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Stress Levels Amongst Home Health Care Workers Following the COVID-19 Omicron Variant

By

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Abstract

The purpose of this quantitative correlation survey study was to probe the effect on home healthcare staff's perceived stress levels while working after the identification of the COVID-19 Omicron variant and while examining the Social Cognitive Theory. The research question was: What are the differences in the amount of stress amongst home healthcare workers, in the Mid-Atlantic Region of the United States, after the identification of the COVID-19 Omicron variant? The Perceived Stress Scale (PSS) survey and a demographic questionnaire were administered to 121 home health care professionals. Data was collected over a two-week period. The PSS survey was utilized to calculate stress scores and the demographic questionnaire was utilized to obtain characteristics of the study participants. Quantitative analysis was utilized to determine if any demographic characteristics were predictors of stress. Two of the nine demographic characteristics (age and the total number of years in a current profession) were shown to have a significant correlation to predicting stress. A positive trend was found indicating that those who identified as being White experienced increased stress levels. These findings lead to the suggestion of several implications for home health agencies to adopt to ultimately lower stress levels, across the board, for their field staff employees.

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Chapter 1

The Problem and Its Setting

Introduction

The novel coronavirus, also known as the coronavirus disease of 2019, and hereafter referred to as COVID-19, was first identified by Chinese health authorities on January 7, 2020. Shortly after, on January 20, 2020, in the state of Washington, the first positive case of COVID-19 was identified in the United States (Holshue et al., 2020). The first individual positively identified with COVID-19 in the United States traveled to Wuhan, China to visit family during the time which Chinese health authorities identified the virus. When this individual sought medical treatment after their return to the United States, the American healthcare worker experienced their first interaction with the virus. Many unknowns surfaced and the initiation of fear, stress, anxiety, depression, and an overall decline in mental health among most healthcare workers began. Approximately 2.5 years later, as of June 15, 2022, there were 534,495,291 globally confirmed cases and 6,311,088 globally confirmed deaths (World Health Organization, 2022). Thus, the COVID-19 pandemic rapidly impacted the entirety of the health community, health agencies, and health organizations, along with their workers, across the United States. As a result, the direct and indirect battle between the COVID-19 pandemic and the American healthcare worker has created a significant risk of negative mental health outcomes for the workers themselves (Hennein, Mew, & Lowe, 2021).

The term mental health describes an individual's emotions, social well-being, and their psychological state of mind. Experiencing a deficit in mental health is frequently common throughout one's lifetime. During times of distress, a person's problem-solving

skills, mood, and behavior can be negatively altered, both personally and professionally (Centers for Disease Control, 2022a). Mental health disorders typically stem from the occurrence of change in a person's environmental stability. This results in feeling anxious and unsafe (Usher, Durkin, & Bhullar, 2020). Individuals respond differently to mental health disorders. Yet, signs and symptoms frequently surface to hint towards the identification that one is undergoing a mental change. When classifying a mental health disorder, different types include anxiety disorders, behavioral disorders, eating disorders, mental health and substance use disorders, mood disorders, obsessive-compulsive disorder, personality disorders, psychotic disorders, suicidal behavior, and trauma and stress related disorders. Further evaluation of the above categorical types of mental health disorders, lies more specific mental health diagnoses (National Alliance on Mental Illness, 2022).

Due to the prevalence and complexity of mental health disorders in today's society, clinicians and researchers utilize The Diagnostic and Statistical Manual of Mental Health Disorders, fifth edition, (DSM V) to help improve the diagnosis, treatment, and classification of mental health disorders. The DSM V is composed of three major components: the diagnostic classification (official list of mental health disorders recognized in DSM V), the diagnostic criteria set (indication of symptoms that must be present for each disorder included in DSM V), and the descriptive text (accompanies each disorder) (APA, 2022). Together, these three components assist clinicians and researchers in navigating the myriad number of recognized mental health disorders to properly address individualized cases.

When speaking in terms of the COVID-19 pandemic, especially during the initial months of its discovery, there was no clear understanding on the cause, transmission of the virus, or recovery from the virus. This added the element of fear into society and heightened the potential risk of mental health conditions, including anxiety, in healthy individuals and in those with pre-existing mental health conditions (Ren, Gao, & Chen, 2020, Rubin and Wessley, 2020). Specifically, to healthcare workers, the extra elements of exposure and vulnerability, decrease in availability of personal protective equipment, and lack of pandemic protocols within their working facilities, placed them at an even higher risk of developing a mental health disorder, during the COVID-19 pandemic.

Therefore, the risk to healthcare workers was formally recognized by the World Health Organization, which was of great importance. These are the individuals that, on a daily basis, are on the frontlines battling the virus and caring for those that the virus infected. Also, it is important to note, that recognition of this increased potential impact would allow for mediations to treat stress and anxiety, help prevent burnout, and decrease the risk of long-term depression and post-traumatic stress disorder (Cullen, Gulati, & Kelly 2020). Overall, a clear-minded, focused, and resilient healthcare worker would be a greater asset to the communities they serve because they would be more capable of providing optimal care to their patients and clients. This would ultimately assist in the establishment of a stronger and more secure foundation for overcoming a global pandemic (Alnazly et al., 2021).

Despite this recognition by the World Health Organization, healthcare workers continue to feel the impact of COVID-19 on a daily basis. In fact, the impact of their emotional stress has been on a roller-coaster wave of ups and downs, with multiple peaks

of resurgence, since January 2020. The effect of emotional fluctuation occurred as a result of the multiple variants of COVID-19 that surfaced and the resultant rise in positively identified patients. One of the highly contagious variants of COVID-19 is the Delta variant, lineage number: B.1.617.2. This variant was first identified in India in December 2020 and quickly traveled to the United States, where as of November, 2021, has accounted for more than 99% of positive COVID-19 cases (Katella, 2021). As healthcare workers transitioned from a state of emotional distress from the initial COVID-19 virus, they were struck with the Delta variant. Unfortunately, after several months of dealing with the Delta variant, there has been a newly identified COVID-19 variant, the Omicron variant (Karim and Karim, 2021).

On November 26, 2021, the World Health Organization (WHO) classified a new variant, lineage number: B.1.1.529, as a Variant of Concern and named it Omicron on November 30, 2021. The Omicron variant was first identified in South Africa and the first positive case in the United States was found on December 1, 2021. As of January 8, 2022, the Omicron variant has accounted for 98.3% of identified positive cases, whereas the Delta variant has decreased to 1.9% of the positively identified cases (Centers for Disease Control, 2022b). As a Variant of Concern, there is evidence of an increase in transmissibility, more severe disease, significant reduction in neutralization by antibodies, reduced effectiveness of treatments or vaccines, and diagnosis detection failures (World Health Organization, 2021). Thus, a shift in emotional security to normalcy to distress is repeating.

The identification of the Omicron variant occurred at the same time as a continued campaign to increase the COVID-19 vaccination rate among the United States

population. Increasing the vaccination rate, by increasing vaccine acceptance of initial, second, and booster shots, has been identified as a primary method to control the severity of COVID-19 (Neumann-Böhme et al., 2020). Despite this knowledge and active education by government and healthcare professionals to the American public, vaccination hesitancy or rejection continues to be present (Kose et al., 2020). The root cause of hesitation or rejection to receiving the vaccine can potentially be due to the identified decrease in vaccine effectiveness and immunity against the Delta and Omicron variants. Yet, with vaccination, a continued protection against hospitalization and death has remained consistently high (Johnson, et al., 2022). Therefore, those who remain unvaccinated are vulnerable to not only testing positive for COVID-19, but also are more likely to be hospitalized due to the severity of symptoms they may experience. COVID-19 associated hospitalizations rates compared between fully vaccinated persons with additional or booster doses to those who remained unvaccinated indicate that those who remain unvaccinated throughout the pandemic and after its current identified variants were sixteen times more likely to be hospitalized than those who received the vaccine (Centers for Disease Control, 2022c). This increase in hospitalizations could potentially lead to an increased demand on healthcare workers, and thus impact their stress levels and mental health.

Since the establishment of healthcare within a society, individuals learned a particular skill, of the medical field, for the purpose of serving others in their community. The goal of these trained health professionals was to maintain or restore physical, mental, and/or emotional health, to those they provided care to. The purpose of the healthcare worker was to provide care to other individuals for the greater good of their society.

Therefore, when one thinks of the healthcare worker, they frequently refer to them by the patients or clients they treat, rather than the actual well-being of the healthcare workers themself.

There are a myriad of environments and arenas within the medical field. One particular division of healthcare, which was established to assist individuals in attaining a high-quality level of care within their own home, is referred to as home healthcare. Home healthcare is then broken down into divisions based on age, insurance, and/or disability. A population that receives a majority of home healthcare services is age 65 years and older. There are criteria in order to qualify for home healthcare. For instance, under Medicare Part A, a patient or client must be deemed homebound and unable to either access a medical facility for treatment or have the inability to withstand the physical demands of exiting their home independently and safely without assistance of another individual or an assistive device. However, under Medicare part B, patients can receive home health services, such as Physical, Occupational, and Speech therapies, while not being considered homebound (Medicare and Medicaid Services, 2022a).

In addition to these demands, since the introduction of the novel coronavirus within the United States, the classification of being homebound significantly changed (Centers for Medicare and Medicaid Services, 2021). This is partly due to many social restrictions on individuals, as well as within healthcare facilities, that were put in place by local, state, or federal governments to slow the spread of the virus (Chen, Chevalier, & Long, 2021). Thus, now more than ever, individuals are staying at home. (Quinn et al., 2021). Therefore, patients are being seen by their providers more frequently than ever through a computer or cell phone screen, by means of telemedicine (Almathami, Win, &

Vlahu-Gjorgievska, 2020). Telemedicine has played a vital role in diagnosis, triage, and treatment since the start of the COVID-19 pandemic (Chunara et al., 2021). It is with this, that the healthcare arena of home healthcare has significantly grown (Palladino, 2021). Along with growth comes added stressors to those who provide these services (Shechter et al., 2020).

With growth comes an increase in demand. Thus, concerning home healthcare workers, numerous added stressors resulted due to the COVID-19 pandemic. For example, an increase in patient caseload led to a heightened responsibility to travel to additional client's homes and increased the amount of documentation they were required to complete on a daily basis. This resulted in the potential for scheduling conflicts with personal responsibilities such as childcare. In addition, when treating a COVID-19 positive patient, home health care workers were required to don and doff their personal protective equipment outside of their car, in all types of weather, in order to safely enter the patient's home. Furthermore, home health care workers were required to identify not only if the individual they were treating was displaying any signs or symptoms of COVID-19, but they were also required to identify if any other individuals living in the home were displaying signs or symptoms of COVID-19 so that they could safely treat the patient. This highlights that the medical care these individuals were providing was being held in the patient's own home environment and not a medical health facility where strict cleaning protocols were established. Therefore, the mental health of the home healthcare worker could be significantly impacted on multiple levels. The purpose of this study is to analyze the similarities and differences of stress levels amongst these workers, utilizing demographic characteristics, after the identification of the most recent COVID-19

Omicron variant. Trends suggest that there will be continued growth within the home healthcare setting, therefore an in-depth investigation into this topic is warranted (Palladino, 2021).

Theoretical Framework

In-depth analysis of the literature identified a major and unique psychological theory, in conjunction with the current research, on the COVID-19 pandemic and the stressors that affect healthcare workers. The identified emerging theory is termed Social Cognitive Theory (SCT). SCT explains the interactions between the behavioral and personal factors of the healthcare worker, with the fluid changes that occur in their environmental factors, and the important role that coping self-efficacy plays in their reactions toward stress (Joseph et al., 2016). Self-efficacy is a construct that refers to the level of a person's confidence in his or her ability to successfully perform a desired behavior (Joseph et al., 2016).

Social Cognitive Theory

One of the primary constructs of social cognitive theory (SCT) is self-efficacy. Self-efficacy is described as “one’s conviction in their ability to successfully execute a behavior in order to achieve a desired outcome despite obstacles or barriers” (Joseph et al, p. 359). When speaking about healthcare workers during the COVID-19 pandemic, and referring to SCT, one term that frequently surfaces is coping self-efficacy. Coping self-efficacy is described as the perceived capacity to control one’s daily functions and activities while adapting to alterations in environmental demands under stressful conditions (Maykrantz et al., 2021). As COVID-19 transitioned into the United States and citizens across the country were infected with the virus, alterations in environmental

factors within the healthcare setting rapidly occurred. For example, prior to COVID-19, masks were not required to be worn within medical facilities, adherence to social distancing was abnormal, hand sanitizer stations were present, but not as populated throughout an area, and the absence of vaccination verification documentation or a vaccination passport did not prohibit an individual from entering a facility (Gostin, Cohen, & Shaw, 2021). However, once COVID-19 was a major concern for health officials in the United States, and still to this day, all of the above descriptions are accurate for the current social environment (Kim and Liu, 2022).

Specifically, for healthcare workers, the immediate shift in their daily operations was the use of required personal protective equipment (PPE). PPE includes: gloves, face masks, air-purifying respirators, goggles, face shields, respirators, and gowns (Livingston, Desai, & Berkwits, 2020). Especially in the early onset of COVID-19, PPE was in short supply and healthcare facilities and organizations were frantically seeking to obtain appropriate PPE for their workers (Livingston, Desai, & Berkwits, 2020). As the virus progressed, changes in required PPE for healthcare workers also changed (Livingston, Desai, & Berkwits, 2020). Various PPE tiers were drafted and dependent on the potential, or known, severity level of the interaction between the healthcare worker and COVID-19, the appropriate tiered level PPE would be worn (Livingston, Desai, & Berkwits, 2020). This ranged from a simple surgical/comfort mask to a full face-piece self-contained breathing apparatus with a totally encapsulated chemical and vapor protective suit and an inner and outer chemical-resistant hand and foot coverings (Livingston, Desai, & Berkwits, 2020).

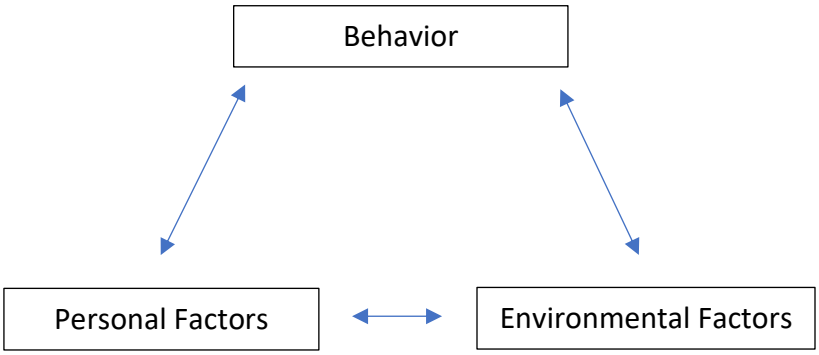


Figure 1. Social Cognitive Theory adapted from iSALT Team, (2014).

Although there eventually became a universal protocol for PPE (Centers for Disease Control, 2022c), for the healthcare professionals who were working at the beginning of the pandemic, fluctuations in their PPE requirement changed daily. This, along with unknown transmission pathways and witnessing critically ill patients, and even death, led to an overload of work-related stress. As a result, post-traumatic stress then became an additional mental health concern. SCT and coping self-efficacy explain that an individual's control over the threat (stress) greatly influences their ability to combat the experienced environmental changes. Elevated self-efficacy (control over the threat) tends to lead towards less experienced stress. Decreased self-efficacy (neglect over a threat) tends to lead towards higher experienced stress due to the overestimation of the threat and thus increased worriedness of a negative outcome (Zhou, Guan, & Sun, 2021).

Conceptual Framework

In this study, a modern day, major alteration in normal health behavior will be examined. With the introduction of COVID-19 in the United States of America, primarily toward the end of January 2020 on the west coast, and towards the beginning of March 2020 on the east coast, healthcare professionals were ambushed with a shift in not only

their weekly or daily operations, but also, in many instances, their hourly operations. The novel coronavirus was not well-studied and little information about the virus was available. Sources listed the virus as being airborne, yet later changing it to being transmitted via droplets. The ability for the virus to live on different types of surfaces was questioned. The overhaul of uncertainty led to the wide use of personal protective equipment, which then quickly became a shortage. Life as almost all Americans knew it, was changed. A state of panic, fear of the unknown, and stress developed. As a result of the above, for healthcare workers, pandemic induced stress began to surface within their professional roles. This was accelerated with the identification of the Omicron variant (Dhar et al, 2022).

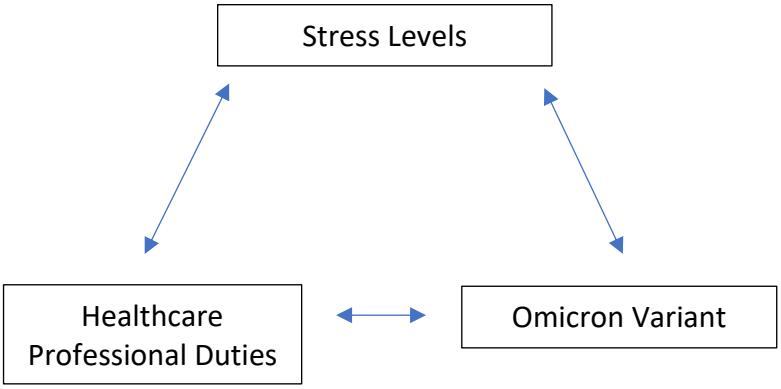


Figure 2. Social Cognitive Theory as it relates to the COVID-19 Omicron variant and stressors placed on home healthcare workers.

The Figure 2 illustrates the ability to complete the professional responsibilities of the professionals examined within the study (Physical Therapist, Occupational Therapist, Speech Therapist, Licensed Practical Nurse (LPN), and Registered Nurse (RN)), to their altered stress levels as a result of the COVID-19 Omicron variant. It links the basis of Social Cognitive Theory to this study. In addition, it displays how changes in one or more factors can alter the performance of another.

During the time following the introduction of the pandemic, healthcare operations varied on a constant basis. For instance, protocols that were being followed at one instance were frequently and rapidly changed to an alternative due to newly discovered information about COVID-19 and its variants. This led to a decline in individual healthcare worker's mental health and professional job outcomes (Pearman et al., 2020). Consistency is important for not only improving mental health, but also for maintaining good mental health (Huang et al., 2020). When an expectation is known, and there is a plan or schedule to follow, individuals have a tendency to feel comfort (Santarone, McKenney & Elkbuli, 2020). Thus, with frequent operational changes, health care workers were exposed to potentially experience increased levels of mental health distress which could ultimately impact their professional duties and outcomes.

Purpose Statement

The purpose of this quantitative correlation survey study was to probe the effect on home healthcare staff's perceived stress levels while working after the identification of the COVID-19 Omicron variant and while examining the Social Cognitive Theory. The medical disciplines of Physical Therapy (PT), Occupational Therapy (OT), Speech Therapy (ST), Licensed Practical Nurse (LPN), and Registered Nurse (RN) were asked to participate. The study aimed to explore the relationships between demographic characteristics (gender, age, race, relationship status, educational level, years of experience in home health care, years of experience in current profession, number of individuals in each participant's current household, and whether or not participants had children) and stressors affecting participant's mental health following the completion of the Perceived Stress Scale (PSS) instrument. At this time, stressors were defined as a

feeling of being upset as a result of something that happened unexpectedly, ability to handle personal problems, feeling that life situations are out of a participant's own control, inability to cope, and anger as a result of situations occurring outside of your control. Mental health was defined as emotional, psychological, and social well-being (Centers for Disease Control, 2022c).

