nurses who are clinically competent	1:Strongly Agree	50	20.83%	7	18.42%	There is little difference between responses from critical care nurses and all nurses responding to this survey question
	2:Agree	102	42.50%	17	44.74%	
	3:Disagree	27	11.25%	9	23.68%	
	4:Strongly Disagree	9	3.75%	1	2.63%	
	No Response	52	21.67%	4	10.53%	
	Average		1.97		2.12	

An active quality assurance program	1:Strongly Agree	38	15.83%	2	5.26%	On average, critical care nurses tended to disagree more that they have an active quality assurance program on their unit than nurses in general (weighted average 2.26 vs 2.12)
	2:Agree	100	41.67%	22	57.89%	
	3:Disagree	35	14.58%	9	23.68%	
	4:Strongly Disagree	13	5.42%	1	2.63%	
	No Response	54	22.50%	4	10.53%	
	Average		2.12		2.26	

A preceptor program for newly hired RNs	1:Strongly Agree	41	17.08%	8	21.05%	On average, critical care nurses tended to agree more that their unit has a preceptor program for newly hired RNs (weighted average 1.91 vs 2.14)
	2:Agree	93	38.75%	21	55.26%	
	3:Disagree	36	15.00%	5	13.16%	
	4:Strongly Disagree	15	6.25%	0	0.00%	
	No Response	55	22.92%	4	10.53%	
	Average		2.14		1.91	

Nursing care is based on a nursing, rather than medical, model	1:Strongly Agree	29	12.08%	3	7.89%	There is little difference between responses from critical care nurses and all nurses responding to this survey question
	2:Agree	91	37.92%	18	47.37%	
	3:Disagree	51	21.25%	11	28.95%	
	4:Strongly Disagree	12	5.00%	2	5.26%	
	No Response	57	23.75%	4	10.53%	
	Average		2.25		2.35	

Written, up to date nursing care plans for all patients	1:Strongly Agree	31	12.92%	3	7.89%	There is little difference between responses from critical care nurses and all nurses responding to this survey question
	2:Agree	74	30.83%	14	36.84%	
	3:Disagree	56	23.33%	14	36.84%	
	4:Strongly Disagree	23	9.58%	3	7.89%	
	No Response	56	23.33%	4	10.53%	
	Average		2.39		2.50	

Patient care assignments that foster community of care	1:Strongly Agree	35	14.58%	3	7.89%	On average, critical care nurses tended to disagree more that patient care assignments foster community of care on their unit (weighted average 2.49 vs 2.25)
	2:Agree	86	35.83%	16	42.11%	
	3:Disagree	41	17.08%	9	23.68%	
	4:Strongly Disagree	20	8.33%	5	13.16%	
	No Response	58	24.17%	5	13.16%	
	Average		2.25		2.49	
Use of nursing diagnoses	1:Strongly Agree	21	8.75%	0	0.00%	On average, critical care nurses tended to disagree more that there is usage of nursing diagnoses on their unit (weighted average 2.97 vs 2.71)
	2:Agree	56	23.33%	11	28.95%	
	3:Disagree	61	25.42%	13	34.21%	
	4:Strongly Disagree	45	18.75%	10	26.32%	
	No Response	57	23.75%	4	10.53%	
	Average		2.71		2.97	
A supervisory staff that is supportive of the nurses	1:Strongly Agree	48	20.00%	5	13.16%	On average, critical care nurses tended to agree less that supervisory staff is supportive of the nurses on their unit (weighted average 2.26 vs 2.05)
	2:Agree	91	37.92%	18	47.37%	
	3:Disagree	38	15.83%	8	21.05%	
	4:Strongly Disagree	10	4.17%	3	7.89%	
	No Response	53	22.08%	4	10.53%	
	Average		2.05		2.26	
Supervisors use mistakes as learning opportunities, not criticism	1:Strongly Agree	43	17.92%	5	13.16%	There is little difference between responses from critical care nurses and all nurses responding to this survey question
	2:Agree	81	33.75%	15	39.47%	
	3:Disagree	45	18.75%	10	26.32%	
	4:Strongly Disagree	18	7.50%	4	10.53%	
	No Response	53	22.08%	4	10.53%	
	Average		2.20		2.38	
A nurse manager who is a good manager and leader	1:Strongly Agree	50	20.83%	8	21.05%	On average, critical care nurses tended to agree less that there unit has a nurse manager who is a good manager and leader (weighted average 2.35 vs 2.10)
	2:Agree	81	33.75%	11	28.95%	
	3:Disagree	41	17.08%	10	26.32%	
	4:Strongly Disagree	14	5.83%	5	13.16%	
	No Response	54	22.50%	4	10.53%	
	Average		2.10		2.35	