Research Question

What are the differences in the amount of stress amongst home healthcare workers, in the Mid-Atlantic Region of the United States, after the identification of the COVID-19 Omicron variant?

Sub-Problems of the Study

1. What is the difference in PSS scores among gender?
2. What is the relationship between in PSS scores among age?
3. What is the difference in PSS scores among race?
4. What is the difference in PSS scores among relationship status?
5. What is the difference in PSS scores among educational level?
6. What is the relationship between in PSS scores among years of experience in home health care?
7. What is the relationship between in PSS scores among years of experience in a current profession?
8. What is the difference in PSS scores among the total number of individuals living in a current household?
9. What is the difference in PSS scores between individuals with and without children?

Hypotheses

1. Null Hypothesis (H_o) - The demographic characteristics of employees in home healthcare, residing in the Mid-Atlantic Region of the United States, including gender, age, race, relationship status, educational level, years in home healthcare, years in current profession, number of people in current household and having children do not predict stress levels after the identification of the COVID-19 Omicron variant.
2. Alternative Hypothesis (H_1) – The demographic characteristics of employees in home healthcare, residing in the Mid-Atlantic Region of the United States, including gender, age, race, relationship status, educational level, years in home healthcare, years in current profession, number of people in current household and having children predict stress levels after the identification of the COVID-19 Omicron variant.

Definition of Terms

- Healthcare workers – One who delivers care and services to the sick and ailing either directly as doctors and nurses or indirectly as aides, helpers, laboratory technicians, or even medical waste handlers (Joseph and Joseph, 2016). In this study, healthcare workers will include, Physical Therapists (PTs), Occupational Therapists (OTs), Speech Therapist (STs), Licensed Practical Nurse (LPNs), and Registered Nurses (RNs).
- Physical Therapist (PT) – Movement experts who improve quality of life through prescribed exercise, hands-on care, and patient education (APTA, 2022). In this

study, a Physical Therapist is a healthcare worker, employed by BAYADA Home Healthcare, that services clients within their own living environment.

- Occupational Therapist (OT) – Help people across the lifespan participate in the things they want and need to do through therapeutic use of everyday activities (occupations) (AOTA, 2022). In this study, an Occupational Therapist is a healthcare worker, employed by BAYADA Home Healthcare, that services clients within their own living environment.
- Speech Therapist (ST) – Also known as a Speech-Language Pathologist, work to prevent, assess, diagnose, and treat speech, language, social communication, cognitive-communication, and swallowing disorders in children and adults (ASHA, 2022). In this study, a Speech Therapist is a healthcare worker, employed by BAYADA Home Healthcare, that services clients within their own living environment.
- Licensed Practical Nurse (LPN) – A person who has undergone training and obtained a license (as from a state) conferring authorization to provide routine care for the sick (Merriam Webster, 2021). In this study, a Licensed Practical Nurse is a healthcare worker, employed by BAYADA Home Healthcare, that services clients within their own living environment.
- Registered Nurse (RN) – A graduate trained nurse who has been licensed by a state authority after qualifying for registration (Merriam Webster, 2021). In this study, a Registered Nurse is a healthcare worker, employed by BAYADA Home Healthcare, that services clients within their own living environment

- Stress – A state of mental tension and worry caused by problems in your life, work, etc. (Merriam Webster, 2021). In this study, stress is a feeling of emotional or physical tension and will be measured by the Perceived Stress Scale instrument. See Chapter 3 for additional information concerning the Perceived Stress Scale.
- COVID-19 Omicron Variant– A respiratory disease caused by SARS-CoV-2, lineage number: B.1.1.529, which is spread mainly from person to person through respiratory droplets produced when an infected person coughs, sneezes, or talks (Centers for Disease Control, 2021). In this study, the Omicron Variant will be referred to as a manifesting variety of the initial COVID-19 virus.
- Home healthcare – A wide range of health care services that can be given in one's home for an illness or injury (Centers for Medicare and Medicaid Services, 2021). For the purpose of the study, this phrase will describe health services by the professionals mentioned above within the patient's home environmental setting.

Delimitations

This study enrolled participants from one home healthcare agency, three divisions within the agency, and 19 total offices within the 3 divisions in Pennsylvania, New Jersey, Delaware, and Ohio that have been working within their current agency since December 2021. The participants in the study were males and females aged 27 to 71. The participants were delimited to working, direct patient care, physical therapists, occupational therapists, speech therapists, registered nurses, and licensed practical nurses.

Assumptions

For the purpose of this study, it was assumed that the individuals surveyed, filled out the survey honestly and independently. The researcher also assumed that the individuals who received a survey did not forward the online survey link to outside individuals to alter data results. Lastly, the researcher assumed that all participants understood the survey instructions and questions, thus allowing them to answer with full comprehension.

Significance of Study

Several related stress items should be considered when discussing the mental health of healthcare workers during the COVID-19 pandemic. Examples of stress items include insomnia, guilt, compulsive attention to COVID-19 related news, irritability, nightmares, avoidance of returning to work, and bereavement, to name a few (Alnazly et al., 2021). Thus, to avoid a long-term mental health impact and to decrease the potential for burnout and functional impairments at the workplace, it is suggested that the audience may implement several policies to protect the health of those that protect the health of their communities.

The first recommended policy is to implement mechanisms to support the mental health of healthcare workers (Autin et al., 2020). Suggestions include the approval of paid mental health day(s), decreasing shift lengths, providing the ability for healthcare workers to speak to mental health professionals, including therapists and psychologists, and an increase in pay rate or salary. By providing staff with one or multiple paid mental health day(s), healthcare workers can step aside from their place of employment without the guilt of using paid time off, vacation days, time off without pay, or personal time.

After their time away, they would return to work with a clearer mind and a fresh start to perform the job functions (Garcia et al., 2019). In addition, speaking to a mental health professional would open the opportunity for a healthcare worker to openly express the stressors they are experiencing in a safe and understanding environment (Santaron, McKenney, & Elkbuli, 2020). Mental health professionals would then be able to prescribe stress-relief methods and interventions for the healthcare worker to follow and practice during the performance of a job function and outside of their workplace.

Increasing the pay rate or salary of a healthcare professional would provide them with a greater incentive to perform their job functions (Larue, 2021). In dealing with stressors at the workplace, the healthcare worker would be able to refrain back to the focus of providing medical care to their clients, despite still placing themselves at risk. Aside from upholding their professional oaths and the medical obligations to provide care and do no harm, an increase in pay would allow them to identify their value to the company or organization they work for as well as provide a sense of relief for the potential weight of outside pressures and stressors (student loans, car payments, mortgages, child care, etc.) that they may experience. Although hazard pay was available and provided by many healthcare companies to their employees who treated patients that were positively diagnosed with COVID-19, it was an insufficient response to the daily physical, mental, and medical demands placed on healthcare workers (Hecker, 2020).

Finally, despite healthcare workers being known for their stamina and emotional resilience in the workplace, it is suggested that decreasing shift lengths would allow for a greater recovery time from the stressors experienced in the workplace. One study identified that an extended hourly duration of shift work was associated with a decrease

in safety measures. (Weaver et al., 2020). This placed healthcare workers at a greater risk of poor occupational health and outcomes. It also created a major concern for the health and safety of patients being treated by overworked healthcare staff (Celmece & Menekay, 2020). At the same time, it is also understood that as the pandemic timeline progresses, employment numbers are declining and there is a large need for additional healthcare employees to provide care (Bhandari et al., 2021). Thus, it may be difficult to decrease shift time without the availability of sufficient staffing numbers. Yet, this is important to note as staffing numbers may have declined due to the stressors experienced by healthcare workers who were unable to maintain a healthy mental status and therefore had to leave their job (Wilson et al., 2020). The above recommendations would decrease the risk of this occurring in the future.

With the addition of these policies, there would be a greater potential of decreased morbidity among healthcare workers. Employee satisfaction and retention should improve. A long-term mental health impact is avoided and the potential for burnout and functional impairments at the workplace are decreased.

Chapter 2

Literature Review

The literature involving healthcare workers, during the COVID-19 pandemic, and their mental health, or stress levels, was new and limited. Yet, where available, it was informative. All research studies related to the research question, in this particular study, were addressed during this literature review. In addition, those that related the research question to the theoretical framework were included.

Since the beginning of the pandemic, researchers focused on areas including social distancing and isolation and the impacts they have on physical health, social interactions, unemployment and professional fluctuations, and alterations in mental health that resulted due to the substantial changes that occurred in society. Data referenced throughout the review was consistently composed within the last two years. Search engines of scholarly databases utilized in this literature review included: Marywood University library website, PubMed/Medline, EBSCOhost Research Databases, Wiley Online Library, CINAHL, government websites and Google Scholar. Keywords utilized in the literature review included: home health care, health care worker, mental health, COVID-19 pandemic, COVID-19 Omicron variant, and stress. For the purposes of advancing the medical community, the objective of this literature review was to fill this gap and improve upon the mental health of the workers that compose the home health field, as it is not yet fully described.

Home Health Care

There are a myriad of environments and settings within the medical field. One particular division of health care services, which was established to assist individuals in

attaining a high-quality level of care within their own home, is referred to as home health care (Medicare and Medicaid Services, 2022b). The focus of home health care includes a wide variety of health care services. These services include, but are not limited to, wound care, therapeutic activities and exercises, memory and cognition training, patient and caregiver education, and nutritional and dietary training. Regardless of the service being provided, all aim at treating a particular illness or injury, to assist the patient in their continued want and desire to stay home, gain or regain independence, and attain their maximal level of function.

Home health care (HHC) is broken down into divisions based on age, insurance, and/or disability. One population that receives a majority of home health care services is aged 65 years and older. There are criteria to qualify for HHC (Medicare and Medicaid Services, 2022b). For instance, a patient or client must be deemed homebound and unable to either access a medical facility for treatment or have the inability to withstand the physical demands of exiting their home independently and safely without assistance of another individual or an assistive device.

In addition to these demands, since the introduction of the novel coronavirus within the United States, the classification of being homebound significantly changed (Centers for Medicare and Medicaid Services, 2021). This is partly due to many social restrictions on individuals, as well as within healthcare facilities, that were put in place by local, state, or federal governments to slow the spread of the virus (Chen, Chevalier, & Long, 2021). Thus, now more than ever, individuals are staying at home. (Quinn et al., 2021). Therefore, patients are being seen by their providers more frequently than ever through a computer or cell phone screen, by means of telemedicine (Almathami, Win, &

Vlahu-Gjorgievska, 2020). Telemedicine has become to play a vital role in diagnosis, triage, and treatment since the start of the COVID-19 pandemic (Chunara et al., 2021). It is with this, that the healthcare arena of home health care has significantly grown (Palladino, 2021). Along with growth comes added stressors to those who provide these services (Shechter et al., 2020).

Health Care Worker

The term healthcare worker, is a broad term used to describe individuals that work in a healthcare/medical setting. Thus, when generally speaking about healthcare workers, one is referring to individuals that are in direct and indirect contact and/or exposure with patients. These individuals provide medical care and assistance across multiple establishments including hospitals, clinics and doctor's offices, nursing and residential care, and social assistance or childcare services. According to the 2019 United States Census Bureau's American Community Survey, there were 22 million workers in the health care industry. It was determined, in this census, that the health care industry was one of the largest and fastest-growing sectors in the United Sates (Laughlin et al., 2021). Therefore, in the current year of 2022, it can be determined that more than 22 million American workers are fighting the COVID-19 pandemic from not only a personal and social aspect, but also from a professional aspect. A majority of health care professionals work in a hospital setting. However, further breakdown of the referenced census indicated that 1,483,000 of the 22 million workers were employed within the home health care services setting (United States Census Bureau, 2021).

In order to become a health care worker, one must have formal training and successfully complete formal education to gain specialized skills and extensive

knowledge on a specific field of medicine. After achieving the above standards, it is a common requirement for individuals to pass a formal board exam in order to gain licensure to legally treat the general public. Thus, the road to becoming a healthcare worker is rigorous and requires an individual to fully commit to their passion for serving the public through means of improving their health (University of St. Augustine for Health Sciences, 2021).

Some examples of healthcare workers include physicians, nurses, emergency medical personnel, dental professionals, laboratory technicians, pharmacists, hospital volunteers, administrative staff, therapists, social workers, and dietitians. It is important to note that the above examples do not account for all of the health practitioners and professionals (University of Colorado Boulder, 2022).

Mental Health

Mental health is used to describe an individual's emotions, social well-being, and their psychological state of mind. Experiencing a deficit in mental health is frequently common throughout one's lifetime. During times of distress, a person's problem-solving skills, mood, and behavior can be negatively altered, both personally and professionally (Centers for Disease Control, 2022a). Mental health disorders typically stem from the occurrence of change in a person's environmental stability. This results in feeling anxious and unsafe (Usher, Durkin, & Bhullar, 2020). Individuals respond differently to mental health disorders. Yet, signs and symptoms frequently surface to hint towards the identification that one is undergoing a mental change. After signs or symptoms of a mental change, in order to properly diagnosis a mental health disorder, an individual frequently undergoes a physical exam, laboratory testing, and a psychological evaluation.

Mental health disorders are diagnosed by a psychiatrist, psychologist, or general practitioner (MAYO Clinic, 2022).

The psychological, physical, and professional perspectives describes that each perspective has significantly impacted the mental health of the healthcare worker on a unique and distinctive level. Therefore, due to this impact, each is deserving of a further, in-depth, review.

Psychological Perspective

An abrupt shift in daily routine functions and operational differences frequently results in psychological distress and the inability to adequately and efficiently continue contributing to society as a frontline healthcare worker (Shechter, et al., 2020). Frustration, exposure, potential transmission to loved ones, long hours, and isolation, along with an initial unclear and unknown objective to battling COVID-19, are leading to symptoms of depression, anxiety, post-traumatic stress disorder, insomnia, and distress amongst these workers (Liu, et al., 2020). This is alarming as the long-term impact of depression and anxiety are well established with decreasing outcomes as conditions prolong. Not only are these medical conditions resulting in an altered mental state, but they are also contributing to employee burnout, higher rates of suicide, and a significant reduction in the work-life balance and overall quality of life (Pearman, et al., 2020).

As time passes, the COVID-19 pandemic has evolved both from a social and medical perspective. Healthcare workers have witnessed various stages of the pandemic including initial onset, pre-vaccination, and post vaccination. For reference purposes, with the arrival of the vaccination, healthcare workers in one study were found to have a 79.6% approval rating for recommending their patients to receive the vaccine. The same

study noted that 72.4% of the healthcare workers agreed to receive the vaccine (Verger, et al., 2021). The high percentages identified in this study indicate healthcare workers being pushed to their limits and the need for change within the medical community to shift towards global control of the virus. This need was met with the arrival of the vaccine. However, most recently, with the identification of the COVID-19 Delta and Omicron variants, vaccination breakthrough cases have occurred within communities and healthcare workers themselves (Bergwerk, et al., 2021). Thus, continued stressors on the psychological health of the healthcare worker are set to resurface. The reoccurrence can lead to both progressive mental manifestations and debilitating physical symptoms (Chew, et al., 2020).

Physical Perspective

Mental health considerations should always coincide any discussion on human physical changes. In order to ensure the health and safety of healthcare workers, both physical and mental health must be of high importance to the occupational healthcare of medical agencies and organizations (Namikawa, et al., 2021). As the pandemic progresses, physical demands on healthcare workers also advance. This includes their workload and caseload (Zhang, et al., 2020). Physical complaints based off of these demands include fever, intense fatigue, gastrointestinal symptoms, headaches, irritability, reduced appetite, and nasal symptoms (Verger, et al., 2021). Identification of these symptoms in healthcare workers has been studied and deemed to not be specifically from the COVID-19 virus, but yet from psychological stress that has resulted from physical demands and other factors including potential exposure as a result of lacking personal protective equipment (Namikawa, et al., 2021).

Due to these increasing demands, healthcare workers are being forced to be more active and productive for greater amounts of time. As noted above, this is limiting their work-life balance, causing physical distress, and limiting their ability to function at a higher level of care, and ultimately leading to the development of mental health disorders. To react against these issues, coping mechanism are utilized for improvement in function. Oddly enough, physical activity/exercise has been studied to be the most common coping method for mental health distress (Shechter, et al., 2020). Therefore, the healthcare workers, who are already experiencing physical exhaustion, are limited to participating in the most common coping method for mental health improvements due to their energy sources being depleted while working at their place of employment. This leads to the transition on how, from a professional perspective, healthcare workers are experiencing higher levels of stress and are then forced with decisions to make regarding their own general health (Baskin and Bartlett, 2021).

Professional Perspective

With the immediate onset of COVID-19 into the professional health community, fluctuations in employment and professional statuses began. From changes in daily operations, to acute and long-term physical effects on healthcare workers, job security, availability, retention of employees, and trajectory of employment were all effected (Godderis, Boone, & Bakusic, 2020). Healthcare workers experienced, and continue to experience, throughout the pandemic, “major simultaneous shifts” in their work environments (Verger, et al., 2021). In the earlier months of 2020, from a professional standpoint, few changes in healthcare occurred. However, as many employers began to swallow the impact COVID-19 was having on their businesses, changes began to occur.

Many healthcare professionals were furloughed due to a decline in patient/client census and to protect a business' financial future. Being deemed an essential or nonessential worker did not secure your employment. This major uncertainty played a large role in the increase of work-related stress and a decline of mental health for healthcare workers (Galbraith, et al., 2021). Employment is not just a source of income, but also an important aspect to provide an individual with a sense of confidence and self-esteem (Mimoun, Ari, & Margalit, 2020).

One option for many employers, due to the COVID-19 pandemic, was to offer their employees a work-from-home opportunity. Although this work setting may be suitable for certain professions within the medical field, the majority of professional healthcare interactions are required to occur in person. Despite this, telehealth appointments became the norm and there appears to be a continued demand this method of providing certain health services (Doraiswamy, et al., 2020). With this comes the further lack of social interaction, loneliness, and the increased likelihood of developing mental illnesses (Beutel, et al., 2017). Furthermore, decreasing in person-to-person interactions was found to heighten risks of depression, anxiety, suicidal ideation, health behavior, and health care utilization. (Beutel, et al., 2017). Although there is potential to increase access to healthcare by providing methods of telemedicine, a digital divide to access has been identified, especially in the elderly population (Frydman et al., 2021).

Stress

A person experiences stress during a situation when they perceive or calculate the demand of a situation that they are presented with to be greater than the resources to control or handle the same situation that are available to them (Gallagher et al., 2020). In

terms of health care workers battling the COVID-19 pandemic, there is an increased recognition of the need to examine stress and mental health impacts, but little empirical work on this topic has been completed (Gruber et al., 2021). Furthermore, it has been recognized that health care workers are exposed to higher levels of burden to care for their clients as a result of COVID-19 (Vivian, et al., 2021). Also, it is important to note that the COVID-19 pandemic has been described many ways. Descriptions of the COVID-19 pandemic range from unpredictable and lack of control to increased parenting responsibilities as a result of school and daycare closures (Gallagher et al., 2020). Therefore, it can be determined that experiencing COVID-19 on a personal level can increase levels of perceived stress and experiencing COVID-19 on a professional level can create a state of chronic pandemic related stress (Gallagher et al., 2020).

As a result of the above, it is vital to assess the perceived levels of stress amongst those individuals that face the pandemic on both a professional and personal level. Thus, in terms of stress related occurrences that health care workers experienced at a more severe level as a result of the COVID-19 pandemic, elevated stressful situations include higher healthcare demands, increased patient mortality, emotional and physical stress, perceived inadequate organizational support, increased risk of contracting the virus, and rationing of healthcare supplies (Maben and Bridges, 2020 and Preti et al., 2020). Performing daily work operations, while being exposed to some or all of the above-mentioned situations, results in negative impact on a health care workers' psychological health (Chirico and Magnavita, 2021).

Overall, healthcare workers experience direct contact with patients and this has been identified to elevate fear, depression, anxiety, and stress while working through the

COVID-19 pandemic (Alnazly et al., 2021). Social support for health care workers is a necessary coping mechanism to decrease these elevated levels and promote positive feelings (Alnazly et al., 2021). Therefore, this study aims to fill the gap on identifying the stress levels of home health care workers and ultimately can provide a basis for setting up or improving coping mechanisms for these health professionals.

COVID-19 Pandemic

Although the SARS-CoV-2 (COVID-19) virus is deemed the novel coronavirus, coronaviruses were first described in 1966 by Tyrell and Bynoe. Tyrell and Bynoe identified that coronaviruses were a spherical virion with a core shell and surface projections. Due to their findings, and resemblance to a solar corona, they were termed coronaviruses (Velavan & Meyer, 2020). Typically, coronaviruses infect non-human mammals and other animals. However, seven different subtypes can infect humans. Each type has one or more alterations to separate it from the other. Yet, all of the subtypes appear to affect the lungs. Out of these seven subtypes, the beta-coronavirus may cause severe disease and death in humans. SARS-CoV-2 is a beta-coronavirus (Zhou et al., 2020). SARS-CoV-2 was identified, in December 2019, following a pneumonia outbreak of unknown origin in Wuhan, Hubei Province, China. Following the rapid global spread and thousands of deaths as a result of the virus, the World Health Organization declared a pandemic on March 11, 2020 (Cucinotta and Vanelli, 2020).

Both symptomatic and asymptomatic human infections have been reported. In those who are symptomatic, symptoms typically begin in less than a week of initial infection and consist of fever, cough, nasal congestion, fatigue, other respiratory tract infections, decreased oxygen saturation rates, decreased taste or smell, muscle and body

aches, sore throat, and headache (Xie et al., 2020). Whether an individual is symptomatic or asymptomatic, they both have the potential to transmit the virus to other human beings. Viral transmission occurs with high-efficiency and infectivity mainly through the respiratory route. Droplet transmission is the main method of disease passage (Han et al., 2020).

An important scientific fact about SARS-CoV-2 is that the virus itself continuously changes its genetic code, or mutates, during its genome replication process (Ettaboina, Nakkala, & Laddha, 2021). Approximately a year after the initial discovery of COVID-19, the World Health Organization recognized the first major variant of the virus and named it the Delta (B.1.617.2) variant. A variant is any virus that has one or more mutations (Dhar et al., 2022). The variant became the most dominant type to be found in infected individuals and caused significantly worse symptoms in humans compared to the original virus. Approximately, one year after the discovery of the Delta variant, the World Health Organization identified a second major variant and named it Omicron (World Health Organization, 2021).

COVID-19 Omicron Variant

In the time since the initial onset of COVID-19, several major variants have been identified. Out of these new variants, the Omicron variant (B.1.1.529) is the most recent and common variant to be found in infected individuals, nearly two years after the initial onset of COVID-19. As of January 8, 2022, the Omicron variant has accounted for 98.3% of all positive coronavirus cases in the United States (Centers for Disease Control, 2022b). Although little is known about the epidemiology of the Omicron variant, it is certain that Omicron has abruptly altered the course of the pandemic. In addition, it is

known that the Omicron variant spreads more easily and rapidly than the original SARS-CoV-2 virus and the prior identified variants (Delta variant). In addition, the Omicron variant is predicted to be more dangerous than previous variants due to its ability and ease to mutate (Ettaboina, Nakkala, & Laddha, 2021). Having the capability to easily mutate translates to the potential for an excessive number of mutations compared to other variants and suggests that the Omicron variant highlights a different evolutionary branch from the prior prevalent variants (Mam et al., 2022).

Since the start of the COVID-19 pandemic, three different vaccines were engineered by Pfizer-BioNTech, Moderna, and Johnson & Johnson and then introduced into society to decrease the risk of sickness, death, and transmissibility. Vaccination included either a two-shot or a one-shot dose. In addition, booster shots were then potentially recommended 5 to 6 months after the completion of initial vaccination. Despite this, breakthrough cases have been identified. A breakthrough case is defined as a fully vaccinated person being infected with the virus (Dutta, 2020). With the Omicron variant, breakthrough cases have become more prevalent. This indicates a diminished effectiveness of the vaccination against the Omicron variant (Rio, Omer, & Malani, 2021). However, it is important to note that vaccines still have remained effective in preventing serious illness, hospitalization, and death (Saban, Myers, & Wilf-Miron, 2022).

Aside from vaccination, prior infection has led to gained immunity to the virus. Yet, as the Omicron variant is highly capable to produce an extensive number of mutations in the viral spike protein, there is raised concern that the virus might evade antibodies produced by prior infection or even vaccination. One study has identified that

the Omicron variant evaded neutralization by antibodies from those vaccinated with the Pfizer-BioNTech vaccine. Therefore, therapeutic antibodies have been found to be ineffective against the Omicron variant (Hoffmann et al., 2021). Identification of resistance has led to an increased positivity rate throughout the United States and has also contributed to increased anxiety, fear, and stress throughout the nation as the virus continues to disrupt daily operations across multiple aspects of life (Karim & Karim, 2021; Jain & Jolly, 2021).

Literature Review Conclusion

Conducting this literature review identified the lack of scholarly data available on the stressors that impacted HHC workers, as a result of the COVID-19 pandemic and specifically with the Omicron variant, along with the effect the stressors had on their mental health. Limitations of prior studies were utilized to expand upon during this study to enhance the literature and improve the healthcare profession. Many studies disregarded healthcare worker's perceived stress levels and variations that exist between different healthcare professions.

Thus, a gap in the literature was identified and the opportunity to fill this void exists within this study. Also, additional data is pertinent for correlation to the potential of future COVID-19 variant uprisings. Future uprisings are projected as COVID-19 vaccines are based on earlier identified strains of the virus, before mutations in spike proteins occur (Janik, et al., 2021). Thus, future variants are thought to be inevitable and pose a significant threat to humanity and healthcare (Kumar et al., 2021).

More research involving the COVID-19 pandemic and the effect it has on health care worker's mental health could bring light to improving employment satisfaction and

outcomes. This study is among the first of its kind to investigate HHC workers during the COVID-19 pandemic and probe and recover perceived stress levels across the various disciplines that compose this line of work.

Chapter 3

Methodology

Research Design

This quantitative correlation study, using a cross-sectional approach, was constructed to determine the perceived stress scores amongst home healthcare workers, within the home healthcare setting, after the identification of the COVID-19 Omicron variant. For this study, it was important to capture data within a single point in time as internal factors, such as employee availability, and external factors, such as social or global influences and issues, could impact participant responses and final results. Thus, the preferred method to obtain perceived stress scores was by administration of the Perceived Stress Scale (PSS) survey. The survey method was chosen as this was the most effective and efficient process to obtain large amounts of data, over a wide geographical region, while also being able to effectively analyze results. Data was collected by using the online survey platform Qualtrics, and was distributed to participants through their work email.

The independent variables (IV) were the obtained demographic information while the dependent variable (DV) was the perceived stress scores on the Perceived Stress Scale (PSS). The study did not utilize a control group as all participants were exposed to the COVID-19 pandemic within their professional careers.

Participants

The Sycamore Region of BAYADA Home Health Care was selected as the target population. This region consisted of 3 divisions (Cosmos, Iris, Peach Blossom) and 19 total offices (Berks County Visits (BRK), Harrisburg Visits (HAV), Lancaster County

Visits (LCV), Lehigh Valley Home Health (LVV), Northeast Ohio Home Health (NOV), Wilkes-Barre-Scranton Visits (WSV), Bucks County Senior Living (BCF), Central Pennsylvania Senior Living (CPF), Chester County Senior Living (CCF), Lehigh Valley Senior Living (LHF), Wilmington Senior Living (WIF), Bucks County (BC), Chester County Home Health (CHV), Media Home Health (MEV), Montgomery PA Home Health (MPV), Newark (NEW), Philadelphia North Visits (PNV), Peach Blossom Division (PBL), and Wilmington (WIL) across Pennsylvania, Delaware, and Ohio (BAYADA Home Health Care, 2022). The Sycamore Region employed approximately 900 medical professionals, within the home healthcare setting, and thus was selected for the study based on this criterion. Therefore, a census of the 900 participants, who were working in the home health setting, were asked to participate in the study. A notice was provided to the potential participants that no negative consequences, concerning employment status, rank, or position, within the company, would be affected if they chose not to participate in the study. In the same regard, no preference, or unfair bias, would result for those who do agree to participate. It was anticipated that approximately 185 PTs, 113 OTs, 25 STs, 243 RNs, and 30 LPNs would be asked to participate within the study out of the 900 employees due to inclusion and exclusion criteria.

Inclusion criteria

Participants for the study were limited to employment with BAYADA Home Health Care since November 2021 and of the Physical Therapist (PT), Occupational Therapist (OT), Speech Therapist (ST), Registered Nurse (RN), and Licensed Practical Nurse (LPN) profession who completed direct patient care. Inclusion criteria would also allow for all gender identifications and individuals of all age levels and races that had

been issued a BAYADA Home Health Care email address and had access to a computer, smartphone, tablet, or other mobile device with internet access.

Exclusion criteria

If an individual was of one of the listed professions, but not an employee with BAYADA Home Health Care since November 2021, they were excluded from the study. In addition, if an employee of BAYADA Home Health Care was one of the targeted professions in this study but did not complete direct patient care, and was therefore an office staff member, they were excluded from the study.

Recruitment

An email was sent to potential participants to inform them of the study purpose (Appendix A) and informed consent documentation (Appendix B). Active informed consent was obtained, prior to the initiation of the survey, and included information about what the participants would be asked to do, risks and benefits, confidentiality of respondents and results, and primary investigator and dissertation chair contact information.

Instruments

Two instruments were utilized within this study: the PSS and a demographic questionnaire. Stress is an emotion that cannot be clinically diagnosed and is therefore a perceived emotion (National Institute of Mental Health, 2022). The PSS is a developed tool, drafted in 1983, to measure the perception of stress (See Appendix C). This instrument assists researchers and medical professionals to measure an individual's personal stress on a variety of different situations which can potentially affect health and well-being (Marin-Farrona et al., 2020). The instrument is a 10-question survey to which

an individual rates their feelings or emotions on a Likert-scale of 0-4 (0 meaning never, 1 meaning almost never, 2 meaning sometimes, 3 meaning fairly often, and 4 meaning very often) (NH Department of Administrative Services, 2022). Scores on this assessment range from 0-40 with higher scores indicating higher perceived stress (NH Department of Administrative Services, 2022). Scores ranging from 0-13 are considered low stress (NH Department of Administrative Services, 2022). Scores ranging from 14-26 are considered moderate stress (NH Department of Administrative Services, 2022). Scores ranging from 27-40 are considered high perceived stress (NH Department of Administrative Services, 2022). Cohen and Williamson, (1988), initially reported that scores on the PSS demonstrated an internal reliability of ($\alpha = .78$) and moderate concurrent criterion validity with the amount of stress experienced during an average week ($r = .39$, $p < .05$). These concepts to evaluate research were again referenced in 2019 (Baik, et al., 2019).

The second instrument to be utilized in this study was a demographic questionnaire (See Appendix D). It included questions on gender (man, woman, non-binary or third gender, or agender), age (numerical value as a whole number), number of individuals living within the participant's household (numerical value as a whole number), highest level of education (less than a high school diploma, high school degree or equivalent (e.g., GED), some college experience with no degree, associate's degree, bachelor's degree, master's degree, and advanced degree (e.g., MD, PhD, DPT), race (Asian or Pacific Islander, Black or African American, Hispanic or Latino, Native American or Alaskan Native, White or Caucasian, or Multiracial or Biracial), years of experience in their profession (numerical value as a whole number), years of practice in home health care (numerical value as a whole number), children (yes or no) and current

relationship status (single / never married, dating, married or domestic partnership, divorced, widowed, or separated).

Concerning the above demographic questions, a demographic test-retest reliability coefficient was calculated by administering the demographic questionnaire to seven individuals and then readministering the same demographic questionnaire to the same seven individuals one week later. The primary researcher identified the test-retest participant responses by instructing participants to provide the last four digits of their cell phone number when submitting their demographic survey responses with each administration of the instrument. The test-retest reliability coefficient was calculated and determined to be 1.0 (perfect reliability). See Appendix E for raw data of the demographic test-retest reliability.

Procedures

The Institutional Review Board at Marywood University was asked, under the Exempt Review Committee (ERC), to allow for completion of this study as participation did not place individuals at any greater risk than their current activities of daily living and data was collected with no identifiable information. Next, permission was obtained from the BAYADA Home Health Care agency Cosmo, Iris, and Peach Blossom Divisional Directors via written proposal and signature (See Appendix F) to contact their employees via their individual employee work email addresses. Potential participant email addresses were obtained from the division directors following their written consent to contact their employees. Once the above was successfully completed, data collection began and potential participants were emailed an invitation to participate in the study. Recruitment emails were sent by this primary investigator through their own official BAYADA Home

Health Care email account and by blind copy. This included the recruitment information as described with the recruitment section above. Follow-up notifications to complete surveys were found to increase response rate (Sammut, Griscti, & Norman, 2021). Therefore, a follow-up email to participate within the study was sent two days following the initial contact (See Appendix G) and then again ten days after the initial contact (See Appendix H) (Crawford, Couper, and Lamias, 2001 and Qualtrics, 2022). The survey was open to participate for a total of two weeks and could be completed electronically on any computer, smartphone, tablet, or other mobile device with internet access. The survey link provided to all potential participants included a disabled Internet Protocol (IP) address so that potentially identifying numbers assigned to every network device were not collected. A response rate goal of 25% was set as an expected goal for responses is typically between 20% and 30% (Qualtrics, 2022).

Data was then collected, stored confidentially and analyzed utilizing IBM SPSS version 28. Data was stored for six months following the completion of the study and then destroyed immediately through deletion of electronic records. Only the primary investigator and their three dissertation committee members had access to data results.

Analysis of Data

After the survey period ended, data was exported for analysis using IBM SPSS version 28. The null hypothesis was then tested based on the statistical significance criteria of a pre-established (a priori) probability alpha (α) level of $\alpha = .05$.

Sub-Problems of the Study

1. What is the difference in PSS scores among gender?
2. What is the relationship between PSS scores among age?
3. What is the difference in PSS scores among race?
4. What is the difference in PSS scores among relationship status?
5. What is the difference in PSS scores among educational level?
6. What is the relationship between PSS scores among years of experience in home health care?
7. What is the relationship between PSS scores among years of experience in a current profession?
8. What is the difference in PSS scores among the total number of individuals living in a current household?
9. What is the difference in PSS scores between individuals with and without children?

Supplemental Analysis

1. Multiple regression was utilized to predict stress levels using the demographics.

Chapter 4

Results

Introduction

As previously stated, the purpose of this study was to probe the effect on home healthcare staff's perceived stress levels while working after the identification of the COVID-19 Omicron variant and while examining the Social Cognitive Theory. Following formal approval from the Marywood University IRB ERC, the data collection process began. Data collection took place over a two-week period, from February 28, 2022 to March 14, 2022.

Response Rate

This quantitative study intended to enroll 596 participants out of the total 900 targeted employees of the BAYADA Home Health Care Cosmos, Iris, and Peach Blossom divisions due to inclusion and exclusion criteria (Physical Therapists (n = 185), Occupational Therapists (n = 113), Speech Therapists (n = 25), Registered Nurses (n = 243), and Licensed Practical Nurse (n = 30)). Further breakdown of the total 900 targeted employees indicated that 596 of the individuals were classified as field staff employees providing direct patient care, while the other 304 employees were classified as office staff employees not providing direct patient care. This study focused on those individuals providing direct patient care.

During the data collection timeframe, the survey link for the study was sent three times to each of the 596 individuals in the potential participant pool. These emails were sent out with the second correspondence two days after the initial email and the third

request ten days after the initial email. The survey closed two weeks to the day after the initial request for participants.

Immediately following the closure of the survey, data was exported from Qualtrics directly into IBM SPSS Statistics 28. Upon initial review of the data, 129 out of the 596 potential participants opened and began the survey. However, out of these 129 potential participants only 121 individuals completed the survey in full. The remaining eight potential participants opened the survey, but did not complete it in its entirety. One of these eight potential participants did not consent to participate in this study (Case #104). An additional one of these eight potential participants agreed to informed consent, answered the Perceived Stress Scale questions, but then did not answer any demographic questions (Case #118). Five of the eight potential participants agreed to informed consent and then did not answer any additional survey questions (Cases: #90, #91, #120, #127, and #128). Finally, one of eight potential participants entered 391 total years of being in their current profession (impossible answer for this survey question) and did not submit an answer for the total number of years they have been practicing home health care. As a result of potential input error concerning this participant's responses, the primary researcher of this study was unable to determine, to the closest whole number, responses for this case. Therefore, to avoid inaccuracies with data analysis, this one case was also removed from the dataset (Case #8). To summarize, all of these eight identified cases were omitted from the data. These excluded cases resulted in 121 possible respondents for subsequent data analyses and a total survey response rate of 20.3%.

Data Preparation

Additional data preparation was required prior to completing further analyses. All of the 121 cases included in this study for further analyses were examined for normalcy and outliers. Case #45 answered all survey questions with the exception of "What is your gender?" and "Which of the following best describes your race?". Out of the 121 total cases included in this study, 80.0% of the cases identified themselves as female. Therefore, for case #45, the researcher inputted the identification marker of female into the omitted question This resulted in a total female population of 80.2%. Additionally, out of the 121 total cases included in this study, 90.0% of the cases identified themselves as White or Caucasian. Therefore, for case #45, the researcher inputted the identification marker of White or Caucasian into the omitted question. This resulted in a total White or Caucasian population of 90.1%.