Praise and recognition for a job well done	1:Strongly Agree	46	19.17%	5	13.16%	On average, critical care nurses tended to agree less that there is praise and recognition for a job well done on their unit (weighted average 2.47 vs 2.20)
	2:Agree	79	32.92%	16	42.11%	
	3:Disagree	45	18.75%	5	13.16%	
	4:Strongly Disagree	19	7.92%	8	21.05%	
	No Response	51	21.25%	4	10.53%	
	Average		2.20		2.47	
A nurse manager who backs up the nursing staff in decision making, even if the conflict is with a physician	1:Strongly Agree	49	20.42%	8	21.05%	On average, critical care nurses tended to disagree more that their unit has a nurse manager who backs up the nursing staff (weighted average 2.35 vs 2.15)
	2:Agree	76	31.67%	12	31.58%	
	3:Disagree	41	17.08%	8	21.05%	
	4:Strongly Disagree	18	7.50%	6	15.79%	
	No Response	56	23.33%	4	10.53%	
	Average		2.15		2.35	
Adequate support services allow me to spend time with my patients	1:Strongly Agree	24	10.00%	3	7.89%	On average, critical care nurses tended to disagree more that their unit has adequate support services (weighted average 2.85 vs 2.59)
	2:Agree	60	25.00%	9	23.68%	
	3:Disagree	62	25.83%	11	28.95%	
	4:Strongly Disagree	34	14.17%	10	26.32%	
	No Response	60	25.00%	5	13.16%	
	Average		2.59		2.85	
Enough time and opportunity to discuss patient care problems with other nurses	1:Strongly Agree	27	11.25%	3	7.89%	On average, critical care nurses tended to agree less that they have enough time to discuss patient care problems with other nurses (weighted average 2.56 vs 2.36)
	2:Agree	77	32.08%	15	39.47%	
	3:Disagree	61	25.42%	10	26.32%	
	4:Strongly Disagree	15	6.25%	6	15.79%	
	No Response	60	25.00%	4	10.53%	
	Average		2.36		2.56	
Enough registered nurses to provide quality patient care	1:Strongly Agree	13	5.42%	0	0.00%	On average, critical care nurses tended to agree less that there is enough registered nurses to provide quality patient care (weighted average 2.21 vs 2.83)
	2:Agree	53	22.08%	7	18.42%	
	3:Disagree	66	27.50%	13	34.21%	
	4:Strongly Disagree	49	20.42%	14	36.84%	
	No Response	59	24.58%	4	10.53%	
	Average		2.83		3.21	

Enough staff to get the work done	1:Strongly Agree	15	6.25%	0	0.00%	On average, critical care nurses tended to disagree more that there that their unit has enough staff to get the work done (weighted average 3.09 vs 2.80)
	2:Agree	52	21.67%	8	21.05%	
	3:Disagree	68	28.33%	15	39.47%	
	4:Strongly Disagree	46	19.17%	11	28.95%	
	No Response	59	24.58%	4	10.53%	
	Average		2.80		3.09	
Physicians and nurses have good working relationships	1:Strongly Agree	40	16.67%	3	7.89%	There is little difference between responses from critical care nurses and all nurses responding to this survey question
	2:Agree	115	47.92%	27	71.05%	
	3:Disagree	23	9.58%	4	10.53%	
	4:Strongly Disagree	3	1.25%	0	0.00%	
	No Response	59	24.58%	4	10.53%	
	Average		1.94		2.03	
A lot of team work between nurses and physicians	1:Strongly Agree	45	18.75%	5	13.16%	There is little difference between responses from critical care nurses and all nurses responding to this survey question
	2:Agree	98	40.83%	24	63.16%	
	3:Disagree	35	14.58%	5	13.16%	
	4:Strongly Disagree	2	0.83%	0	0.00%	
	No Response	60	25.00%	4	10.53%	
	Average		1.97		2.00	
Collaboration (joint practice) between nurses and physicians	1:Strongly Agree	47	19.58%	5	13.16%	On average, critical care nurses tended to disagree less that their unit has collaboration between nurses and physicians (weighted average 3.62 vs 3.96)
	2:Agree	93	38.75%	24	63.16%	
	3:Disagree	37	15.42%	5	13.16%	
	4:Strongly Disagree	4	1.67%	0	0.00%	
	No Response	59	24.58%	4	10.53%	
	Average		3.96		3.62	

Nurses were asked to consider the statements in the following table in relation to their work and indicate responses regarding how they feel each is present in their unit and the RNs they work with. Responses from participants that completed all or part of the survey were included. There are six possible responses based on six-point scale (1:Strongly Agree, 2:Agree, 3:Tend to Agree, 4:Tend to Disagree, 5:Disagree; and 6:Strongly Disagree). A weighted average was calculated by dividing the sum of the product of the response values and number of responses by total number of responses. The weighted average response value can be used to compare responses from critical nurses to those of all participants. Since critical care nurses reported more frequent contact with COVID-19 patients, responses are likely influenced by this.

Table C. 2 │Results of the JES

Survey Question	Response	All Nurses		Critical Care Nurses		
		Number of Responses	Percent of Responses	Number of Responses	Percent of Responses	
As RNs, we are fairly well satisfied with our jobs on our unit	1:Strongly Agree	18	7.50%	1	2.63%	On average, critical care nurses tend to disagree more that nurses on their unit are satisfied with their jobs (weighted average 4.00 vs 3.24)
	2:Agree	41	17.08%	4	10.53%	
	3:Tend to Agree	43	17.92%	10	26.32%	
	4:Tend to Disagree	34	14.17%	6	15.79%	
	5:Disagree	18	7.50%	5	13.16%	
	6:Strongly Disagree	16	6.67%	8	21.05%	
	No Response	70	29.17%	4	10.53%	
	Average		3.24		4.00	
RNs on our unit would not consider taking another job	1:Strongly Agree	10	4.17%	2	5.26%	On average, critical care nurses tended to disagree more that nurses on their unit would not consider taking another job (weighted average 4.44 vs 4.05)
	2:Agree	22	9.17%	1	2.63%	
	3:Tend to Agree	23	9.58%	5	13.16%	
	4:Tend to Disagree	41	17.08%	7	18.42%	
	5:Disagree	42	17.50%	10	26.32%	
	6:Strongly Disagree	32	13.33%	9	23.68%	
	No Response	70	29.17%	4	10.53%	
	Average		4.05		4.44	

I have to force myself to come to work much of the time	1:Strongly Agree	13	5.42%	4	10.53%	On average, critical care nurses tended to agree more that they have to force themselves to come to work much of the time (weighted average 3.29 vs 3.88)
	2:Agree	21	8.75%	5	13.16%	
	3:Tend to Agree	36	15.00%	7	18.42%	
	4:Tend to Disagree	29	12.08%	10	26.32%	
	5:Disagree	44	18.33%	5	13.16%	
	6:Strongly Disagree	26	10.83%	2	5.26%	
	No Response	71	29.58%	5	13.16%	
	Average		3.88		3.39	