Concerning the question, "What is the total number of years you have been practicing home health care?", case #83 answered "almost 4." The researcher inputted the number of years practicing home health care as "4" for this case. Additionally, case #35, case #108, #116 and case #121 indicated that they have been practicing home health care for less than one year. Therefore, the researcher inputted "0" for these cases as the question sought to identify the total number of years practicing home health care as a whole number. Finally, for this same question case #12 and case #74 did not submit an answer. The mean number of years participants were practicing home health care, with the answers that were submitted, was 10.04 (sd +/- 9.22), while the median was 7 years (0 – 37). Therefore, for case #12 and case #74, the researcher inputted 10 years for the total number of years participants were practicing home health care. This resulted in mean

number of years participants were practicing home health care as 10.04 (sd +/- 9.14), while the median continued to be 7 years (0 – 37).

In order to correctly score the participant responses on the Perceived Stress Scale survey, reverse scoring of the following survey questions was required: “In the last month, how often have you felt confident about your ability to handle your personal problems?”, “In the last month, how often have you felt that things were going your way?”, “The last month, how often have you been able to control irritations in your life?”, and “In the last month, how often have you felt that you were on top of things?” (NH Department of Administrative Services, 2022). Therefore, transformation into a different variable, with reverse scoring, was created for the above survey questions. As a result, when calculating the total perceived stress scores of the participants within this study, the recoded values for the above questions were utilized.

Demographics

After data preparation was finalized, demographic analysis on the 121 cases began (n = 121). Table 4.1 depicts a frequency distribution of gender including male and female.

Table 4.1

Participant Gender

Gender	*N*	Percent
Male	24	19.8
Female	97	80.2

The mean age of participants was 46.64 years old (sd +/- 11.03), while the median was 46 (27 – 71). See Appendix I for the frequency distribution of age.

Table 4.2 displays a frequency distribution of the total number of individuals living in the participants current household ranging from one to six. Most participants were living with a total number of two individuals in their current household.

Table 4.2

Total Number of Current Individuals Living in Participant's Household

Number of Individuals in Current Household	*N*	Percent
One	6	5.0
Two	39	32.2
Three	26	21.5
Four	37	30.6
Five	11	9.1
Six	2	1.7

Table 4.3 depicts a frequency distribution of highest level of education ranging from some college experience with no degree to an advanced degree (MD, PhD, DPT). Most participants had a maximum of a master's degree while only three had some college experience with no degree.

Table 4.3

Participant Highest Level of Education Received

Highest Level of Education	*N*	Percent
Some College / No Degree	3	2.5
Associate's Degree	11	9.1
Bachelor's Degree	37	30.6
Master's Degree	43	35.5
Advanced Degree	27	22.3

Table 4.4 shows a frequency distribution on the various participant's race identified within the study. Note that most participants (90.1%) identified as being White or Caucasian (*n* = 109).

Table 4.4

Participant Race

Race	*N*	Percent
Asian or Pacific Islander	5	4.1
Black or African-American	3	2.5
Hispanic or Latino	1	0.8
White or Caucasian	109	90.1
Multiracial or Biracial	3	2.5

The mean number of total years in participant's current profession was 20.41 years old (sd +/- 10.82), while the median was 20 (1 – 49). See Appendix J for the frequency distribution of total number of years in participant's current profession.

The mean number of total years participants were practicing home health care was 10.04 years old (sd +/- 9.14), while the median was 7 (0 – 37). See Appendix K for the frequency distribution of total number of years participants were practicing home health care.

Table 4.5 depicts a frequency distribution of whether or not participants had children. Most participants (81.8%) identified as having children (*n* = 99).

Table 4.5

Participant Response on Having Children

Children	*N*	Percent
Yes	99	81.8
No	22	18.2

Table 4.6 shows a frequency distribution on the current relationship status of the participants within the study. Note that most participants (76%) identified as being married or in a domestic partnership (*n* = 92).

Table 4.6

Participant Relationship Status

Relationship Status	*N*	Percent
Single or Never Married	6	5.0
Dating	6	5.0
Married or Domestic Partnership	92	76.0
Divorced	13	10.7
Widowed	3	2.5
Separated	1	0.8

Data Analysis

In order to study the relationships between perceived stress scores and the participant's gender, age, race, relationship status, total number of individuals living in their current household, educational level, years of experience in their current profession, years of experience in home health care, and whether or not the participants have children, ten sub-problems were explored. However, prior to sub-problem analysis, it was first important to determine the frequency distribution for perceived stress scores obtained from the study survey.

Stress Score

After completing the Perceived Stress Scale (PSS) instrument, each of the 121 participants provided data which allowed the primary investigator to calculate individual total perceived stress scores. The total perceived stress score, for each participant, was calculated utilizing the recoded variables, as noted within the data preparation section,

and the remaining PSS variables. The mean total perceived stress score was 22.38 (sd +/- 3.31), while the median was 23 (12 – 31). Appendix L displays a frequency distribution on the total perceived stress scores of the participants within the study.

In addition to the above, the calculated perceived stress scores were assigned to three separate categories. According to the PSS, the three separate categories were low stress (score ranging between 0-13), moderate stress (score ranging between 14-26), and high stress (score ranging between 27-40) (NH Department of Administrative Services, 2022). Note that most participants (89.3%) were identified as experiencing moderate stress levels (n = 108). Table 4.7 shows a frequency distribution on the categories of total perceived stress scores amongst the participants within the study.

Table 4.7

Categories of Total Perceived Stress Scores

Category	*N*	Percent
Low Stress	1	0.8
Moderate Stress	108	89.3
High Stress	12	9.9

Sub-Problem One

To determine the differences in perceived stress scores amongst the identified genders within the survey, a frequency distribution on total stress scores between males and females and other descriptive statistics were calculated. The mean total perceived stress score for males was 21.58 (sd +/- 4.17), while the median was 21 (12 – 31). The mean total perceived stress score for females was 22.58 (sd +/- 3.05), while the median was 23 (15 – 30). Appendix M outlines the frequency distribution for stress score differences between males and females.

An independent-samples *t* test was calculated comparing the mean score of participants who identified themselves as male to the mean score of participants who identified themselves as female. No significant difference was found ($t(119) = -1.32$, $p > .05$). The mean of males ($M = 21.58$, $sd = 4.169$) was not significantly different from the mean of females ($M = 22.58$, $sd = 3.051$). Table 4.8 displays independent-samples *t* test statistics for gender.

Table 4.8

Gender Independent-Sample t Test Statistics

Levene's Test for Equality of Variances					Significance
	F	Sig.	*t*	df	Two-Sided *p*
Equal variances assumed	4.319	0.04	-1.32	119	0.189

Sub-Problem Two

A Pearson correlation coefficient was calculated for the relationship between age and total stress score. A weak negative correlation was found ($r(119) = -0.194$, $p < .05$), indicating a significant indirect relationship between the two variables. As age increases, perceived stress scores decrease. The effect size (r^2) is 0.038 indicating a small effect.

Table 4.9

Pearson Correlation Between Age and Stress Score

		Total Stress Score
What is your age?	Person Correlation	-.194*
	Sig. (2-tailed)	.033
	N	121

*Correlation is significant at the 0.05 level (2-tailed)

Sub-Problem Three

Prior to determining the differences in perceived stress scores amongst the various identified races within the survey, the primary researcher identified that out of the 121

participants, 109 of them identified as being White or Caucasian. Due to there being only 12 participants that composed the other race categories, the primary researcher recoded the variable to include two groups for this demographic: White and Non-White. The White group composed of those participants who identified as White or Caucasian, while the Non-White group was composed of all other participants who identified as one of the following races: Asian or Pacific Islander, Black or African-American, Hispanic or Latino, and Multiracial or Biracial. A frequency distribution on total stress scores between the White and Non-White groups and other descriptive statistics were then calculated. The mean total perceived stress score for White was 22.57 (sd +/- 3.198), while the median was 23.00 (15 – 31). The mean total perceived stress score for Non-White was 20.67 (sd +/- 3.916), while the median was 20.50 (12– 25). Appendix N outlines the frequency distribution for stress score differences between the races of White and Non-White.

An independent-samples *t* test was calculated comparing the mean score of participants who identified themselves as being White or Caucasian to the mean score of participants who identified themselves as being Non-White. No significant difference was found ($t(119) = -1.91$, $p > .05$). The mean of White or Caucasian ($M = 22.57$, $sd = 3.198$) was not significantly different from the mean of Non-White ($M = 20.67$, $sd = 3.916$). Table 4.10 displays independent-samples *t* test statistics for race.

Table 4.10

Race Independent-Sample t Test Statistics

Levene's Test for Equality of Variances					Significance
	F	Sig.	*t*	df	Two-Sided *p*
Equal variances assumed	0.643	0.424	-1.91	119	0.058

Although this study did not find a statistically significant difference in perceived stress scores among the analyzed categories of race, the *p* value of 0.058 does indicate that a trend towards Whites or Caucasians being significantly higher in perceived stress than Non-Whites exists. This can appear that Whites or Caucasians are more stressed.

Sub-Problem Four

Prior to determining the differences in perceived stress scores amongst participant relationship status, the primary researcher identified that six participants identified as being single or never married, six as dating, thirteen as being divorced, three as widowed, and one as separated. This accounted for a total of 29 participants. The remaining identified as being married or in a domestic partnership. Therefore, before data analysis, the primary researcher recoded this variable into the two following groups: Married and Not Married. A frequency distribution on total stress scores between the participants who were married and not married was then calculated. The mean total perceived stress score for the participants that were identified as not being married or in a domestic partnership was 22.52 (sd +/- 3.46), while the median was 23.00 (15 – 31). The mean total perceived stress score for the participants that marked themselves as being married or in a domestic partnership was 22.34 (sd +/- 3.28), while the median was 23.00 (12 – 30). See Appendix O for raw data on the frequency distribution for stress score differences between the participant's relationship statuses.

An independent-samples *t* test was calculated comparing the mean score of participants who identified themselves as not being married or in a domestic partnership to the mean score of participants who identified themselves as being married or in a domestic partnership. No significant difference was found ($t(119) = 0.255$, $p > .05$). The

mean of not being married or in a domestic partnership (M = 22.52, sd = 3.460) was not significantly different from the mean of being married or in a domestic partnership (M = 22.34, sd = 3.276). Table 4.11 displays independent-samples t test statistics for relationship status.

Table 4.11

Relationship Status Independent-Sample t Test Statistics

Levene's Test for Equality of Variances					Significance
	F	Sig.	*t*	df	Two-Sided *p*
Equal variances assumed	0.170	0.681	.255	119	0.799

Sub-Problem Five

To determine the differences in perceived stress scores amongst participant educational levels within the survey, a frequency distribution on total stress scores between the education levels was calculated. However, prior to calculations, this primary researcher identified 14 participants identified as having less than a high school diploma, High school degree or equivalent (e.g., GED), some college experience with no degree, and an Associate's degree. Therefore, the educational categories were recoded and the categories of less than a high school diploma, High school degree or equivalent (e.g., GED), some college experience with no degree, and an Associate's degree were combined and labeled as "less than a Bachelor's Degree." All other categories remained the same. Thus, a frequency distribution on total stress scores between the education levels of less than a Bachelor's degree, Bachelor's degree, Master's degree, and advanced degree (MD, PhD, DPT, etc.) and other descriptive statistics were calculated. See Appendix P for raw data on the frequency distribution for stress score differences between educational levels.

The perceived stress score means of participants who were identified as four different race categories were compared using a one-way ANOVA. No significant difference was found ($F(3,117) = 0.469$, $p > .05$). A participant's educational levels did not significantly impact their stress. The group that identified as less than a Bachelor's degree had a mean score of 22.43 ($sd = 3.204$). The group that identified as Bachelor's degree had a mean score of 22.03 ($sd = 3.041$). The group that identified as Master's degree had a mean score of 22.84 ($sd = 2.828$). The group that identified as advanced degree (MD, PhD, DPT, etc.) had a mean score of 22.11 ($sd = 4.362$). Table 4.12 displays ANOVA statistics for educational level.

Table 4.12

ANOVA Statistics for Educational Level

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	15.584	3	5.195	0.469	0.705
Within Groups	1296.929	117	11.985		
Total	1312.512	120			

Sub-Problem Six

A Pearson correlation was calculated for the relationship between years of experience in home health care and total stress score. A weak negative correlation that was not significant was found ($r(119) = -0.079$, $p > .05$). Years of experience in home healthcare is not related to perceived stress scores.

Table 4.13

Pearson Correlation Between Years of Experience in Home Healthcare and Stress Score

		Total Stress Score
Total Years in Home Health Care	Pearson Correlation	-.079
	Sig. (2-tailed)	.392
	N	121

Sub-Problem Seven

A Pearson correlation efficient was calculated for the relationship between years of experience in a current profession and total stress score. A weak negative correlation was found ($r(119) = -0.207$, $p < .05$), indicating a significant indirect relationship between the two variables. As years of experience in a profession increase, perceived stress scores decrease. The effect size (r^2) is 0.043 indicating a small effect.

Table 4.14

Pearson Correlation Between Years of Professional Experience and Stress Score

		Total Stress Score
Total Years of Professional Experience	Pearson Correlation	-.207*
	Sig. (2-tailed)	.023
	N	121

*Correlation is significant at the 0.05 level (2-tailed)

Sub-Problem Eight

A frequency distribution on total stress scores between the total number of individuals living in the participant's current household and other descriptive statistics were calculated. See Appendix Q for raw data on the frequency distribution for stress score differences between the total number of individuals living in the participant's current household.

Participant responses indicated that they either lived alone or lived with up to six total individuals in their current household. Out of the 121 participants only eleven lived with five total individuals in their current household and only two lived with six total individuals in their current household. As a result, prior to analysis, the primary researcher recoded the demographic variable identifying the total number of individuals living within the current household for participants into a new variable which combined

the categories of five and six total individuals living in a current household. Thus, the total number of categories for individuals living in a current household was then five.

The perceived stress score means of participants were identified as five different categories for the different number of total individuals living in their current household ((1-4) and (5 and 6 combined)), were compared using a one-way ANOVA. No significant difference was found ($F(4,116) = 1.671$, $p > .05$). The total number of individuals living in a participant's current household did not significantly impact their stress. The group that identified as living along had a mean score of 21 ($sd = 4.604$). The group that identified as living with a total number of two individuals in their current household had a mean score of 22.59 ($sd = 3.050$). The group that identified as living with a total number of three individuals in their current household had a mean score of 21.92 ($sd = 3.543$). The group that identified as living with a total number of four individuals in their current household had a mean score of 22.03 ($sd = 3.411$). The group that identified as living with a total number of five or six individuals in their current household had a mean score of 24.1 ($sd = 2.016$). Table 4.15 displays ANOVA statistics for the total number of individuals living in a participant's current household.

Table 4.15

ANOVA Statistics for Total Number of Individuals Living in the Current Household

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	71.488	4	17.872	1.671	0.162
Within Groups	1241.024	116	10.698		
Total	1312.512	120			

Sub-Problem Nine

To determine the differences in perceived stress scores amongst participants with and without children in the survey, a frequency distribution on total stress scores between whether the participants marked as having children or not having children and other descriptive statistics were calculated. The mean total perceived stress score for the participants who marked as having children was 22.31 (sd +/- 3.08), while the median was 23.00 (12 – 30). The mean total perceived stress score for participants who marked as not having children was 22.68 (sd +/- 4.27), while the median was 22.5 (15 – 31). Appendix R outlines the frequency distribution for stress score differences between participants with and without children.

An independent-samples *t* test was calculated comparing the mean score of participants who identified themselves having children to the mean score of participants who identified themselves as not having children. No significant difference was found ($t(119) = -0.471$, $p > .05$). The mean of participants who identified as having children ($M = 22.31$, $sd = 3.076$) was not significantly different from the mean of participants who identified as not having children ($M = 22.68$, $sd = 4.269$). Table 4.16 displays independent-samples *t* test statistics for participants that have and did not have children.

Table 4.16

Participants With and Without Children Independent-Sample t Test Statistics

Levene's Test for Equality of Variances					Significance
	F	Sig.	*t*	df	Two-Sided *p*
Equal variances assumed	4.360	0.039	-.471	119	0.638

Supplemental Analysis

Prior to multiple regression analysis, the nominal variable of educational level was recoded into three dummy variables using less than a Bachelor's degree as the reference category, first with a comparison to participants who obtained a Bachelor's degree, then with a comparison to participants who obtained a Master's degree, and then with a comparison to participants who obtained an advanced degree. All other variables were either dichotomous (gender, race, relationship status, and whether or not participants had children) or scale (age, total number of years in current profession, total number of years practicing home health care, and number of people living in current household) level variables.

Multiple Regression

All scale level independent variables (age, total number of years in current profession, total number of years practicing home health care, and number of people living in current household) and the dependent variable, total stress score, were examined for outliers. No outliers were detected as no z-scores for all scale levels variables showed a z-score of +/- 3.14. Multivariate outliers were examined using Mahalanobis distance. The minimum (2.79) and the maximum (30.17) were below the critical cutoff of 32.909. Cook's distance was found to be 0.174, a value below 1. No issues with multicollinearity were identified as the variance inflation factor was also below 10.

A multiple linear regression was calculated to predict participants' perceived stress scale scores based on their age, gender, race, relationship status, educational level, total number of years in their current profession, total number of years practicing home health care, whether or not they had children, and total number of people living in their

current household. The regression equation was not significant ($F(11, 109) = 1.242$, $p > .05$) with an R^2 of .111. None of the independent variables are significant predictors of perceived stress scale scores.

Chapter 5

Discussion

Introduction

The purpose of this quantitative correlation study was to probe the effect on home healthcare staff's perceived stress levels while working after the identification of the COVID-19 Omicron variant and while examining the Social Cognitive Theory. This discussion provides a brief review on the research study, a discussion of findings in context of current literature, implications, limitations, suggestions for future research, and a conclusion.

Summary

In order to identify home healthcare worker's perceived stress levels while working after the identification of the COVID-19 Omicron variant, this study utilized the Perceived Stress Scale (PSS) survey assessment along with a demographic questionnaire. The PSS, is a developed tool that was drafted in 1983 and focuses on determining a measurement of perceived stress experienced by an individual (Marin-Farrona et al., 2020). A stress score was calculated for each participant after they completed the survey and it was understood that a higher stress score indicated that an individual was experiencing elevated stress (NH Department of Administrative Services, 2022). The demographic questionnaire was constructed by this primary researcher and with research committee members who are experts in the medical field. The demographic questionnaire aimed to gather a sound understanding on the characteristics that encompass the individuals that work within the home healthcare setting.

The survey was open for two weeks and 121 respondents representing the medical disciplines of Physical Therapy (PT), Occupational Therapy (OT), Speech Therapy (ST), Registered Nursing (RN), and Licensed Practical Nursing (LPN) of the BAYADA Home Health Care, Sycamore Region, participated. The hypothesis addressed in the study is as follows:

> H_1: The demographic characteristics of employees in home healthcare, residing in the Mid-Atlantic Region of the United States, including gender, age, race, relationship status, educational level, years in home healthcare, years in current profession, number of people in current household and having children predict stress levels after the identification of the COVID-19 Omicron variant.

The results of this study did not fully support H_1, but rather, only partially supported H_1, as just two of the nine demographic characteristics identified a significant correlation to predicting stress levels (age and total number of years in a current profession). Therefore, as a majority, the results of this study supported the null hypothesis: The demographic characteristics of employees in home healthcare, residing in the Mid-Atlantic Region of the United States, including gender, age, race, relationship status, educational level, years in home healthcare, years in current profession, number of people in current household and having children do not predict stress levels after the identification of the COVID-19 Omicron variant.