RNs on our unit are enthusiastic about our work almost every day	1:Strongly Agree	13	5.42%	2	5.26%	On average, critical care nurses tended to feel that RNs on their unit are less enthusiastic about their work than nurses in general (weighted average 4.21 vs 3.61)
	2:Agree	28	11.67%	2	5.26%	
	3:Tend to Agree	41	17.08%	6	15.79%	
	4:Tend to Disagree	35	14.58%	8	21.05%	
	5:Disagree	37	15.42%	9	23.68%	
	6:Strongly Disagree	16	6.67%	7	18.42%	
	No Response	70	29.17%	4	10.53%	
	Average		3.61		4.21	

RNs on our unit like our jobs better than the average RN does	1:Strongly Agree	17	7.08%	1	2.63%	On average, critical care nurses tended to disagree more that RNs on their unit like their jobs better than the average RN (weighted average 3.65 vs 3.22)
	2:Agree	43	17.92%	6	15.79%	
	3:Tend to Agree	44	18.33%	11	28.95%	
	4:Tend to Disagree	29	12.08%	5	13.16%	
	5:Disagree	26	10.83%	8	21.05%	
	6:Strongly Disagree	11	4.58%	3	7.89%	
	No Response	70	29.17%	4	10.53%	
	Average		3.22		3.65	

I feel that each day on my job will never end	1:Strongly Agree	12	5.00%	2	5.26%	On average, critical care nurses tended to agree more than they feel each day on their job will never end (weighted average 3.56 vs 3.73)
	2:Agree	20	8.33%	5	13.16%	
	3:Tend to Agree	44	18.33%	10	26.32%	
	4:Tend to Disagree	38	15.83%	9	23.68%	
	5:Disagree	41	17.08%	5	13.16%	
	6:Strongly Disagree	16	6.67%	3	7.89%	
	No Response	69	28.75%	4	10.53%	
	Average		3.73		3.56	

We find real enjoyment in our work on our unit						
	1:Strongly Agree	26	10.83%	0	0.00%	On average, critical care nurses tended to agree less that they find enjoyment in their work on their unit than nurses in general (weighted average 3.38 vs 3.05)
	2:Agree	39	16.25%	9	23.68%	
	3:Tend to Agree	47	19.58%	14	36.84%	
	4:Tend to Disagree	31	12.92%	3	7.89%	
	5:Disagree	16	6.67%	5	13.16%	
	6:Strongly Disagree	12	5.00%	3	7.89%	
	No Response	69	28.75%	4	10.53%	
	Average		3.05		3.38	

Nurses were asked to consider each of the questions in the following table about their current work situation and indicate responses with regard to how often they had these feelings over the last month. The table includes responses from all participants that completed all or part of the survey. There are five possible responses based on five-point scale (1:Never, 2:Rarely, 3:Sometimes, 4:Often, and 5:Very Often). A weighted average was calculated by dividing the sum of the product of the response values and number of responses by total number of responses. The weighted average response value can be used to compare responses from critical nurses to those of all participants. Since critical care nurses reported more frequent contact with COVID-19 patients, responses are likely influenced by this experience.

Table C. 3 │ Results of the Pro-QOL Scale

Survey Question	Response	All Nurses		Critical Care Nurses		
		Number of Responses	Percent of Responses	Number of Responses	Percent of Responses	
I am happy	1:Never	2	0.83%	1	2.63%	On average critical care nurses were slightly less happy with their current work situation (weighted average response is 3.29 vs 3.74)
	2:Rarely	15	6.25%	7	18.42%	
	3:Sometimes	51	21.25%	9	23.68%	
	4:Often	63	26.25%	15	39.47%	
	5:Very Often	42	17.50%	2	5.26%	
	No Response	67	27.92%	4	10.53%	
	Average		3.74		3.29	
I am preoccupied with more than one person I have cared for	1:Never	8	3.33%	1	2.63%	There is little difference between responses from critical care nurses and all nurses responding to this survey question
	2:Rarely	31	12.92%	4	10.53%	
	3:Sometimes	62	25.83%	14	36.84%	
	4:Often	51	21.25%	13	34.21%	
	5:Very Often	16	6.67%	2	5.26%	
	No Response	72	30.00%	4	10.53%	
	Average		3.21		3.32	

I get satisfaction by being able to care for people	1:Never	1	0.42%	0	0.00%	Critical care nurses often get satisfaction caring for people, but on average, they reported slightly less satisfaction than all responding nurses (weighted average response is 4.03 vs 4.24)
	2:Rarely	2	0.83%	0	0.00%	
	3:Sometimes	30	12.50%	10	26.32%	
	4:Often	60	25.00%	13	34.21%	
	5:Very Often	78	32.50%	11	28.95%	
	No Response	69	28.75%	4	10.53%	
	Average		4.24		4.03	
I feel connected to others	1:Never	2	0.83%	0	0.00%	On average critical care nurses feel slightly less connected to others than nurses in general (weighted average response is 3.74 vs 3.91)
	2:Rarely	10	4.17%	2	5.26%	
	3:Sometimes	42	17.50%	12	31.58%	
	4:Often	63	26.25%	13	34.21%	
	5:Very Often	53	22.08%	7	18.42%	
	No Response	70	29.17%	4	10.53%	
	Average		3.91		3.74	
I jump or am startled by unexpected sounds	1:Never	25	10.42%	5	13.16%	Critical care nurses generally jump or startle by unexpected sounds more than nurses in general (weighted average 2.88 vs 2.65)
	2:Rarely	67	27.92%	8	21.05%	
	3:Sometimes	37	15.42%	11	28.95%	
	4:Often	24	10.00%	6	15.79%	
	5:Very Often	17	7.08%	4	10.53%	
	No Response	70	29.17%	4	10.53%	
	Average		2.65		2.88	
I feel invigorated after working with those that I have cared for	1:Never	6	2.50%	1	2.63%	On average, critical care nurses feel slightly less invigorated after working with those they care for than nurses in general (weighted average 3.12 vs 3.35)
	2:Rarely	32	13.33%	6	15.79%	
	3:Sometimes	59	24.58%	16	42.11%	
	4:Often	42	17.50%	10	26.32%	
	5:Very Often	31	12.92%	1	2.63%	
	No Response	70	29.17%	4	10.53%	
	Average		3.35		3.12	

I find it difficult to separate my personal life from my life as a nurse	1:Never	18	7.50%	2	5.26%	There is little difference between responses from critical care nurses and all nurses responding to the survey
	2:Rarely	65	27.08%	13	34.21%	
	3:Sometimes	53	22.08%	10	26.32%	
	4:Often	20	8.33%	5	13.16%	
	5:Very Often	15	6.25%	4	10.53%	
	No Response	69	28.75%	4	10.53%	
	Average		2.70		2.88	
I am not as productive at work because I am loosing sleep over traumatic experiences of a person I cared for	1:Never	50	20.83%	5	13.16%	On average critical care nurses are not as productive at work because they are losing sleep over traumatic experiences of a person they cared for (weighted average response 2.35 vs 2.02)
	2:Rarely	81	33.75%	17	44.74%	
	3:Sometimes	30	12.50%	8	21.05%	
	4:Often	6	2.50%	3	7.89%	
	5:Very Often	4	1.67%	1	2.63%	
	No Response	69	28.75%	4	10.53%	
	Average		2.02		2.35	
I think that I might have been affected by the traumatic stress of those that I have cared for	1:Never	34	14.17%	3	7.89%	On average critical care nurses think that they might have been affected by the traumatic stress of those that they have cared for more than nurses in general (weighted average 3.24 vs 2.60)
	2:Rarely	46	19.17%	5	13.16%	
	3:Sometimes	58	24.17%	13	34.21%	
	4:Often	20	8.33%	7	18.42%	
	5:Very Often	13	5.42%	6	15.79%	
	No Response	69	28.75%	4	10.53%	
	Average		2.60		3.24	
I feel trapped by my job as a nurse	1:Never	51	21.25%	6	15.79%	On average critical care nurses feel trapped by their job as a nurse more than nurses in general (weighted average 2.88 vs 2.39)
	2:Rarely	48	20.00%	7	18.42%	
	3:Sometimes	35	14.58%	10	26.32%	
	4:Often	25	10.42%	7	18.42%	
	5:Very Often	11	4.58%	4	10.53%	
	No Response	70	29.17%	4	10.53%	
	Average		2.39		2.88	
Because of my job as a Nurse I have felt "on edge" about various things	1:Never	31	12.92%	2	5.26%	On average critical care nurses have felt more "on edge" about various things because of their job as a nurse (weighted average 3.32 vs 2.80)
	2:Rarely	34	14.17%	4	10.53%	
	3:Sometimes	57	23.75%	15	39.47%	
	4:Often	34	14.17%	7	18.42%	
	5:Very Often	14	5.83%	6	15.79%	
	No Response	70	29.17%	4	10.53%	
	Average		2.80		3.32	

I like my work as a nurse	1:Never	2	0.83%	0	0.00%	Critical care nurses often like their work as a nurse less than nurses in general (weighted average 3.65 vs 3.92)
	2:Rarely	6	2.50%	1	2.63%	
	3:Sometimes	50	20.83%	15	39.47%	
	4:Often	58	24.17%	13	34.21%	
	5:Very Often	55	22.92%	5	13.16%	
	No Response	69	28.75%	4	10.53%	
	Average		3.92		3.65	
I feel depressed because of the traumatic experiences of the people that I cared for	1:Never	48	20.00%	4	10.53%	On average critical care nurses feel more depressed because of the traumatic experiences of the people they have cared for than nurses in general (weighted average 2.82 vs 2.30)
	2:Rarely	52	21.67%	9	23.68%	
	3:Sometimes	49	20.42%	13	34.21%	
	4:Often	15	6.25%	5	13.16%	
	5:Very Often	7	2.92%	3	7.89%	
	No Response	69	28.75%	4	10.53%	
	Average		2.30		2.82	
I feel as though I am experiencing the trauma of someone that I cared for	1:Never	52	21.67%	5	13.16%	On average critical care nurses feel as though they are experiencing the trauma of someone that they have cared for more than nurses in general (weighted average 2.74 vs 2.24)
	2:Rarely	54	22.50%	11	28.95%	
	3:Sometimes	40	16.67%	10	26.32%	
	4:Often	14	5.83%	4	10.53%	
	5:Very Often	8	3.33%	4	10.53%	
	No Response	72	30.00%	4	10.53%	
	Average		2.24		2.74	
I have beliefs that sustain me	1:Never	5	2.08%	2	5.26%	On average critical care nurses have less beliefs that sustain them than nurses in general (weighted average 3.53 vs 4.08)
	2:Rarely	9	3.75%	4	10.53%	
	3:Sometimes	33	13.75%	7	18.42%	
	4:Often	44	18.33%	16	42.11%	
	5:Very Often	79	32.92%	5	13.16%	
	No Response	70	29.17%	4	10.53%	
	Average		4.08		3.53	
I am pleased with how I am able to keep up with nursing techniques and protocols	1:Never	3	1.25%	1	2.63%	On average critical care nurses feel slightly less pleased with how they are able to keep up with nursing techniques and protocols than nurses in general (weighted average 3.53 vs 3.69)
	2:Rarely	14	5.83%	3	7.89%	
	3:Sometimes	47	19.58%	11	28.95%	
	4:Often	73	30.42%	15	39.47%	
	5:Very Often	32	13.33%	4	10.53%	
	No Response	71	29.58%	4	10.53%	
	Average		3.69		3.53	