Discussion of Findings

This research study found that the demographic characteristic of age and total number of years in a current profession were able to predict perceived stress scores. This study also found that the demographic characteristics of gender, race, relationship status,

educational level, number of total years practicing home healthcare, total number of people living in a household, and having or not having children did not predict perceived stress scores. While other studies identified in the literature review do not completely correspond with the results of this study, the findings add to the minimal literature available on stress levels of home health care employees.

This study identified that there is a weak negative Pearson correlation between age and perceived stress scale scores such that as age increases, perceived stress scale scores decrease. This finding agrees with the findings of Temsah, et al. (2022) that younger age groups were significantly reporting higher stress scores following the announcement of the Omicron variant. With the identification of age being related to increased stress levels, this study provides further support that decreased mental health outcomes are associated with younger individuals in the general public (Xiong, et al., 2020). It is important to note, age has been previously identified as a risk factor for severe illness and mortality as a result of contracting COVID-19 and has been identified as a factor which affects the time from hospitalization to death (Booth, et al., 2021 and Kang & Jung, 2020). In addition, as age increases, the average number of comorbid conditions increases (Kang & Jung, 2020). Comorbid conditions have been previously identified as significantly increasing the risk of mortality in an individual who contracts the COVID-19 virus (Biswas, et al., 2020). Therefore, it is well established that increased age plays a large role in health outcomes during the COVID-19 pandemic. Thus, the identification of a weak negative Pearson correlation between age and perceived stress scale scores, such that as age increases, perceived stress scale scores decrease, serves as a sounding identification that even during a global health crisis (pandemic), where those who are

older in age have increased risk and are more vulnerable than younger individuals to a negative health outcome, the mental health and stress levels of the elderly are still lower than those of the younger populations. This adds to support the mental health crisis in younger adults.

The total number of years a participant was in their current profession was also identified as a significant factor in determining stress levels. A weak negative Pearson correlation was found indicating a significant indirect relationship such that as years of experience in a profession increase, perceived stress scores decrease. The identification of this correlation supports the above findings that individuals with increased experience and therefore increased age tend to have decreased stress scores during a global health crisis (pandemic). This also supports a prior finding that individuals with less than five years of healthcare experience are associated with increased stress levels and reports of burnout (Yang, Meredith, & Khan, 2015).

No other demographic characteristics, in this study, were associated with predicting perceived stress scores. However, a positive trend was found indicating that those who identified as being White experienced increased stress levels. Conversely, a negative trend was found indicating that those who identified as being Non-White experienced lower stress levels. These trends concerning race were very close to significance levels, yet none were achieved. Within the variable of race, there exists multiple layers which can affect a participant's response outside of the simple ethnic identification. For example, various socio-economic factors and comorbidities can be entangled with race. Thus, although no statistically significant relationship between race and perceived stress scores was found, this study fills the gap and identified that race did

not affect stress levels in home health care workers during the COVID-19 Omicron variant surge.

Concerning gender, the majority of participants in this study identified themselves as being female. In the field of medicine, it is common for there to be a higher ratio of females to males, as females account for 75% of all the healthcare workers worldwide (Brubaker, 2020). Thus, the impact on determining stress differences between males and females is disproportionately affected. As a result, it is not surprising that the independent-samples *t* test performed in this study did not reveal any statistically significant difference between the gender groups of male and female and their stress levels. Interestingly, an increased mortality rate in males with COVID-19 has been previously shown in comparison to females with COVID-19 (Biswas, et al., 2020). However, this study supports that although there is an association between gender and mortality rates, there is no association between gender and stress levels.

The relationship status of the participants was grouped into two separate categories: married and not married. No significant difference in perceived stress scale scores was identified between these two groups. This supports prior findings, in a Canadian study, that relationship status did not significantly affect perceived stress scale scores amongst individuals who were either married, cohabiting, or partnered and those that were either separated or divorced (Nkire, 2021). The findings of this study also agree with the findings of Kowal et al. (2020), that the number of people living together in a household does not significantly affect stress levels during the COVID-19 pandemic.

In addition, participant educational levels and having or not having children, were both found to have no significant impact on perceived stress scale scores. The research

described here, however, is in contradiction to the study by Kowal et al. (2020) which determined that higher perceived stress levels were associated with a lower education level and having children. Also, Wang et al. (2020) found that parents reported higher concerns for their children contracting the virus and thus experienced elevated stress levels. However, the results of this study continue to suggest that despite the presence of elevated COVID-19 risk factors, on a daily basis for elderly individuals, and the presence of added stress levels with having children, older individuals are better able to apply coping strategies to lower their perceived stress levels.

Implications

According to the social cognitive theory (SCT), coping self-efficacy is the perceived capacity to control one's daily functions and activities while adapting to alterations in environmental demands under stressful conditions (Maykrantz et al., 2021). Coping self-efficacy was important to this study as evidenced by the fact that overall, home healthcare workers are able to control their professional obligation while placed under stressful situations, such as a global pandemic, and as a majority, report moderate stress levels. This identifies that home health care workers have the ability to control their daily duties while being exposed to social, psychological, physical, and environmental demands. Therefore, it can be determined that due to the participant responses in this study, home healthcare workers experience elevated self-efficacy as they have the ability to control their professional and functional tasks over a threat (Omicron variant) and therefore do not experience higher stress due to a potential overestimation of the threat or increased worriedness of a negative outcome.

In order to preserve the elevated self-efficacy identified in this study, several related stress items should be considered when discussing the future mental health of home healthcare workers. Previously noted examples of stress items include insomnia, guilt, compulsive attention to COVID-19 related news, irritability, nightmares, avoidance of returning to work, and bereavement (Alnazly et al., 2021). Thus, to avoid a long-term mental health impact and to decrease the potential for burnout and functional impairments at the workplace, it is suggested that the audience may implement several policies to protect the health of those that protect the health of their communities.

The first recommended policy is to implement mechanisms to support the mental health of healthcare workers (Autin et al., 2020). Suggestions include the approval of paid mental health day(s), decreasing shift lengths, providing the ability for healthcare workers to speak to mental health professionals, including therapists and psychologists, and an increase in pay rate or salary. By providing staff with one or multiple paid mental health day(s), healthcare workers can step aside from their place of employment without the guilt of using paid time off, vacation days, time off without pay, or personal time. After their time away, they would return to work with a clearer mind and a fresh start to perform the job functions (Garcia et al., 2019). In addition, the ability to speak to a mental health professional would open the opportunity for a healthcare worker to openly express potential stressors they are experiencing in a safe and understanding environment (Santaron, McKenney, & Elkbuli, 2020). Mental health professionals would then be able to prescribe stress-relief methods and interventions for the healthcare worker to follow and practice during the performance of a job function and outside of their workplace.

This can potentially lower perceived stress scores from a high and/or moderate state to a moderate and/or low state.

Increasing the pay rate or salary of a healthcare professional would also provide them with a greater incentive to perform their job functions (Larue, 2021). In dealing with stressors at the workplace, the healthcare worker would be able to refrain back to the focus of providing medical care to their clients, despite still placing themselves at risk. Aside from upholding their professional oaths and the medical obligations to provide care and do no harm, an increase in pay would allow them to identify their value to the company or organization they work for as well as provide a sense of relief for the potential weight of outside pressures and stressors (student loans, car payments, mortgages, child care, etc.) that they may experience. Although hazard pay was available and provided by many healthcare companies to their employees who treated patients that were positively diagnosed with COVID-19, it was an insufficient response to the daily physical, mental, and medical demands placed on healthcare workers (Hecker, 2020).

Also, based on the findings of this study, there is a need to support healthcare workers that are younger and with less experience. Therefore, another recommended policy is to implement a mentoring program. Mentoring programs allow for collaborative knowledge sharing to foster better support, resilience, increase motivation, and improve overall job satisfaction (Moss & Jackson, 2019). In addition, a mentoring program could help younger and less experienced clinicians develop excellent standards of care and quality coping self-efficacy tactics. Lastly, mentorship allows for continuous learning. Thus, it is recommended that a mentorship program should continue throughout an

employee's time of service with their company. Investment into a mentorship program is vital for its success.

Finally, despite healthcare workers being known for their stamina and emotional resilience in the workplace, it is suggested that decreasing shift lengths would allow for a greater recovery time from the stressors experienced in the workplace. One study identified that an extended hourly duration of shift work was associated with a decrease in safety measures. (Weaver et al., 2020). This placed healthcare workers at a greater risk of poor occupational health and outcomes. It also created a major concern for the health and safety of patients being treated by overworked healthcare staff (Celmece & Menekay, 2020). At the same time, it is also understood that as the pandemic timeline progresses, employment numbers are declining and there is a large need for additional healthcare employees to provide care (Bhandari et al., 2021). Thus, it may be difficult to decrease shift time without the availability of sufficient staffing numbers. Yet, this is important to note as staffing numbers may have declined due to the stressors experienced by healthcare workers who were unable to maintain a healthy mental status and therefore had to leave their job (Wilson et al., 2020). The above recommendations would decrease the risk of this occurring in the future.

With the addition of these policies, there would be a greater potential of decreased morbidity among healthcare workers. Employee satisfaction and retention should improve. A long-term mental health impact is avoided and the potential for burnout and functional impairments at the workplace are decreased.

Limitations

A limitation of this study was that the data pertains only to responses, at one point in time, from home health care workers, that provide direct patient care. In addition, the study was limited by only one home health company with 19 offices being surveyed in one geographical region of the United States. Also, this study did not survey all the working disciplines within a home health care setting and only focused on therapy and nursing professions. Finally, utilization of convenient sampling occurred. Thus, the findings are not generalizable to previous or future situations.

Future Research

This study contributed to the literature on stress levels during the COVID-19 pandemic. Specifically, it contributed to the literature on stress levels pertaining to health care workers on a critical but under-researched population of home healthcare workers. Following the completion of this study, highlights for future research on this topic were identified. The Perceived Stress Scale assessment is suggested to continue to be used in other populations of home healthcare workers to determine if it is an accurate tool to predict stress levels during the COVID-19 pandemic. It would be interesting and beneficial to administer this survey to a larger number of home healthcare workers, across multiple different home health agencies or within BAYADA Home Health Care.

This study found significant results concerning stress levels of the demographics of age and number of years in a current profession. These areas require future research to determine if the weak negative correlations found can potentially lead to a strong negative correlation. Increasing the number of participants in a study will aid in assessing these found correlations.

In addition, this study also found that stress levels were not significant with the demographic characteristic of race, when separated between those that identified as White and those that identified as Non-White. However, a positive trend was found indicating that those who identified as being White experienced increased stress levels. Conversely, a negative trend was found indicating that those who identified as being Non-White experienced lower stress levels. These trends concerning race were very interesting and the data suggests that future research should focus on exploring how the category of race may significantly affect stress levels among home healthcare workers.

It is suggested that another focus of future research should include identifying the difference in stress levels amongst home healthcare professions. This study surveyed the nursing and therapy professions, but it did not separate participants by specific discipline or profession. It would be interesting to identify any stress level differences between each profession and how potential implications can be established to lower stress levels on an individualized level.

Conclusion

The COVID-19 pandemic has impacted the functions of the world in its entirety. On the frontlines, battling the virus on a daily basis, are healthcare workers. This study specifically examined home healthcare workers employed by BAYADA Home Health Care. Demographic characteristics were studied to determine if they were significant predictors of perceived stress levels in these workers. Stress levels were shown to decrease with increasing age and also decrease with the increasing number of years in a current profession. These findings lead to the suggestion of several implications for home

health agencies to adopt to ultimately lower stress levels, across the board, for their field staff employees.

References

American Occupational Therapy Association. (2022). *About Occupational Therapy.* Retrieved January 10, 2022, from https://www.aota.org/About-Occupational-Therapy.aspx

American Psychiatric Association. (2022). *About DSM-5.* Retrieved February 6, 2022, from https://www.psychiatry.org/psychiatrists/practice/dsm/about-dsm

Almathami, H., Win, K. T., & Vlahu-Gjorgievska, E. (2020). Barriers and Facilitators That Influence Telemedicine-Based, Real-Time, Online Consultation at Patients' Homes: Systematic Literature Review. *Journal of Medical Internet research, 22*(2), e16407. doi: https://doi.org/10.2196/16407

Alnazly, E., Khraisat, O. M., Al-Bashaireh, A. M., & Bryabt, C. L. (2021). Anxiety, depression, stress, fear and social support during COVID-19 pandemic among Jordanian healthcare workers. *PLoS ONE, 16*(3). doi: https://doi.org/10.1371/journal.pone.0247679

American Speech-Language-Hearing Association. (2022). *Speech-Language Pathologists*. Job Description and Career Information. Retrieved January 10, 2022, from https://www.asha.org/students/speech-language-pathology/

American Physical Therapy Association. (2022). *Becoming a Physical Therapist*. Retrieved January 10, 2022, from https://www.apta.org/your-career/careers-in-physical-therapy/becoming-a-pt

Autin, K. L., Blustein, D. L., Ali, S. R., & Garriott, P. O. (2020). Career development impacts of COIVD-19: Practice and policy recommendation. *Journal of Career Development*, 47(5), 487-494. doi: https://doi.org/10.1177/0894845320944486

Baik, S. H., Fox, R. S., Mills, S. D., Roesch, S. C., Sadler, G. R., Klonoff, E. A., & Malcarne, V. L. (2019). Reliability and validity of the Perceived Stress Scale-10 in Hispanic Americans with English or Spanish language preference. *Journal of Health Psychology, 24*(5), 628–639. doi: https://doi.org/10.1177/1359105316684938

Baskin, R. G., & Bartlett, R. (2021) Healthcare worker resilience during the COVID-19 pandemic: An integrative review. *Journal of Nursing Management, 29*(8), 2329-2342. doi: https://doi.org/10.1111/jonm.13395

BAYADA Home Health Care. (2022) *Office Locations*. Retrieved January 22, 2022, from https://www.bayada.com/offices/

Bergwerk, M., Gonen, T., Lustig, Y., Amit, S., Lipsitch, M., Cohen, C., Mandelboim, M., Levin, E. G., Rubin, C., Indenbaum, V., Tal, I., Zavitan, M., Zuckerman, N., Bar Chaim, A., Kreiss, Y., & Regev-Yochay, G. (2021) Covid-19 Breakthrough Infections in Vaccinated Health Care Workers. *The New England Journal of Medicine*. 2021, July, 28. doi: 10.1056/NEJMoa2109072

Beutel, M.E., Klein, E.M., Brahler, E., Reiner, I., Junger, C., Michal, M., & Tibubo, A.N. (2017). Loneliness in the general population: prevalence, determinants, and relations to Mental health. *BMC Psychiatry,* 17(1), 97. doi: https://doi.org/10.1186/s12888-017-1262-x

Bhandari, N., Batra, K., Upadhyay, S., & Cochran, C. (2021). Impact of COVID-19 on Healthcare Labor Market in the United States: Lower Paid Workers Experienced Higher Vulnerability and Slower Recovery. *International Journal of*

Environmental Research and Public Health, *18*(8), 3894. doi: https://doi.org/10.3390/ijerph18083894

Biswas, M., Rahaman, S., Biswas, T. K., Haque, Z., & Ibrahim, B. (2020). Association of Sex, Age, and Comorbidities with Mortality in COVID-19 Patients: A Systematic Review and Meta-Analysis. *Intervirology*, 1–12. Advance online publication. doi: https://doi.org/10.1159/000512592

Booth, A., Reed, A. B., Ponzo, S., Yassaee, A., Aral, M., Plans, D., Labrique, A., & Mohan, D. (2021). Population risk factors for severe disease and mortality in COVID-19: A global systematic review and meta-analysis. *PLoS one*, *16*(3), e0247461. doi: https://doi.org/10.1371/journal.pone.0247461

Brubaker, L. (2020). Women Physicians and the COVID-19 Pandemic. *Journal of the American Medical Association, 324*(9), 835-836. doi: 10.1001/jama.2020.14797

Carico, R. R., Jr, Sheppard, J., & Thomas, C. B. (2021). Community pharmacists and communication in the time of COVID-19: Applying the health belief model. *Research in Social & Administrative Pharmacy: RSAP*, *17*(1), 1984–1987. doi: https://doi.org/10.1016/j.sapharm.2020.03.017

Çelmeçe, N., & Menekay, M. (2020). The Effect of Stress, Anxiety and Burnout Levels of Healthcare Professionals Caring for COVID-19 Patients on Their Quality of Life. *Frontiers in Psychology*, *11*, 597624. doi: https://doi.org/10.3389/fpsyg.2020.597624

Centers for Disease Control. (2021). *COVID-19*. Retrieved December 4, 2021 from https://www.cdc.gov/mentalhealth/index.htm

Centers for Disease Control. (2022a). *Mental Health*. Retrieved January 7, 2022 from

https://www.cdc.gov/mentalhealth/index.htm

Centers for Disease Control. (2022b). *COVID Data Tracker*. Retrieved January 8, 2022 from https://covid.cdc.gov/covid-data-tracker/#variant-proportions.

Centers for Disease Control. (2022c). *Interim Infection Prevention and Control Recommendations for Healthcare Personnel During the Coronavirus Disease 2019 (COVID-19) Pandemic*. Retrieved January 23, 2022 from https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html

Centers for Medicare and Medicaid Services. (May 24, 2021). *COVID-19 Emergency Declaration Blanket Waivers for Health Care Providers*. Retrieved January 23, 2022, from https://www.cms.gov/files/document/summary-covid-19-emergency-declaration-waivers.pdf

Centers for Medicare and Medicaid Services. (2022). *Home Health Services*. Retrieved January 14, 2022 from https://www.medicare.gov/what-medicare-covers/whats-home-health-care

Chen, M. K., Chevalier, J. A., & Long, E. F. (2021). Nursing home staff networks and COVID-19. *Proceedings of the National Academy of Sciences of the United States of America, 118*(1), e2015455118. doi: https://doi.org/10.1073/pnas.2015455118

Chew, N., Lee, G., Tan, B., Jing, M., Goh, Y., Ngiam, N., Yeo, L., Ahmad, A., Ahmed Khan, F., Napolean Shanmugam, G., Sharma, A. K., Komalkumar, R. N., Meenakshi, P. V., Shah, K., Patel, B., Chan, B., Sunny, S., Chandra, B., Ong, J., Paliwal, P. R., Sharma, V. K. (2020). A multinational, multicenter study on the psychological outcomes and associated physical symptoms amongst healthcare

workers during COVID-19 outbreak. *Brain, Behavior, and Immunity*, *88*, 559–565. doi: https://doi.org/10.1016/j.bbi.2020.04.049

Chirico, F., & Magnavita, N. (2021). The Crucial Role of Occupational Health Surveillance for Health-care Workers During the COVID-19 Pandemic. *Workplace Health & Safety*, *69*(1), 5–6. doi: https://doi.org/10.1177/2165079920950161

Chunara, R., Zhao, Y., Chen, J., Lawrence, K., Testa, P. A., Nov, O., & Mann, D. M. (2021). Telemedicine and healthcare disparities: cohort study in a large healthcare system in New York City during COVID-19. *Journal of the American Medical Informatics Association, 28*(1), 33-41. Doi: https://doi.org/10.1093/jamia/ocaa217.

Cohen, S., and Williamson, G. (1988). Perceived stress in a probability sample of the United States In: Spacapam S and Oskamp S (eds). *The Social Psychology of Health*. Newbury Park, CA: Sage, 31-67.

Crawford, S. D., Couper, M. P., & Lamias, M. J. (2001). Web surveys: Perceptions of burden. *Social Science Computer Review, 19*, 146-162. Doi: 10.1177/089443930101900292

Cucinotta, D., & Vanelli, M. (2020). WHO Declares COVID-19 a Pandemic. *Acta Bio Medica: Atenei Parmensis, 91*(1), 157-160. Doi: https://doi.org/10.23750/abm.v91i1.9397

Cullen, W., Gulati, G., & Kelly, B. D. (2020). Mental health in the COVID-19 pandemic. *QJM: An International Journal of Medicine*, *113*(5), 311-312.

Dhar, R., Talukdar, J., Nayek, A., Ajmeriya, S., Kumar, A., & Karmakar, S. (2022).

Unveiling the omicron B.1.1.529: The variant of concern that is rattling the globe. *Asian Journal of Medical Sciences, 13*(1) 166-168. doi: https://doi.org/10.3126/ajms.v13i1.41117

Merriam-Webster Dictionary: America's most-trusted online dictionary. Retrieved December 4, 2021, from https://www.merriam-webster.com/

Doraiswamy, S., Abraham, A., Mamtani, R., & Cheema, S. (2020). Use of Telehealth During the COVID-19 Pandemic: Scoping Review. *Journal of Medical Internet Research*, *22*(12), e24087. doi: https://doi.org/10.2196/24087

Dutta A. K. (2020). Vaccine Against Covid-19 Disease – Present Status of Development. *Indian Journal of Pediatrics,* 87(10), 810-816. doi: https://doi.org/10.1007/s12098-020-03475-w

Ettaboina, S. K., Nakkala, K., & Laddha, K. S. (2021). A Mini Review on SARS COVID-19-@ Omicron Variant (B.1.1.529). *SciMedicine Journal, 3*(4), 399-406. doi: https://doi.org/10.28991/SciMedJ-2021-0304-10

Frydman, J. L., Gelfman, L. P., Goldstein, N. E., Kelley, A. S., & Ankuda, C. K. (2021). The Digital Divide: Do Older Adults with Serious Illness Access Telemedicine?. *Journal of General Internal Medicine,* 1–3. Advance online publication. doi: https://doi.org/10.1007/s11606-021-06629-4

Galbraith, N., Boyda, D., McFeeters, D., & Hassan, T. (2021). The mental health of doctors during the COVID-19 pandemic. *BJPsych Bulletin*, *45*(2), 93–97. doi: https://doi.org/10.1192/bjb.2020.44

Gallagher, M. W., Zvolensky, M. J., Long, L. J., Rogers, A. H., & Garet, L. (2020). The

impact of COVID-19 experiences and associated stress on anxiety, depression, and functional impairment in American adults. *Cognitive Therapy and Research,* 44(6), 1043-1051. doi: https://doi.org/10.1007/s10608-020-10143-y

Garcia, C. L., Abreu, L. C., Ramos, J., Castro, C., Smiderle, F., Santos, J., & Bezerra, I. (2019). Influence of Burnout on Patient Safety: Systematic Review and Meta-Analysis. *Medicina (Kaunas, Lithuania), 55*(9), 553. doi: https://doi.org/10.3390/medicina55090553

Godderis, L., Boone, A., & Bakusic, J. (2020). COVID-19: a new work-related disease threatening healthcare workers. *Occupational Medicine, 70*(5), 315-316. doi: https://doi.org/10/1093/occmed/kqaa056

Gostin, L. O., Cohen, I. G., & Shaw, J. (2021). Digital Health Passes in the Age of COVID-19: Are "Vaccine Passports" Lawful and Ethical?. *JAMA, 325*(19), 1933–1934. doi: https://doi.org/10.1001/jama.2021.5283

Gruber, J., Prinstein, M. J., Clark, L. A., Rottenberg, J., Abramowitz, J. S., Albano, A. M., Aldao, A., Borelli, J. L., Chung, T., Davila, J., Forbes, E. E., Gee, D. G., Hall, G., Hallion, L. S., Hinshaw, S. P., Hofmann, S. G., Hollon, S. D., Joormann, J., Kazdin, A. E., Klein, D. N., & Weinstock, L. M. (2021). Mental health and clinical psychological science in the time of COVID-19: Challenges, opportunities, and a call to action. *The American Psychologist, 76*(3), 409–426. doi: https://doi.org/10.1037/amp0000707

Han Q., Lin Q., Ni Z., & You, L. (2020). Uncertainties about the transmission routes of 2019 novel coronavirus. *Influenza and Other Respiratory Viruses, 14*(4), 470–471. doi: https://doi.org/10.1111/irv.12735

Hecker S. (2020). Hazard Pay for COVID-19? Yes, But It's Not a Substitute for a Living Wage and Enforceable Worker Protections. *New Solutions: A Journal of Environmental and Occupational Health Policy: New Solutions*, *30*(2), 95–101. doi: https://doi.org/10.1177/1048291120933814

Hennein, R., Mew, E. J., & Lowe, S. R. (2021). Socio-ecological predictors of mental health outcomes among healthcare workers during the COVID-19 pandemic in the United States. *PLoS ONE*, *16*(2). doi: https://doi.org/10.1371/journal.pone.0246602

Hoffmann, M., Krüger, N., Schulz, S., Cossmann, A., Rocha, C., Kempf, A., Nehlmeier, I., Graichen, L., Moldenhauer, A-S., Winkler, M. S., Lier, M., Dopfer-Jablonka, A., Jäck, H.-M., Behrens, G. M. N., & Pöhlmann, S. (2021). The Omicron variant is highly resistant against antibody-mediated neutralization: Implications for control of the Covid-19 pandemic. *Cell*. doi: https://doi.org/10.1016/j.cell.2021.12.032

Holshue, M. L., DeBolt, C., Lindquist, S., Lofy, K. H., Wiesman, J., Bruce, H., Spitters, C., Ericson, K., Wilkerson, S., Tural, A., Diaz, G., Cohn, A., Fox, L., Patel, A., Gerber, S.I., Kim, L., Tong, S., Lu, X., Lindstrom, S., Pallansch, M.A., Weldon, W.C., Biggs, H.M., Uyeki, T.M., Pillai, S.K.; Washington State 2019-nCoV Case Investigation Team. (2020). First Case of 2019 Novel Coronavirus in the United States. *New England Journal of Medicine*. *382*(10), 929-936. doi: 10.1056/NEJMoa2001191

Huang, J., Liu, F., Teng, Z., Chen, J., Zhao, J., Wang, X., & Wu, R. (2020). Care for the

Psychological Status of Frontline Medical Staff Fighting Against Coronavirus Disease 2019 (COVID-19). *Clinical Infectious Diseases: An Official Publication of the Infectious Diseases Society of America*, *71*(12), 3268–3269. doi: https://doi.org/10.1093/cid/ciaa385

iSALT Team, Social Cognitive Theory (2014). *iSalt Resources: Theories, Concepts, and Measures*. Paper 4. http://cornerstone.lib.mnsu.edu/isalt_resources/4

Jain, A., & Jolly, T. S. (2021) Omicron (B.1.1.529) COVID-19 Variant: A Mental Health Perspective on Lessons Learned and Future Challenges. *The Primary Care Companion for CNS Disorders*, *23*(6), 21com03206. doi: https://doi.org/10.4088/PCC.21com03206

Janik, E., Niemcewicz, M., Podogrocki, M., Majsterek, I., & Bijak, M. (2021). The Emerging Concern and Interest SARS-CoV-2 Variants. *Pathogens (Basel, Switzerland)*, *10*(6), 633. doi: https://doi.org/10.3390/pathogens10060633

Johnson, A. G., Amin, A. B., Ali, A. R., Hoots, B., Cadwell, B. L., Arora, S., Avoundjian, T., Awofeso, A. O., Barnes, J., Bayoumi, N. S., Busen, K., Chang, C., Cima, M., Crockett, M., Cronquist, A., Davidson, S., Davis, E., Delgadillo, J., Dorabawila, V., et al. (2022) COVID-19 Incident and Death Rates Among Unvaccinated and Fully Vaccinated Adults with and Without Booster Doses During Periods of Delta and Omicron Variant Emergence – 25 U. S. Jurisdictions. *MMWR Morbidity and Mortality Weekly Report, 71,* 132-138

Joseph, B., & Joseph, M. (2016). The health of the healthcare workers. *Indian Journal of Occupational and Environmental Medicine*, *20*(2), 71–72. doi: https://doi.org/10.4103/0019-5278.197518

Joseph, R. P., Daniel, C. L., Thind, H., Benitez, T. J., & Pekmezi, D. (2016). Applying Psychological Theories to Promote Long-Term Maintenance of Health Behaviors. *American Journal of Lifestyle Medicine*, *10*(6), 356–368. doi: https://doi.org/10.1177/1559827614554594

Kang, S. J., & Jung, S. I. (2020). Age-Related Morbidity and Mortality among Patients with COVID-19. *Infection & Chemotherapy*, *52*(2), 154–164. doi: https://doi.org/10.3947/ic.2020.52.2.154

Karim, S., & Karim, Q. A. (2021) Omicron SARS-CoV-2 variant: a new chapter in the COVID-19 pandemic. *Lancet (London, England)*, *398*(10317), 2126-2128. doi: https://doi.org/10.1016/S0140-6736(21)02758-6

Katella, K. (2022, January 6). *5 Things to Know About the Delta Variant.* Yale Medicine. Retrieved January 8, 2022, from https://www.yalemedicine.ord/news/5-things-to-know-delta-variant-covid

Kim, Y. R., & Liu, A. (2022) Social distancing, trust and post-COVID-19 recovery. *Tourism Management*, *88*, 104416. doi: https://doi.org/10.1016/j.tourman.2021.104416

Kose, S., Mandiracioglu, A., Sahin, S., Kaynar, T., Karbus, O., & Ozbel, Y. (2020). Vaccine hesitancy of the COVID-19 by health care personnel. *International Journal of Clinical Practice*, e13917. https://doi.org/10.1111/ijcp.13917

Kowal, M., Coll-Martín, T., Ikizer, G., Rasmussen, J., Eichel, K., Studzińska, A., Koszałkowska, K., Karwowski, M., Najmussaqib, A., Pankowski, D., Lieberoth, A., & Ahmed, O. (2020). Who is the Most Stressed During the COVID-19 Pandemic? Data From 26 Countries and Areas. *Applied Psychology. Health and*

Well-Being, *12*(4), 946–966. doi: https://doi.org/10.1111/aphw.12234

Kumar, S., Sharma, V., Sarkar, S., & Ludhiadch, A. (2021). Battle against the pandemic: Emergence of SARS-CoV2 variants and global challenge. *Travel Medicine and Infectious Disease*, *44*, 102173. doi: https://doi.org/10.1016/j.tmaid.2021.102173

Larue, B. (2021). COVID-19 and labor issues: An assessment. *Canadian Journal of Agricultural Economics/Revue Canadienne D'Agroeconomie, 69*(2), 269-279. doi: https://doi.org/10.1111/cjag.12288

Laughlin, L., Anderson, A., Martinez, A., Gayfield, A. (2021) *Who Are Our Health Care Workers? United States Census Bureau*. Retrieved from https://www.census.gov/library/stories/2021/04/who-are-our-health-care-workers.html

Liu, S., Yang, L., Zhang, C., Xiang, Y. T., Liu, Z., Shaohua, H., & Zhang, B. (2020). Online mental health services in China during the COVID-19 outbreak. *Lancet Psychiatry*, *7*(4), E17-E18. doi: https://doi.org/10.1016/S2215-0366(20)300077-8

Livingston, E., Desai, A., & Berkwits, M. (2020). Sourcing Personal Protective Equipment During the COVID-19 Pandemic. *JAMA*, *323*(19), 1912-1912. doi: 10.1001/jama.2020.5317

Maben, J., & Bridges, J. (2020). Covid-19: Supporting nurses' psychological and mental health. *Journal of Clinical Nursing*, *29*(15-16), 2742–2750. doi: https://doi.org/10.1111/jocn.15307

Mam W., Yang, J., Fu, H., Su, C., Yu, C., Wang, Q., de Vasconcelos, A. T. R., Bazykin, G. A., Bao, Y., & Li, M. (2022). Genomic perspectives on the emerging SARS-

CoV-2 omicron variant. *Genomics, Proteomics & Bioinformatics*. doi: https://doi.org/10.1016/j.gpb.2022.01.001

Marin-Farrona, M., Leon-Jimenez, M., Garcia-Unanue, J., & Crespo-Ruiz, B. (2020) Transtheoretical Model Is Better Predictor of Physiological Stress than Perceived Stress Scale and Work Ability Index among Office Workers. *International Journal of Environmental Research and Public Health, 17*(2), 4410. doi: https://doi.org/10.3390/ijerph1724410

Maykrantz, S. A., Langlinais, L. A., Houghton, J. D., & Neck, C. P. (2021). Self-Leadership and Psychological Capital as Key Cognitive Resources for Shaping Health-Protective Behaviors during the COVID-19 Pandemic. *Administrative Sciences, 11*(2), 41. doi: https://doi.org/10.3390/admsci11020041

MAYO Clinic. (2022). *Mental Illness.* Retrieved February 6, 2022, from https://www.mayoclinic.org/diseases-conditions/mental-illness/diagnosis-treatment/drc-20374974

Medicare and Medicaid Services. (2022a). *Home Health Services*. Retrieved January 14, 2022 from https://www.medicare.gov/coverage/home-health-services

Medicare and Medicaid Services. (2022b). *What's Home Health Care?* Retrieved January 11, 2022, from https://www.medicare.gov/what-medicare-covers/whats-home-health-care

Mimoun, E., Ben Ari, A., & Margalit, D. (2020). Psychological aspects of employment during the COVID-19 pandemic. *Psychological Trauma: Theory, Research, Practice, and Policy, 12*(S1), S183- S185. doi: https://doi.org/10.1037/tra0000769

Moss, C., & Jackson, J. (2019). Mentoring New Graduate Nurse Practitioners. *Neonatal*

Network: NN, 38(3), 151-159. doi: https://doi.org/10.1891/0730-0832.38.3.151

Namikawa, H., Tochino, Y., Okada, A., Ota, K., Okada, Y., Fujioka, K., Yamada, K., Watanabe, T., Nakagama, Y., Kido, Y., Takemoto, Y., Mizobata, Y., Kakeya, H., Kuwatsuru, Y., Shibata, T., & Shuto, T. (2021). Physical health complaints among healthcare workers engaged in the care of critically ill COVID-19 patients: A single tertiary-care center prospective study from Japan. *Journal of Infection and Public Health*, *14*(9), 1263–1267. doi: https://doi.org/10.1016/j.jiph.2021.08.023

National Alliance on Mental Illness. (2022). *Mental Health Conditions*. Retrieved January 22, 2022 https://www.nami.org/About-Mental-Illness/Mental-Health-Conditions.

National Institute of Mental Health. (2022). *5 Things You Should Know About Stress*. Retrieved January 21, 2022 from https://www.nimh.nih.gov/health/publications/so-stressed-out-fact-sheet

Neumann-Böhme, S., Varghese, N. E., Sabat, I., Barros, P. P., Brouwer, W., van Exel, J., Schreyögg, J., & Stargardt, T. (2022). Once we have it, will we use it? A European survey on willingness to be vaccinated against COVID-19. *The European Journal of Health Economics, 21*(7):977-982. doi: https://doi.org/10.1007/s10198-020-01208-6

New Hampshire Department of Administrative Services. (2022). *Perceived Stress Scale*. Retrieved January 21, 2022, from https://das.nh.gov/wellness/docs/percieved%20stress%20scale.pdf

Nkire, N., Nwachukwu, I., Shalaby, R., Hrabok, M., Vuong, W., Gusnowski, A., Surood,

S., Greenshaw, A. J., & Agyapong, V. (2021). COVID-19 pandemic: influence of relationship status on stress, anxiety, and depression in Canada. *Irish Journal of Psychological Medicine,* 1–12. Advance online publication. doi: https://doi.org/10.1017/ipm.2021.1

Palladino, L. (2021). Public Investment in Home Healthcare in the United States During the COVID-19 Pandemic: A Win-Win Strategy. *Feminist Economics, 27*(2), 436-452. doi: https://doi.org/10.1080/13545701.2020.1840609

Pearman, A., Hughes, M. L., Smith, E. L., & Neupert, S. D. (2020). Mental Health Challenges of United States Healthcare Professional During COVID-19. *Front. Psychol*, (13)11:2065 doi: 10.3389/fpsyg.2020.02065

Preti, E., Di Mattei, V., Perego, G., Ferrari, F., Mazzetti, M., Taranto, P., Di Pierro, R., Madeddu, F., & Calati, R. (2020). The Psychological Impact of Epidemic and Pandemic Outbreaks on Healthcare Workers: Rapid Review of the Evidence. *Current Psychiatry Reports, 22*(8), 43. doi: https://doi.org/10.1007/s11920-020-01166-z

Qualtrics. (2022). *How to Increase Survey Response Rates*. Retrieved January 22, 2022, from https://www.qualtrics.com/experience-management/research/tools-increase-response-rate/

Quinn, M. M., Markkanen, P. K., Galligan, C. J., Sama, S. R., Lindberg, J. E., & Edwards, M. F. (2021) Healthy Aging Requires a Healthy Home Care Workforce: The Occupational Safety and Health of Home Care Aides. *Current Environmental Health Reports, 8*(3), 235-244. doi: https://doi.org/10.1007/s40572-021-00315-7

Ren, S. Y., Gao, R. D., & Chen, Y. L. (2020). Fear can be more harmful than the severe acute respiratory syndrome coronavirus 2 in controlling the corona virus disease 2019 epidemic. *World Journal of Clinical Cases*, *8*(4), 652–657. doi: https://doi.org/10.12998/wjcc.v8.i4.652

Rio, C. R., Omer, S. B., Malani, P. N. (2021) Winter of Omicron – The Evolving COVID-19 Pandemic. *JAMA*, Published online December 22, 2021. doi:10.1001/jama.2021.24315

Saban, M., Myers, V., & Wilf-Miron, R. (2022). Changes in infectivity, severity and vaccine effectiveness against delta COVID-19 variant ten months into the vaccination program: The Israeli case. *Preventive Medicine, 154,* 106890. doi: https://doi.org/10.1016/j.ypmed.2021.106890

Sammut, R., Griscti, O., Norman, I. J. (2021). Strategies to improve response rates to web surveys: A literature review. *International Journal of Nursing Students, 123*, 104058. doi: https://doi.org/10.1016/j.ijnurstu.2021.104058

Santarone, K., McKenney, M., & Elkbuli, A. (2020). Preserving mental health and resilience in frontline healthcare workers during COVID-19. *The American Journal of Emergency Medicine*, *38*(7), 1530–1531. doi: https://doi.org/10.1016/j.ajem.2020.04.030