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I am the person that I always wanted to be	1:Never	2	0.83%	0	0.00%	On average critical care nurses feel less like they are the person that they always wanted to be than nurses in general (weighted average 3.26 vs 3.66)
	2:Rarely	14	5.83%	4	10.53%	
	3:Sometimes	57	23.75%	18	47.37%	
	4:Often	63	26.25%	11	28.95%	
	5:Very Often	33	13.75%	1	2.63%	
	No Response	71	29.58%	4	10.53%	
	Average		3.66		3.26	
My work makes me feel satisfied	1:Never	3	1.25%	2	5.26%	On average critical care nurses feel less satisfied by their work than nurses in general (weighted average 3.26 vs 3.70)
	2:Rarely	12	5.00%	2	5.26%	
	3:Sometimes	58	24.17%	17	44.74%	
	4:Often	56	23.33%	11	28.95%	
	5:Very Often	40	16.67%	2	5.26%	
	No Response	71	29.58%	4	10.53%	
	Average		3.70		3.26	
I feel worn out because of my work as a nurse	1:Never	13	5.42%	0	0.00%	Critical care nurses often feel worn out because of their work as a nurse than nurses in general (weighted average 4.00 vs 3.46)
	2:Rarely	24	10.00%	2	5.26%	
	3:Sometimes	41	17.08%	7	18.42%	
	4:Often	54	22.50%	14	36.84%	
	5:Very Often	37	15.42%	11	28.95%	
	No Response	71	29.58%	4	10.53%	
	Average		3.46		4.00	
I have happy thoughts and feeling for those that I cared for and how I could help them	1:Never	0	0.00%	0	0.00%	One average critical care nurses have less happy thoughts and feelings about those they have cared for and how they could help them than nurses in general (weighted average 3.53 vs 3.82)
	2:Rarely	8	3.33%	4	10.53%	
	3:Sometimes	54	22.50%	12	31.58%	
	4:Often	68	28.33%	14	36.84%	
	5:Very Often	39	16.25%	4	10.53%	
	No Response	71	29.58%	4	10.53%	
	Average		3.82		3.53	
I feel overwhelmed because my workload seems endless	1:Never	14	5.83%	1	2.63%	Critical care nurses feel more often overwhelmed because their workload seems endless than nurses in general (weighted average 3.62 vs 3.12)
	2:Rarely	34	14.17%	4	10.53%	
	3:Sometimes	61	25.42%	10	26.32%	
	4:Often	40	16.67%	11	28.95%	
	5:Very Often	21	8.75%	8	21.05%	
	No Response	70	29.17%	4	10.53%	
	Average		3.12		3.62	

I believe that I can make a difference through my work	1:Never	2	0.83%	0	0.00%	On average critical care nurses have less belief that they can make a difference through their work than nurses in general (weighted average 3.44 vs 3.85)
	2:Rarely	15	6.25%	4	10.53%	
	3:Sometimes	44	18.33%	15	39.47%	
	4:Often	55	22.92%	11	28.95%	
	5:Very Often	54	22.50%	4	10.53%	
	No Response	70	29.17%	4	10.53%	
	Average		3.85		3.44	
I avoid certain activities or situations because they remind me of freighting experience of people I have cared for	1:Never	72	30.00%	9	23.68%	Critical care nurses are more likely to avoid certain activities or situations because they remind them of frightening experiences of the people they have cared for (weighted average 2.38 vs 1.99)
	2:Rarely	53	22.08%	12	31.58%	
	3:Sometimes	28	11.67%	7	18.42%	
	4:Often	9	3.75%	3	7.89%	
	5:Very Often	8	3.33%	3	7.89%	
	No Response	70	29.17%	4	10.53%	
	Average		1.99		2.38	
I am proud of what I do to care for people in the hospital	1:Never	2	0.83%	0	0.00%	On average critical care nurses are proud of what they can do to care for people in the hospital slightly less often than nurses in general (weighted average 3.85 vs 3.94)
	2:Rarely	5	2.08%	0	0.00%	
	3:Sometimes	41	17.08%	12	31.58%	
	4:Often	66	27.50%	15	39.47%	
	5:Very Often	48	20.00%	7	18.42%	
	No Response	78	32.50%	4	10.53%	
	Average		3.94		3.85	
As a result of my job I have intrusive, freighting thoughts	1:Never	76	31.67%	9	23.68%	Critical care nurses have intrusive frightening thoughts as a result of their job more often than nurses in general (weighted average 2.35 vs 1.93)
	2:Rarely	50	20.83%	12	31.58%	
	3:Sometimes	25	10.42%	8	21.05%	
	4:Often	9	3.75%	2	5.26%	
	5:Very Often	7	2.92%	3	7.89%	
	No Response	73	30.42%	4	10.53%	
	Average		1.93		2.35	
I feel "bogged down" by the system	1:Never	26	10.83%	1	2.63%	Critical care nurses often feel "bogged down" by the system (weighted average 3.71 vs 3.08)
	2:Rarely	29	12.08%	4	10.53%	
	3:Sometimes	48	20.00%	11	28.95%	
	4:Often	35	14.58%	6	15.79%	
	5:Very Often	30	12.50%	12	31.58%	
	No Response	72	30.00%	4	10.53%	
	Average		3.08		3.71	