Shechter, A., Diaz, F., Moise, N., Anstey, D. E., Ye, S., Agarwal, S., Birk, J. L., Brodie, D., Cannone, D. E., Chang, B., Claassen, J., Cornelius, T., Derby, L., Dong, M., Givens, R. C., Hochman, B., Homma, S., Kronish, I. M., Lee, S., et al. (2020). Psychological distress, coping behaviors, and preferences for support among New York healthcare workers during the COVID-19 pandemic. *Gen. Hosp. Psychiatry*,

66, 1–8. doi: 10.1016/j.genhosppsych.2020.06.007

Temsah, M. H., Alenezi, S., Alarabi, M., Aljamaan, F., Alhasan, K., Assiri, R., Bassrawi, R., Alshahrani, F., Alhaboob, A., Alaraj, A., Alharbi, N. S., Alrabiaah, A., Halwani, R., Jamal, A., Abdulmajeed, N., Alfarra, L., Almashdali, W., Al Eyadhy, A., AlZamil, F., et al. (2022). Healthcare Workers' SARS-CoV-2 Omicron Variant Uncertainty-Related Stress, Resilience, and Coping Strategies during the First Week of the World Health Organization's Alert. *International Journal of Environmental Research and Public Health*, *19*(4), 1944. doi: https://doi.org/10.3390/ijerph19041944

United States Census Bureau. (April 05, 2021). *22 Million Employed in Health Care Fight Against COVID-19*. Retrieved January 22, 2022, from https://www.census.gov/library/stories/2021/04/who-are-our-health-care-workers.html

University of Colorado Boulder. (2022). *Seven Categories of Health Careers*. Retrieved January 22, 2022, from https://www.colorado.edu/career/majors-exploration/health-professions/seven-categories-health-careers

University of St. Augustine for Health Sciences. (January, 2021). *How to Become a Physical Therapist in 6 steps*. Retrieved January 22, 2022, from https://www.usa.edu/blog/how-to-become-a-physical-therapist/

Usher, K., Durkin, J., & Bhullar, N. (2020). The COVID-19 pandemic and mental health impacts. *International Journal of Mental Health Nursing*, *29*(3), 315–318. doi: https://doi.org/10.1111/inm.12726

Velavan, T. P., Meyer, C. G. (2020) The COVID-19 epidemic. *Tropical Medicine and*

International Health, 3(25), 278-280. doi: https://doi.org/10111/tmi.13383

Verger, P., Scronias, D., Dauby, N., Adedzi, K. A., Gobert, C., Bergeat, M., Gagneur, A., & Dube, E. (2021) Aptitudes of healthcare workers towards COVID-19 vaccination: a survey in France and French speaking parts of Belgium and Canada, 2020. *Euro Surveill, 26*(3) doi: https://doi.org/10.2807/1560-7917.ES.2021.26.3.2002047

Vivian, E., Oduor, H., Girisha, P., & Mantry, P. (2021). Mindfulness at Methodist-A Prospective Pilot Study of Mindfulness and Stress Resiliency Interventions in Patients at a Tertiary Care Medical Center. *International Journal of Environmental Research and Public Health, 18*(8), 4034. doi: https://doi.org/10.3390/ijerph18084034

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. *International Journal of Environmental Research and Public Health, 17*(5), 1729. doi: https://doi.org/10.3390/ijerph17051729

Weaver, M. D., Landrigan, C. P., Sullivan, J. P., O'Brien, C. S., Qadri, S., Viyaran, N., Wang, W., Vetter, C., Czeisler, C. A., & Barger, L. K. (2020). The Association Between Resident Physician Work-Hour Regulations and Physician Safety and Health. *The American Journal of Medicine, 133*(7), e343–e354. doi: https://doi.org/10.1016/j.amjmed.2019.12.053

Wilson, J. M., Lee, J., Fitzgerald, H. N., Oosterhoff, B., Sevi, B., & Shook, N. J. (2020).

Job insecurity and financial concern during the COVID-19 pandemic are associated with worse mental health. *Journal of Occupational and Environmental Medicine*, *62*(9), 686-691. doi: 10.1097/JOM.0000000000001962

World Health Organization. (2021). Classification of omicron (B.1.1.529): SARS-COV-2 variant of concern. *World Health Organization*. Retrieved January 15, 2022, from https://www.who.int/news/item/26-11-2021-classification-of-omicron-(b.1.1.529)-sars-cov-2-variant-of-concern

World Health Organization. (2022). Who coronavirus (COVID-19) dashboard. *World Health Organization*. Retrieved June 15, 2022, from https://covid19.who.int/

Xie J., Tong Z., Guan X., Du B., & Qiu H. (2020) Clinical Characteristics of Patients Who Died of Coronavirus Disease 2019 in China. *JAMA Netw Ope,. 3(*4), e205619. doi:10.1001/jamanetworkopen.2020.5619

Xiong, J., Lipsitz, O., Nasri, F., Lui, L., Gill, H., Phan, L., Chen-Li, D., Iacobucci, M., Ho, R., Majeed, A., & McIntyre, R. S. (2020). Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *Journal of Affective Disorders*, *277*, 55–64. doi: https://doi.org/10.1016/j.jad.2020.08.001

Yang, S., Meredith, P., & Khan, A. (2015). Stress and burnout among healthcare professionals working in a mental health setting in Singapore. *Asian Journal of Psychiatry*, *15*, 15–20. doi: https://doi.org/10.1016/j.ajp.2015.04.005

Zhang, W.R., Wang, K., Yin, L., Zhao, W.F., Xue, Q., Peng, M., Min, B. Q., Tian, Q., Leng, H. X., Du, J. L., Chang, H., Yang, Y., Li, W., Shangguan, F. F., Yan, T. Y., Dong, H. Q., Han, Y., Wang, Y. P., Cosci, F., & Wang, H. X. (2020). Mental Health and Psychosocial Problems of Medical Health Workers during the

COVID-19 Epidemic in China. *Psychotherapy and Psychosomatics*, 89(4), 242–250. doi: https://doi.org/10.1159/000507639

Zhou, P., Yang, X. L., Wang, X. G., Hu, B., Zhang, L., Zhang, W., Si, H., Zhu, Y., Li, B., Huang, C., Chen, H., Chen, J., Luo, Y., Guo, H., Jiang, R., Liu, M., Chen, Y., Shen, X., Wang, X., Zheng, X., Zhao, K., Chen, Q., Deng, F., Liu, L., Yan, B., Zhan, F., Wang, Y., Xiao, G., & Shi, Z. (2020). A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature*, 579, 270-273. https://doi.org/10/1038/s41586-020-2012-7

Zhou, T., Guan, R., & Sun, L. (2021). Perceived organizational support and PTSD symptoms of frontline healthcare workers in the outbreak of COVID-19 in Wuhan: The mediating effects of self-efficacy and coping strategies. *Applied Psychology. Health and Well-Being*, 10.1111/aphw.12267. doi: https://doi.org/10.1111/aphw.12267

Appendix A

Email Recruitment Template

Subject Line: Stress levels while working in a pandemic

Dear BAYADA Home Health Care employee,

My name is Charles Salvo and I am a Physical Therapist within the Wilkes-Barre/Scranton visits office. I also am a doctoral student and PhD candidate at Marywood University. I am conducting a research study. Its purpose is to evaluate and assess perceived stress scores amongst home health care workers, in their professional setting, following the identification of the COVID-19 Omicron variant.

You are invited to participate in the study if you qualify. To qualify, you must have been an employee of BAYADA Home Health Care since November 2021, have a company email address, and hold one of the following field staff employee positions: Physical Therapist, Occupational Therapist, Speech Therapist, Registered Nurse, or Licensed Practical Nurse. In addition to the above, you must have access to a computer, smartphone, tablet, or other mobile device with internet access. The 19-question survey will be held through the online survey platform Qualtrics. It will take about 5 minutes to complete.

Benefits in this study include the potential ability to understand the mental health of healthcare workers during the everchanging COVID-19 pandemic and may include a self-awareness and identification of your individual stress level while working through a pandemic.

Acceptance or refusal to participate in this study will neither positively or negatively affect your employment status, rank, position, and/or preference. Thus, completion is optional. However, your participation in the study would be greatly appreciated.

Survey link:
https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV_eo0iL67CZzybaOW

This study has been approved by Marywood University's Exempt Review Committee.

Sincerely,

Charles Salvo, PT, DPT, MS, GCS, ABD
cjsalvo@m.marywood.edu
570-510-0503

Appendix B

Exempt Informed Consent Form

Stress Levels Amongst Home Health Care Workers Following the COVID-19 Omicron Variant

Principal Investigator (PI): Charles Salvo – PhD Student at Marywood University
Principal Investigator Contact Information: 570-510-0503 and cjsalvo@m.marywood.edu
Research Advisor: Dr. Alan Levine – Professor at Marywood University
Research Advisor Contact Information: levine@marywood.edu and 570-348-6290

Invitation for a Research Study

You are invited to participate in a research study about stress levels amongst home health care workers following the identification of the COVID-19 Omicron variant. You were chosen because you are:

- Employed by BAYADA Home Health Care as a either a field staff Physical Therapist, Occupational Therapist, Speech Therapist, Registered Nurse, or Licensed Nurse Practitioner
- Have a company email address
- Have been employed by BAYADA Home Health Care since November of 2021
- Have access to a computer, smartphone, tablet, or other mobile device with internet access

Please read this form. Ask any questions you may have before agreeing to take part in this study. This study is being conducted by a Physical Therapist and doctoral candidate, Charles Salvo, at Marywood University.

Purpose – About the Study

The purpose of this quantitative correlation study is to probe the effect on home healthcare staff's perceived stress levels while working after the identification of the COVID-19 Omicron variant and while examining the Social Cognitive Theory.

Procedures - What You Will Do

If you agree to be in this study, you will be asked to complete a one-time, 19-question online survey via the online survey platform Qualtrics. This survey will take approximately 5 minutes of your time.

Risks and Benefits

The risks are no greater than the risks in daily life or activities.

A benefit may be the potential ability to understand the mental health of healthcare workers during the everchanging COVID-19 pandemic and may include a self-awareness and identification of your individual stress level while working through a pandemic.

Confidentiality

The records of this study will be kept private. Information used in any written or presented report will not make it possible to identify you. Only the primary investigator and their three dissertation committee members will have access to the research records. Records will be kept for six months and then destroyed through deletion of computer records. No web-based action is perfectly secure. However, reasonable efforts will be made to protect your transmission from third-party access.

Taking Part is Voluntary

Your participation is voluntary. Your decision to participate or not participate will not affect your current or future relations with the investigator. It will not affect your relations with Marywood University or your employer. You may withdraw at any time until you submit your answers. There will be no penalty. To withdraw at any time up until the point you submit your survey, simply close your web browser. Your results will then be destroyed. Since the survey results are anonymous to the investigator, once you complete the survey, your answers cannot be withdrawn.

Contacts and Questions

If you have questions about this study at any time, contact the principal investigator or the advisor. Their contact information appears at the top of page one.

If you have questions related to the rights of research participants or research-related injuries (where applicable), please contact the Institutional Review Board at (570) 961-4782 or irbhelp@marywood.edu.

You may print a copy of this form to keep for your records.

Statement of Consent

By proceeding:

- You understand what the study involves.
- You have asked questions if you had them
- You agree to participate in the study

Appendix C

Perceived Stress Scale

		0 – Never	1 – Almost Never	2 – Sometimes	3 – Fairly Often	4 – Very Often
1.	In the last month, how often have you been upset because of something that happened unexpectedly?	○	○	○	○	○
2.	In the last month how often have you felt that you were unable to control the important things in your life?	○	○	○	○	○
3.	In the last month how often have you felt nervous and stressed?	○	○	○	○	○
4.	In the last month how often have you felt confident about your ability to handle your personal problems?	○	○	○	○	○
5.	In the last month, how often have you felt that things were going your way?	○	○	○	○	○
6.	In the last month, how often have you found that you could not cope with all the things that you had to do?	○	○	○	○	○
7.	In the last month, how often how often have you been able to control irritations in your life?	○	○	○	○	○
8.	In the last month, how often have you felt that you were on top of things?	○	○	○	○	○
9.	In the last month, how often have you been angered because of things that happened that were outside of your control?	○	○	○	○	○
10.	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	○	○	○	○	○

Appendix D

Demographic Survey Questions

1) What is your gender?
   - Man ○
   - Woman ○
   - Non-binary / third gender ○
   - Agender ○

2) What is your age? _____

3) What is the total number of individuals living in your current household? _____

4) What is the highest level of education you have received?
   - Less than a high school diploma ○
   - High school degree or equivalent (e.g., GED) ○
   - Some college experience with no degree ○
   - Associate's degree ○
   - Bachelor's degree ○
   - Master's degree ○
   - Advanced degree (e. g., MD, PhD, DPT) ○

5) Which of the following best describes your race?
   - Asian or Pacific Islander ○
   - Black or African American ○
   - Hispanic or Latino ○
   - Native American or Alaskan Native ○
   - White or Caucasian ○
   - Multiracial or Biracial ○

6) What is the total number of years in your current profession? _____

7) What is the total number of years you have been practicing home health care? _____

8) Do you have children?
   - Yes ○
   - No ○

9) What is your current relationship status?
   - Single / never married ○
   - Dating ○
   - Married or domestic partnership ○
   - Divorced ○
   - Widowed ○
   - Separated ○

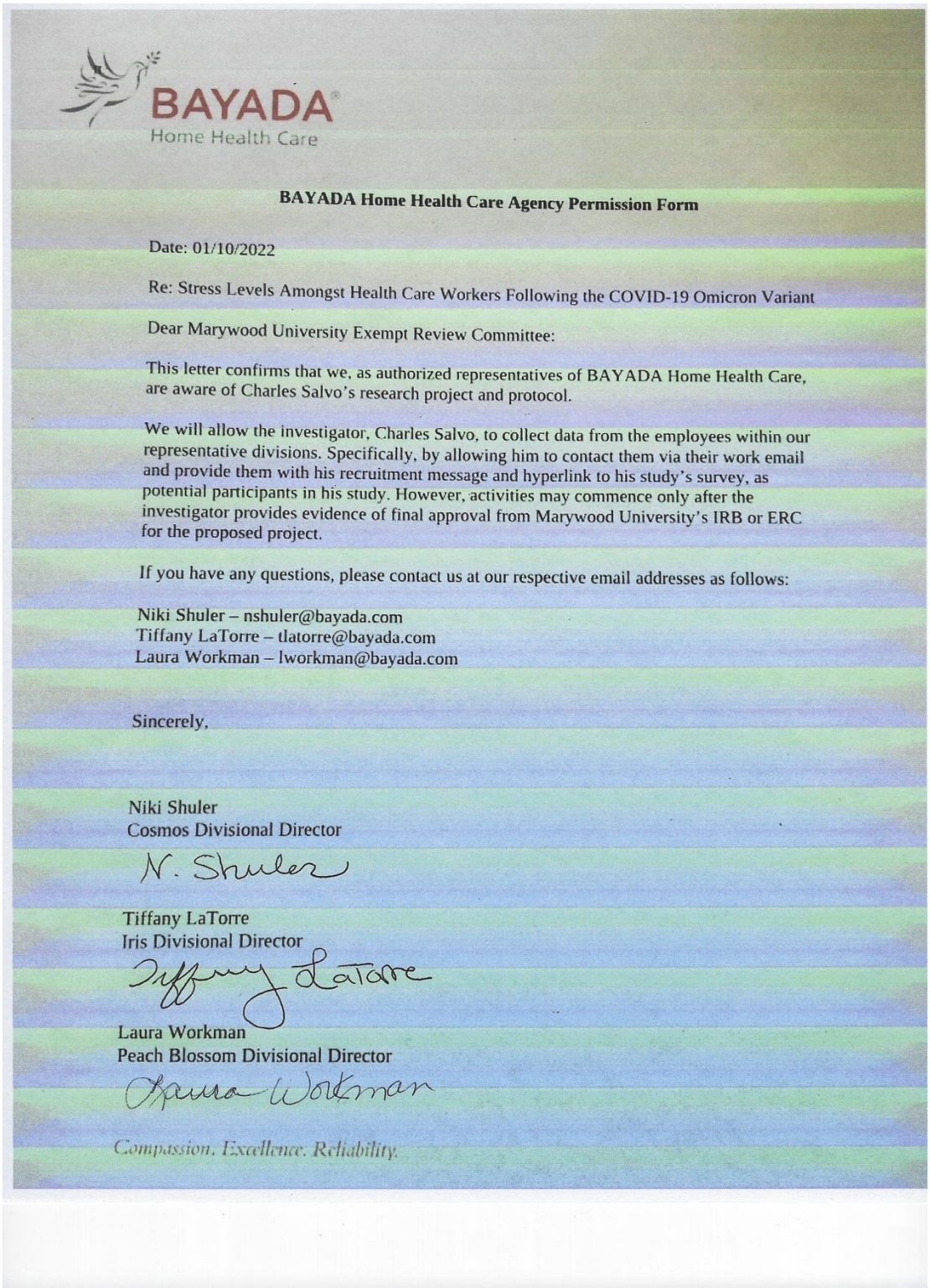
Appendix E

Demographic Test-Retest Raw Data (n = 7) for the Dates of 02/14/2022 and 02/21/2022

ID	7634	1834	5540	5447	4949	3104	3129
Gender	Male	Female	Male	Female	Female	Male	Female
Age	53	42	33	32	69	34	47
People in Current Household	2	5	2	2	2	2	2
Education Level	BS	MS	DPT	DPT	BS	DPT	MS
Race	White	White	White	White	White	White	White
Years in Current Profession	31	20	9	7	20	5	23.5
Years in Home Health Care	20	10	4	1	20	5	7
Children	No	Yes	No	No	Yes	No	Yes
Relationship Status	Single	Widowed	Married	Married	Divorced	Engaged	Dating

Appendix F

BAYADA Home Health Care Agency Permission Form



BAYADA
Home Health Care

BAYADA Home Health Care Agency Permission Form

Date: 01/10/2022

Re: Stress Levels Amongst Health Care Workers Following the COVID-19 Omicron Variant

Dear Marywood University Exempt Review Committee:

This letter confirms that we, as authorized representatives of BAYADA Home Health Care, are aware of Charles Salvo's research project and protocol.

We will allow the investigator, Charles Salvo, to collect data from the employees within our representative divisions. Specifically, by allowing him to contact them via their work email and provide them with his recruitment message and hyperlink to his study's survey, as potential participants in his study. However, activities may commence only after the investigator provides evidence of final approval from Marywood University's IRB or ERC for the proposed project.

If you have any questions, please contact us at our respective email addresses as follows:

Niki Shuler – nshuler@bayada.com
Tiffany LaTorre – tlatorre@bayada.com
Laura Workman – lworkman@bayada.com

Sincerely,

Niki Shuler
Cosmos Divisional Director
N. Shuler

Tiffany LaTorre
Iris Divisional Director
Tiffany LaTorre

Laura Workman
Peach Blossom Divisional Director
Laura Workman

Compassion. Excellence. Reliability.