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I have thought that I am a "success" as a nurse	1:Never	3	1.25%	1	2.63%	On average critical care nurses have thought that they are a "success" as a nurse slightly less often than nurses in general (weighted average 3.47 vs 3.66)
	2:Rarely	16	6.67%	3	7.89%	
	3:Sometimes	50	20.83%	13	34.21%	
	4:Often	66	27.50%	13	34.21%	
	5:Very Often	34	14.17%	4	10.53%	
	No Response	71	29.58%	4	10.53%	
	Average		3.66		3.47	
I cannot recall important parts of my work with traumatic victims	1:Never	61	25.42%	7	18.42%	On average critical care nurses cannot recall important parts of their work with trauma victims more often than nurses in general (weighted average 2.32 vs 1.98)
	2:Rarely	60	25.00%	15	39.47%	
	3:Sometimes	33	13.75%	7	18.42%	
	4:Often	9	3.75%	4	10.53%	
	5:Very Often	2	0.83%	1	2.63%	
	No Response	75	31.25%	4	10.53%	
	Average		1.98		2.32	
I am a very caring person	1:Never	2	0.83%	0	0.00%	There is little difference between responses from critical care nurses and all nurses responding to this survey question
	2:Rarely	1	0.42%	0	0.00%	
	3:Sometimes	22	9.17%	3	7.89%	
	4:Often	62	25.83%	18	47.37%	
	5:Very Often	84	35.00%	13	34.21%	
	No Response	69	28.75%	4	10.53%	
	Average		4.32		4.29	
I am happy that I chose to do this work	1:Never	3	1.25%	0	0.00%	Critical care nurses are slightly less happy that they chose to do this work than nurses in general (weighted average 3.62 vs 3.96)
	2:Rarely	11	4.58%	3	7.89%	
	3:Sometimes	43	17.92%	12	31.58%	
	4:Often	45	18.75%	14	36.84%	
	5:Very Often	67	27.92%	5	13.16%	
	No Response	71	29.58%	4	10.53%	
	Average		3.96		3.62	

Figure C.1 below shows the percentage of participants who selected each of the response options for the first JES statement: as RNs we are fairly well satisfied with our job on our units. The responses of critical care nurses (orange), nurses with 0-20 years of experience (grey), and all participants (blue) are exhibited, and all participant responses were included in this figure, including those left blank. This figure shows a strong correlation between the responses of the nurses with 0-20 years of experience and all nurses. Although, most critical/intensive care nurses tended to agree with the statement, there were more critical/intensive care nurses that selected "disagree" or "strongly disagree" compared to the other groups. Overall, the critical/intensive care nurses tended to respond more negatively to this statement, indicating potential for less job satisfaction.
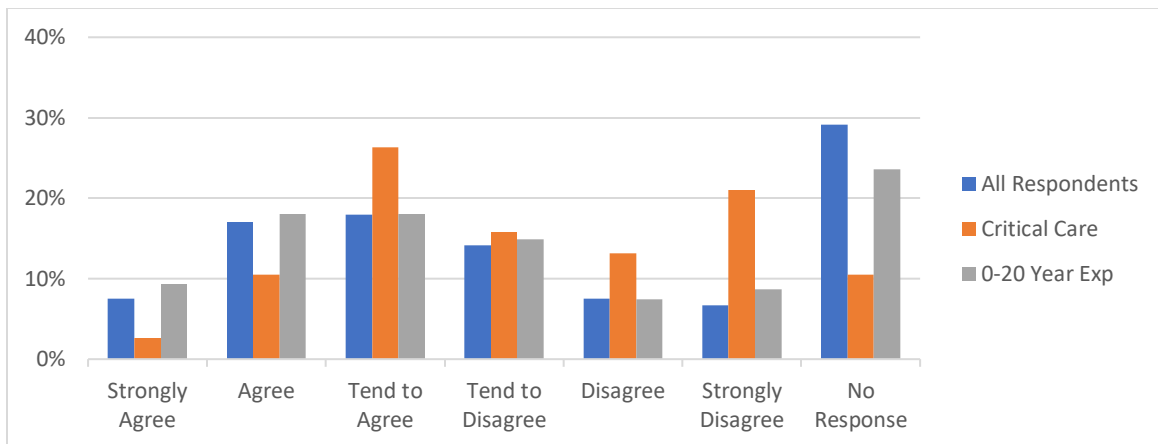
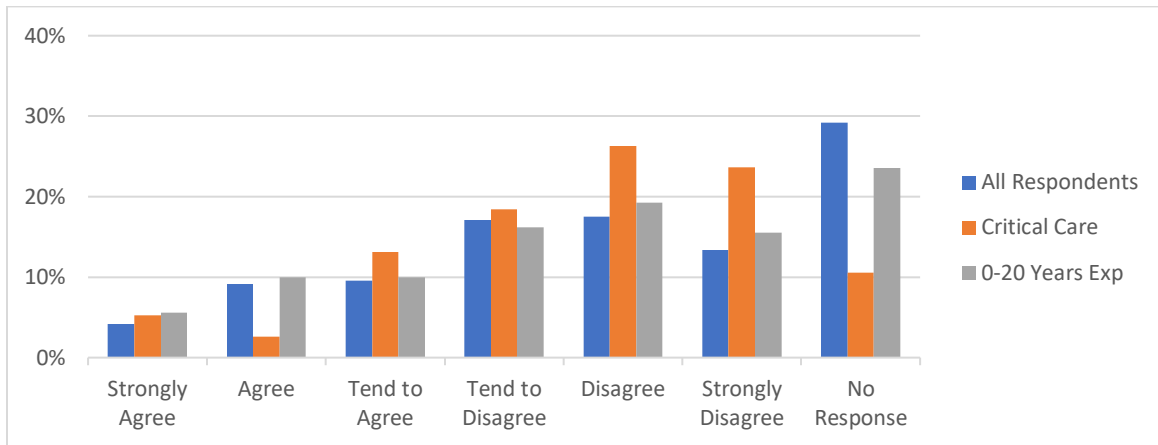*Figure C. 1 │JES Question 1*

Figure C.2 below shows the percentage of participants who selected each of the response options for the second JES statement: RNs on our unit would not consider taking another job. The responses of critical care nurses (orange), nurses with 0-20 years of experience (grey), and all participants (blue) are exhibited, and all participant responses were included in this figure, including those left blank. This figure shows a strong correlation between the responses of the

nurses with 0-20 years of experience and all nurses. Most of the critical/intensive care nurses

selected "disagree," and many others chose "tend to disagree" or "strongly disagree." Overall,

the critical/intensive care nurses tended to respond more negatively to this statement, indicating

potential for less job satisfaction.

Figure C. 2 │JES Question 2

Figure C.3 below shows the percentage of participants who selected each of the response

options for the third JES statement: I have to force myself to come to work much of the time.

The responses of critical care nurses (orange), nurses with 0-20 years of experience (grey), and

all participants (blue) are exhibited, and all participant responses were included in this figure,

including those left blank. This figure shows a similar response of the nurses with 0-20 years of

experience and all nurses. Although most of the critical/intensive care nurses selected "tend to

disagree," the combined responses to either "tend to agree," "agree," or "strongly agree" was a

larger total percentage of critical/intensive care participants. Overall, the critical/intensive care

nurses tended to respond more negatively to this statement, indicating potential for less job
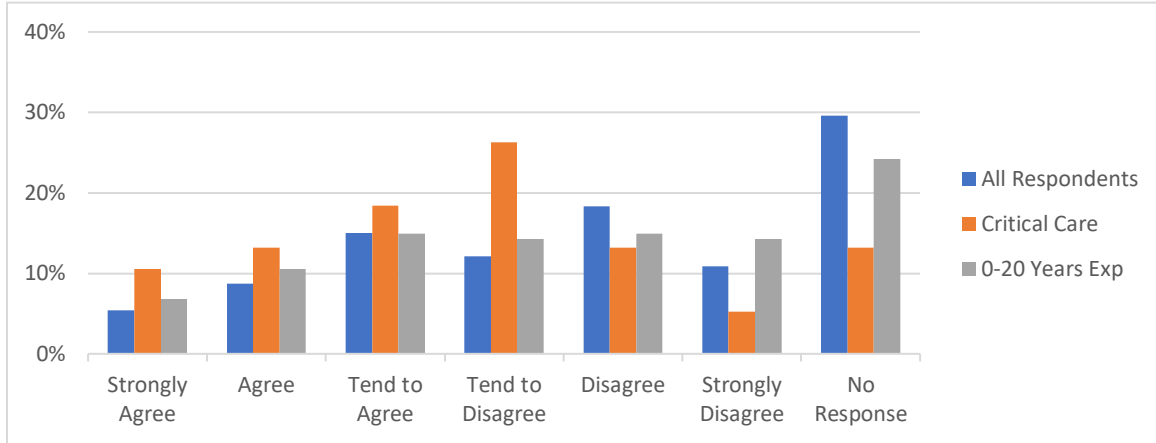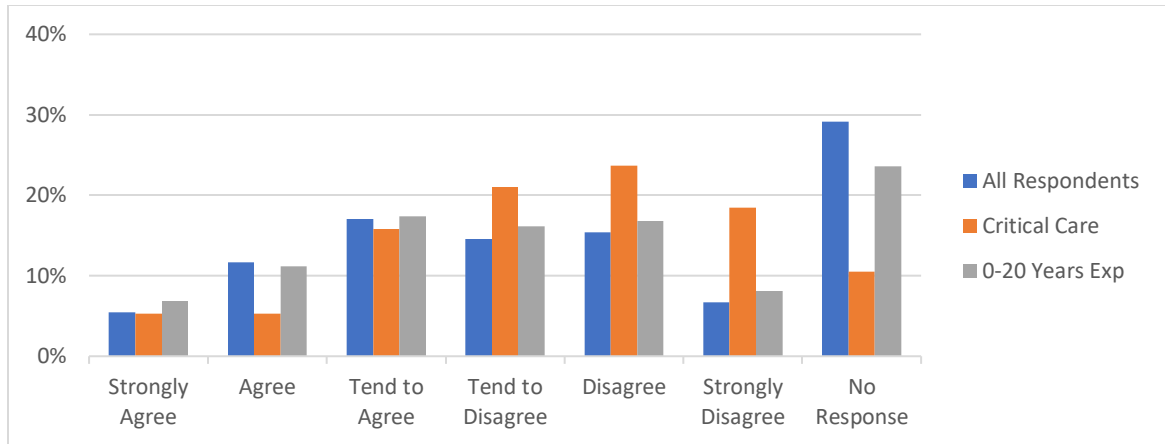
satisfaction.

Figure C. 3 │JES Question 3

Figure C.4 below shows the percentage of participants who selected each of the response options for the fourth JES statement: RNs on our unit are enthusiastic about our work. The responses of critical care nurses (orange), nurses with 0-20 years of experience (grey), and all participants (blue) are exhibited, and all participant responses were included in this figure, including those left blank. This figure shows a strong correlation between the responses of the nurses with 0-20 years of experience and all nurses. Most of the critical/intensive care nurses selected one of the disagreeing answers: "tend to disagree," "disagree," or "strongly disagree." Overall, the critical/intensive care nurses tended to respond more negatively to this statement, indicating potential for less job satisfaction.