Appendix G

Second Email Recruitment Template

Subject Line: Second Chance to Participate! Stress levels while working in a pandemic

Dear BAYADA Home Health Care employee,

Please note this is the second email invitation being sent out to participate in my study. If you already completed the survey, thank you for your participation and please ignore this email. However, if you did not yet complete the survey, this is your second chance!

My name is Charles Salvo and I am a Physical Therapist within the Wilkes-Barre/Scranton visits office. I also am a doctoral student and PhD candidate at Marywood University. I am conducting a research study. Its purpose is to evaluate and assess perceived stress scores amongst home health care workers, in their professional setting, following the identification of the COVID-19 Omicron variant.

You are invited to participate in the study if you qualify. To qualify, you must have been an employee of BAYADA Home Health Care since November 2021, have a company email address, and hold one of the following field staff employee positions: Physical Therapist, Occupational Therapist, Speech Therapist, Registered Nurse, or Licensed Practical Nurse. In addition to the above, you must have access to a computer, smartphone, tablet, or other mobile device with internet access. The 19-question survey will be held through the online survey platform Qualtrics. It will take about 5 minutes to complete.

Benefits in this study include the potential ability to understand the mental health of healthcare workers during the everchanging COVID-19 pandemic and may include a self-awareness and identification of your individual stress level while working through a pandemic.

Acceptance or refusal to participate in this study will neither positively or negatively affect your employment status, rank, position, and/or preference. Thus, completion is optional. However, your participation in the study would be greatly appreciated.

Survey link:
https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV_eo0iL67CZzybaOW

This study has been approved by Marywood University's Exempt Review Committee.

Sincerely,

Charles Salvo, PT, DPT, MS, GCS, ABD
cjsalvo@m.marywood.edu - 570-510-0503

Appendix H

Third Email Recruitment Template

Subject Line: Final Chance to Participate!! Stress levels while working in a pandemic

Dear BAYADA Home Health Care employee,

Please note this is the third email invitation being sent out to participate in my study. If you already completed the survey, thank you for your participation and please ignore this email. However, if you did not yet complete the survey, this is your last chance!

My name is Charles Salvo and I am a Physical Therapist within the Wilkes-Barre/Scranton visits office and a PhD candidate at Marywood University. I am conducting a research study. Its purpose is to evaluate and assess perceived stress scores amongst home health care workers, in their professional setting, following the identification of the COVID-19 Omicron variant.

You are invited to participate in the study if you qualify. To qualify, you must have been an employee of BAYADA Home Health Care since November 2021, have a company email address, and hold one of the following field staff employee positions: Physical Therapist, Occupational Therapist, Speech Therapist, Registered Nurse, or Licensed Practical Nurse. In addition to the above, you must have access to a computer, smartphone, tablet, or other mobile device with internet access. The 19-question survey will be held through the online survey platform Qualtrics. It will take about 5 minutes to complete.

Benefits in this study include the potential ability to understand the mental health of healthcare workers during the everchanging COVID-19 pandemic and may include a self-awareness and identification of your individual stress level while working through a pandemic.

Acceptance or refusal to participate in this study will neither positively or negatively affect your employment status, rank, position, and/or preference. Thus, completion is optional. However, your participation in the study would be greatly appreciated.

Survey link:
https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV_eo0iL67CZzybaOW

This study has been approved by Marywood University's Exempt Review Committee.

Sincerely,

Charles Salvo, PT, DPT, MS, GCS, ABD
cjsalvo@m.marywood.edu - 570-510-0503

Appendix I

Frequency Distribution of Age (n = 121)

Age	*N*	Percent	Valid Percent	Cumulative Percent
27	2	1.7	1.7	1.7
28	1	0.8	0.8	2.5
29	2	1.7	1.7	4.1
30	2	1.7	1.7	5.8
32	4	3.3	3.3	9.1
33	6	5.0	5.0	14.0
34	4	3.3	3.3	17.4
35	5	4.1	4.1	21.5
36	3	2.5	2.5	24.0
37	1	0.8	0.8	24.8
38	4	3.3	3.3	28.1
39	1	0.8	0.8	28.9
40	5	4.1	4.1	33.1
41	3	2.5	2.5	35.5
42	5	4.1	4.1	39.7
43	1	0.8	0.8	40.5
44	2	1.7	1.7	42.1
45	8	6.6	6.6	48.8
45	3	2.5	2.5	51.2
47	6	5.0	5.0	56.2
48	1	0.8	0.8	57.0
49	2	1.7	1.7	58.7
50	5	4.1	4.1	62.8
51	2	1.7	1.7	64.5
52	5	4.1	4.1	68.6
53	7	5.8	5.8	74.4
55	2	1.7	1.7	76.0
56	1	0.8	0.8	76.9
57	3	2.5	2.5	79.3
58	5	4.1	4.1	83.5
59	5	4.1	4.1	87.6
60	1	0.8	0.8	88.4
61	3	2.5	2.5	90.9
62	2	1.7	1.7	92.6
64	2	1.7	1.7	94.2
66	1	0.8	0.8	95.0
68	3	2.5	2.5	97.5
69	1	0.8	0.8	98.3
70	1	0.8	0.8	99.1
71	1	0.8	0.8	100.0

Appendix J

Frequency Distribution: Number of Years in Participant's Current Profession (n = 121)

Years	*N*	Percent	Valid Percent	Cumulative Percent
1	1	0.8	0.8	0.8
3	1	0.8	0.8	1.7
4	2	1.7	1.7	3.3
5	2	1.7	1.7	5.0
6	4	3.3	3.3	8.3
7	4	3.3	3.3	11.6
8	6	5.0	5.0	16.5
9	1	0.8	0.8	17.4
10	11	9.1	9.1	26.4
11	2	1.7	1.7	28.1
12	3	2.5	2.5	30.6
13	2	1.7	1.7	32.2
14	1	0.8	0.8	33.1
15	4	3.3	3.3	36.4
16	5	4.1	4.1	40.5
17	2	1.7	1.7	42.1
18	1	0.8	0.8	43.0
19	6	5.0	5.0	47.9
20	7	5.8	5.8	53.7
21	6	5.0	5.0	58.7
22	3	2.5	2.5	61.2
23	2	1.7	1.7	62.8
24	4	3.3	3.3	66.1
25	5	4.1	4.1	70.2
26	1	0.8	0.8	71.1
27	1	0.8	0.8	71.9
28	3	2.5	2.5	74.4
30	5	4.1	4.1	78.5
31	3	2.5	2.5	81.0
32	2	1.7	1.7	82.6
33	4	3.3	3.3	86.0
34	1	0.8	0.8	86.8
35	2	1.7	1.7	88.4
36	4	3.3	3.3	91.7
37	2	1.7	1.7	93.4
38	3	2.5	2.5	95.9
39	1	0.8	0.8	96.7
40	1	0.8	0.8	97.5
41	1	0.8	0.8	98.3
45	1	0.8	0.8	99.2
49	1	0.8	0.8	100.0

Appendix K

Frequency Distribution: Participant Number of Years in Home Health Care (n = 121)

Years	*N*	Percent	Valid Percent	Cumulative Percent
0	5	4.1	4.1	4.1
1	7	5.8	5.8	9.9
2	1	0.8	0.8	10.7
2	2	1.7	1.7	12.4
3	15	12.4	12.4	24.8
4	9	7.4	7.4	32.2
5	1	0.8	0.8	33.1
5	4	3.3	3.3	36.4
6	10	8.3	8.3	44.6
7	9	7.4	7.4	52.1
8	6	5.0	5.0	57.0
9	4	3.3	3.3	60.3
10	14	11.6	11.6	71.9
11	3	2.5	2.5	74.4
12	1	0.8	0.8	75.2
13	1	0.8	0.8	76.0
15	4	3.3	3.3	79.3
16	3	2.5	2.5	81.8
17	2	1.7	1.7	83.5
20	5	4.1	4.1	87.6
21	2	1.7	1.7	89.3
22	1	0.8	0.8	90.1
24	1	0.8	0.8	90.9
25	1	0.8	0.8	91.7
30	2	1.7	1.7	93.4
32	1	0.8	0.8	94.2
33	1	0.8	0.8	95.0
34	1	0.8	0.8	95.9
35	3	2.5	2.5	98.3
36	1	0.8	0.8	99.2
37	1	0.8	0.8	100.0

Appendix L

Total Perceived Stress Scale Scores (n = 121)

Score	*N*	Percent	Valid Percent	Cumulative Percent
12	1	0.8	0.8	0.8
15	3	2.5	2.5	3.3
16	1	0.8	0.8	4.1
17	2	1.7	1.7	5.8
18	7	5.8	5.8	11.6
19	7	5.8	5.8	17.4
20	15	12.4	12.4	29.8
21	10	8.3	8.3	38.0
22	11	9.1	9.1	47.1
23	20	16.5	16.5	63.3
24	13	10.7	10.7	74.4
25	14	11.6	11.6	86.0
26	5	4.1	4.1	90.1
27	4	3.3	3.3	93.4
28	5	4.1	4.1	97.5
29	1	0.8	0.8	98.3
30	1	0.8	0.8	99.2
31	1	0.8	0.8	100.0

Appendix M

Total Perceived Stress Scale Scores for Males and Females (n = 121)

Males					
	Score	*N*	Percent	Valid Percent	Cumulative Percent
	12	1	4.2	4.2	4.2
	15	1	4.2	4.2	8.3
	17	1	4.2	4.2	12.5
	18	1	4.2	4.2	16.7
	19	3	12.5	12.5	29.2
	20	5	20.8	20.8	50.0
	22	2	8.3	8.3	58.3
	23	1	4.2	4.2	62.5
	24	2	8.3	8.3	70.8
	25	4	16.7	16.7	87.5
	26	1	4.2	4.2	91.7
	27	1	4.2	4.2	95.8
	31	1	4.2	4.2	100.0
Females					
	Score	*N*	Percent	Valid Percent	Cumulative Percent
	15	2	2.1	2.1	2.1
	16	1	1.0	1.0	3.1
	17	1	1.0	1.0	4.1
	18	6	6.2	6.2	10.3
	19	4	4.1	4.1	14.4
	20	10	10.3	10.3	24.7
	21	10	10.3	10.3	35.1
	22	9	9.3	9.3	44.3
	23	19	19.6	19.6	63.9
	24	11	11.3	11.3	75.3
	25	10	10.3	10.3	85.6
	26	4	4.1	4.1	89.7
	27	3	3.1	3.1	92.8
	28	5	5.2	5.2	97.9
	29	1	1.0	1.0	99.0
	30	1	1.0	1.0	100.0

Appendix N

Total Perceived Stress Scale Scores for the Identified Participant Races (n = 121)

White					
	Score	*N*	Percent	Valid Percent	Cumulative Percent
	15	3	2.8	2.8	2.8
	16	1	0.9	0.9	3.7
	17	1	0.9	0.9	4.6
	18	6	5.5	5.5	10.1
	19	6	5.5	5.5	15.6
	20	13	11.9	11.9	27.5
	21	9	8.3	8.3	35.8
	22	10	9.2	9.2	45.0
	23	20	18.3	18.3	63.3
	24	12	11.0	11.0	74.3
	25	11	10.1	10.1	84.4
	26	5	4.6	4.6	89.0
	27	4	3.7	3.7	92.7
	28	5	4.6	4.6	97.2
	29	1	0.9	0.9	98.2
	30	1	0.9	0.9	99.1
	31	1	0.9	0.9	100.0
Nonwhite					
	Score	*N*	Percent	Valid Percent	Cumulative Percent
	12	1	8.3	8.3	8.3
	17	1	8.3	8.3	16.7
	18	1	8.3	8.3	25.0
	19	1	8.3	8.3	33.3
	20	2	16.7	16.7	50.0
	21	1	8.3	8.3	58.3
	22	1	8.3	8.3	66.7
	24	1	8.3	8.3	75.0
	25	3	25.0	25.0	100.0

Appendix O

Total Perceived Stress Scale Scores for Identified Relationship Statuses (n = 121)

Single or never married	Score	*N*	Percent	Cumulative Percent
	19	1	16.7	16.7
	20	1	16.7	33.3
	22	1	16.7	50.0
	23	1	16.7	66.7
	25	1	16.7	83.3
	28	1	16.7	100.0
Dating	Score	*N*	Percent	Cumulative Percent
	15	1	16.7	16.7
	18	1	16.7	33.3
	19	1	16.7	50.0
	25	2	33.3	83.3
	26	1	16.7	100.0
Married or Domestic Partnership	Score	*N*	Percent	Cumulative Percent
	12	1	1.1	1.1
	15	2	2.2	3.3
	16	1	1.2	4.3
	17	2	2.2	6.5
	18	5	5.4	12.0
	19	3	3.3	15.2
	20	13	14.1	29.3
	21	8	8.7	38.0
	22	9	9.8	47.8
	23	15	16.3	64.1
	24	11	12.0	76.1
	25	9	9.8	85.9
	26	4	4.3	90.2
	27	3	3.3	93.5
	28	4	4.3	97.8
	29	1	1.1	98.9
	30	1	1.1	100.0
Divorce	Score	*N*	Percent	Cumulative Percent
	19	2	15.4	15.4
	20	1	7.7	23.1
	21	1	7.7	30.8
	22	1	7.7	38.5
	23	2	15.4	53.8
	24	2	15.4	69.2
	25	2	15.4	84.6
	27	1	7.7	92.3
	31	1	7.7	100.0
Widowed	Score	*N*	Percent	Cumulative Percent
	18	1	33.3	33.3
	23	2	66.7	100.0
Separated	Score	*N*	Percent	Cumulative Percent
	21	1	100.0	100.0

Appendix P

Total Perceived Stress Scale Scores for Identified Educational Levels (n = 121)

Some College Experience with No Degree	Score	*N*	Percent	Cumulative Percent
	21	1	33.3	33.3
	22	1	33.3	66.7
	26	1	33.3	100.0
Associate's Degree	Score	*N*	Percent	Cumulative Percent
	15	1	9.1	9.1
	18	1	9.1	18.2
	19	1	9.1	27.3
	23	3	27.3	54.5
	24	2	18.2	72.7
	25	2	18.2	90.0
	26	1	9.1	100.0
Bachelor's Degree	Score	*N*	Percent	Cumulative Percent
	15	1	2.7	2.7
	16	1	2.7	5.4
	18	2	5.4	10.8
	19	3	8.1	18.9
	20	4	10.8	29.7
	21	6	16.2	45.9
	22	3	8.1	54.1
	23	6	16.2	70.3
	24	3	8.1	78.4
	25	4	10.4	89.2
	26	1	2.7	91.9
	27	1	2.7	94.6
	28	2	5.4	100.0
Master's Degree	Score	*N*	Percent	Cumulative Percent
	17	2	4.7	4.7
	18	3	7.0	11.6
	20	5	11.6	23.2
	21	1	2.3	25.6
	22	5	11.6	37.2
	23	9	20.9	58.1
	24	7	16.3	74.4
	25	5	11.6	86.0
	26	2	4.7	90.7
	27	1	2.3	93.0
	28	3	7.0	100.0

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Appendix P (continued)

Total Perceived Stress Scale Scores for Identified Educational Levels (n = 121)

Advanced Degree	Score	*N*	Percent	Cumulative Percent
	12	1	3.7	3.7
	15	1	3.7	7.4
	18	1	3.7	11.1
	19	3	11.1	22.2
	20	6	22.2	44.4
	21	2	7.4	51.9
	22	2	7.4	59.3
	23	2	7.4	66.7
	24	1	3.7	70.4
	25	3	11.1	81.5
	27	2	7.4	88.9
	29	1	3.7	92.6
	30	1	3.7	96.3
	31	1	3.7	100.0

Appendix Q

Total Perceived Stress Scale Score on Total Individuals in Current Households (n = 121)

One Individual	Score	*N*	Percent	Cumulative Percent
	15	1	16.7	16.7
	18	1	16.7	33.3
	19	1	16.7	50.0
	23	2	33.3	83.3
	28	1	16.7	100.0
Two Individuals	Score	*N*	Percent	Cumulative Percent
	15	1	2.6	2.6
	17	1	2.6	5.1
	18	1	2.6	7.7
	19	1	2.6	10.3
	20	9	23.1	33.3
	21	2	5.1	38.5
	22	2	5.1	43.6
	23	5	12.8	56.4
	24	5	12.8	69.2
	25	7	17.9	87.2
	26	2	5.1	92.3
	27	1	2.6	94.9
	28	1	2.6	97.4
	29	1	2.6	100.0
Three Individuals	Score	*N*	Percent	Cumulative Percent
	15	1	3.8	3.8
	18	3	11.5	15.4
	19	2	7.7	23.1
	20	4	15.4	38.5
	21	3	11.5	50.0
	22	3	11.5	61.5
	23	4	15.4	76.9
	25	2	7.7	84.6
	26	1	3.8	88.5
	27	1	3.8	92.3
	28	1	3.8	96.2
	31	1	3.8	100.0
Four Individuals	Score	*N*	Percent	Cumulative Percent
	12	1	2.7	2.7
	16	1	2.7	5.4
	17	1	2.7	8.1
	18	2	5.4	13.5
	19	3	8.1	21.6
	20	2	5.4	27.0
	21	5	13.5	40.5
	22	5	13.5	54.1
	23	5	13.5	67.6
	24	4	10.8	78.4
	25	3	8.1	86.5
	26	1	2.7	89.2
	27	2	5.4	94.6
	28	2	5.4	100.0

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Appendix Q (continued)

Total Perceived Stress Scale Score on Total Individuals in Current Households (n = 121)

Five Individuals	Score	*N*	Percent	Cumulative Percent
	22	1	9.1	9.1
	23	3	27.3	36.4
	24	4	36.4	72.7
	25	1	9.1	81.8
	26	1	9.1	90.9
	20	1	9.1	100.0
Six Individuals	Score	*N*	Percent	Cumulative Percent
	23	1	50.0	50.0
	25	1	50.0	100.0

Appendix R

Total Perceived Stress Scale Scores for Participants With and Without Children (n = 121)

With Children					
	Score	*N*	Percent	Valid Percent	Cumulative Percent
	12	1	1.0	1.0	1.0
	15	1	1.0	1.0	2.0
	16	1	1.0	1.0	3.0
	17	2	2.0	2.0	5.1
	18	7	7.1	7.1	12.1
	19	5	5.1	5.1	17.2
	20	10	10.1	10.1	27.3
	21	10	10.1	10.1	37.4
	22	9	9.1	9.1	46.5
	23	17	17.2	17.2	63.6
	24	13	13.1	13.1	76.8
	25	11	11.1	11.1	87.9
	26	5	5.1	5.1	92.9
	27	3	3.0	3.0	96.0
	28	3	3.0	3.0	99.0
	30	1	1.0	1.0	100.0
Without Children					
	Score	*N*	Percent	Valid Percent	
	15	2	9.1	9.1	9.1
	19	2	9.1	9.1	18.2
	20	5	22.7	22.7	40.9
	22	2	9.1	9.1	50.0
	23	3	13.6	13.6	63.6
	25	3	13.6	13.6	77.3
	27	1	4.5	4.5	81.8
	28	2	9.1	9.1	90.9
	29	1	4.5	4.5	95.5
	31	1	4.5	4.5	100.0