Figure C. 4 │JES Question 4

Figure C.5 below shows the percentage of participants who selected each of the response options for the fifth JES statement: RNs on our unit like our jobs better than the average RN does. The responses of critical care nurses (orange), nurses with 0-20 years of experience (grey), and all participants (blue) are exhibited, and all participant responses were included in this figure, including those left blank. This figure shows a strong correlation between the responses of the nurses with 0-20 years of experience and all nurses. Most of the critical/intensive care nurses selected "tend to agree," or "agree." However, their responses were less positive compared to that of the nurses with 0-20 years of experience or all respondents, as they had significantly fewer selections of the "strongly agree" response, and they had many selections of the "disagree" response.
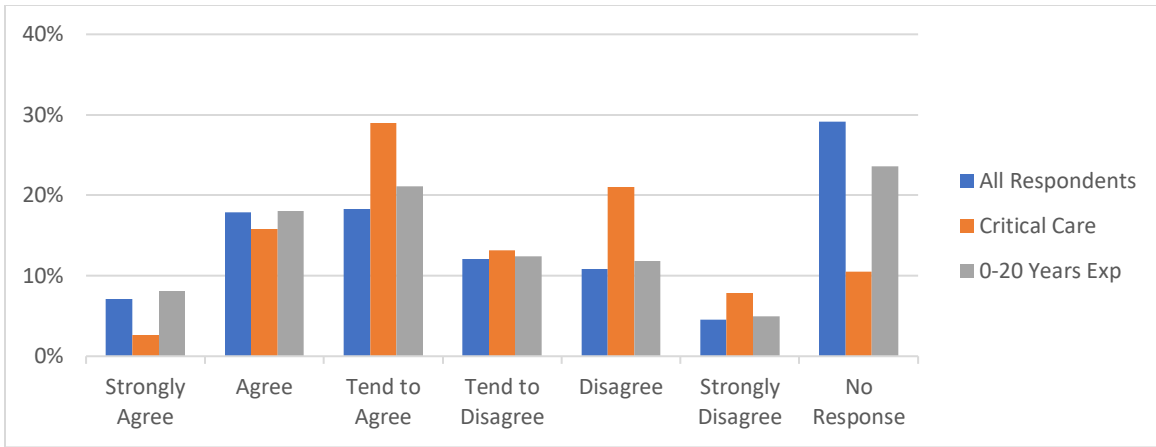
Figure C. 5 │JES Question 5

Figure C.6 below shows the percentage of participants who selected each of the response options for the sixth JES statement: I feel that each day on my job will never end. The responses of critical care nurses (orange), nurses with 0-20 years of experience (grey), and all participants (blue) are exhibited, and all participant responses were included in this figure, including those left blank. This figure shows a strong correlation between the responses of the nurses with 0-20 years of experience and all nurses. Most of the critical/intensive care nurses selected either: "tend to agree" or "tend to disagree." Overall, most of the critical/intensive care nurses tended to respond more negatively to this statement, indicating potential for less job satisfaction.
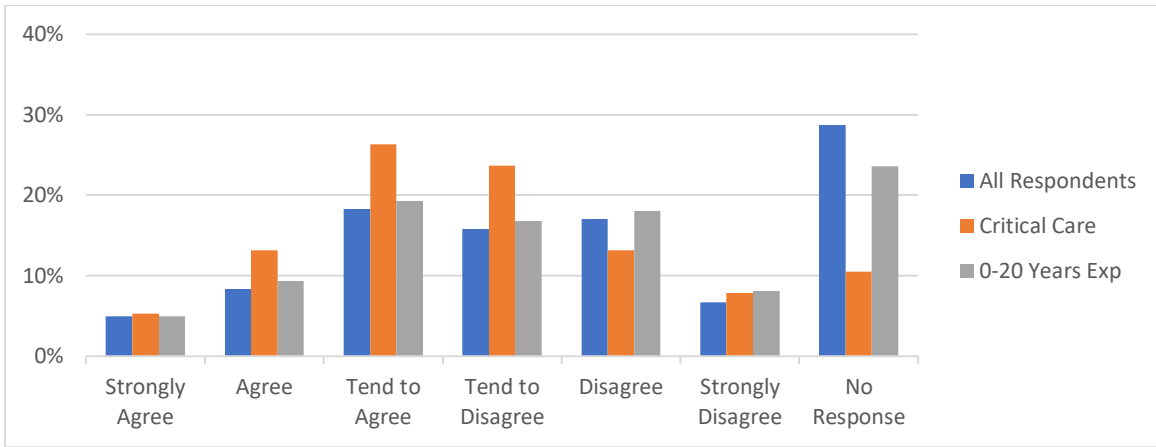
Figure C. 6 │JES Question 6

Figure C.7 below shows the percentage of participants who selected each of the response options for the seventh JES statement: We find real enjoyment in our work on our unit. The responses of critical care nurses (orange), nurses with 0-20 years of experience (grey), and all participants (blue) are exhibited, and all participant responses were included in this figure, including those left blank. This figure shows a strong correlation between the responses of the nurses with 0-20 years of experience and all nurses. Most of the critical/intensive care nurses selected either "agree" or "tend to agree." However, their responses were still less positive compared to the nurses with 0-20 years of experience or all respondent, as the critical/intensive care nurses had no selections of the "strongly agree" response, while quite a few selected the "disagree" response.
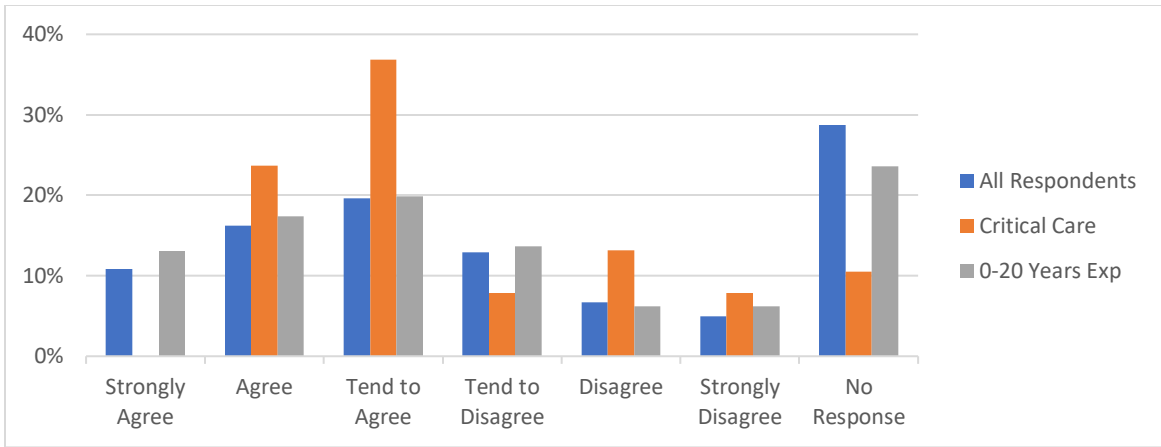
Figure C. 7 │JES Question 7