CERTIFIED NURSING ASSISTANT TURNOVER IN THE LONG-TERM CARE FACILITY INDUSTRY

by

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Abstract

Employee turnover in long-term care facilities results in increased operational costs and a reduction in the quality of care delivered. The purpose of this correlational study was to investigate the relationships between employee turnover intention of certified nursing assistants working in long-term care facilities and employee compensation, engagement, job satisfaction, motivation, perceived work stress during the COVID-19 pandemic, and work environment. The population of interest consisted of CNAs over the age of 17, with at least two years of experience working in the central Texas long-term care industry. Herzberg’s motivation-hygiene theory served as the theoretical framework underpinning this study. Multiple linear regression analyses and Spearman’s rank-order correlation coefficient were used to predict employee turnover. The six predictor variables accounted for approximately 66% of the variance in turnover intention and the result was statistically significant ($R^2 = .657$, $F(6,385) = 125.65$, $p < .001$). The multiple regression model accounted for significantly more variance in turnover intention than would be expected by chance. Correlation tests resulted in statistically significant inverse relationships between the predictor variable of turnover intention and each of the six predictor variables. The findings of this study may be advantageous to long-term care facility leaders as they evaluate and amend their retention strategies that are designed to decrease turnover intention. By serving to diminish turnover intention, this study may help to improve the quality of care delivered and reduce operational costs that negatively impact the lives of both long-term care employees and the residents under their supervision.

Key words: certified nursing assistant, compensation, engagement, job satisfaction, motivation, COVID-19, work environment, turnover intention.
Dedication

I would like to dedicate this study to my daughter, Cordelia Ruth Gregory: you came along just as I entered the dissertation process and gave me a renewed passion for life and a drive to complete this degree. Thank you for being the best research assistant a dad could ask for. I hope my hard work shows you that you can accomplish anything you set your mind to in life. I’d also like to dedicate this to my partner, Elda. Thank you for your love and support while I underwent this difficult journey. I’d also like to dedicate this study to my parents and my brother. Without your love and support I wouldn’t be the man that I am today and wouldn’t have been able to persevere through the doctoral journey. I would also like to thank my friends who listened to me blather on for hours while I worked out the layout of what would become my research project. My thanks especially go to Matt Carmean, your words of wisdom and sage advice are forever appreciated, as is your work ethic that inspired me to push myself further in emulation of you. Lastly, I’d like to dedicate this to Trevor Pella, a man for whom the word “brother” doesn’t do justice and his mother, Andriene. Trevor, without you I don’t know where my life would have gone. You were there for me in the darkest of times and it isn’t an understatement to say I owe you my life. I wouldn’t be here now were it not for you, so thank you, brother.
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Section 1: Foundation of the Study

Certified nursing assistants (CNAs) are integral to a long-term care organization’s ability to provide quality resident care to America’s aging population. These direct care workers provide most of the daily care to over 1.4 million Americans aged 65 and older residing in nursing homes (Bluth et al., 2021). Nursing homes are unique in healthcare in that they serve people who are at high risk for falls, who often lack the ability to care for themselves, and are at higher risk for adverse drug events due to multiple medications (Ng et al., 2022). Moreover, nursing homes generally do not have a physician on site, with CNAs being expected to provide most of the healthcare needed (Yount et al., 2022). Their vital role in care delivery notwithstanding, one of the issues that has chronically plagued long-term care facilities is the high rate of CNA turnover (Cimarolli et al., 2022). Turnover of these healthcare professionals is costly and long-term care providers cannot afford to lose these skilled employees without expecting to face financial burdens and poor resident health outcomes as a result (Lee, 2022). Accordingly, long-term care organizations require effective retention strategies to encourage this workforce to remain in the field (Yount et al., 2022). Subsequently, these strategies may be contingent on improving employee motivation, job satisfaction, compensation, engagement, and their work environment (Kittles, 2021).

This quantitative correlational study derives from a desire to understand the factors that influence the high turnover rates of CNA employees. Little research has been done regarding the issue of turnover in long-term care facilities regarding this workforce, with only one previous researcher attempting to outline a set of comprehensive factors that influence CNA turnover intention (Bryant, 2018). Yount et al. (2022) argued that in light of the COVID-19 pandemic, more research is needed regarding the factors underlying CNAs intent to leave the field. Previous studies have investigated the influence of compensation, engagement, job satisfaction,
motivation, and work environment on the turnover intention of healthcare professionals (Bryant, 2018; Kelly, 2019; Kittles, 2021). Building on these previous studies, this quantitative correlational study included surveys administered to CNAs to acquire data on how these factors, as well as perceived stress while working during the pandemic, influences CNA turnover in long-term care.

To begin this study, an overview of the background of the study problem, the purpose of the study, the research questions and hypotheses of the study, the nature of the study, and the theoretical framework that was used for the study will be outlined. Following this, the assumptions, limitations, and delimitations will be discussed, as well as the significance of the study. This section will conclude with a comprehensive review of the current literature regarding the research problem.

**Background of the Problem**

Employee turnover and retention is a problem for organizational leaders in all industries owing to the high costs in replacement, hiring, training, and the loss of institutional knowledge they incur (Akinyemi et al., 2022; KURNAT-Thoma et al., 2017; Reukauf, 2018; Shanks, 2020). Although all organizations experience turnover, the projected surge of baby-boomer retirements may well result in a significant spike in turnover over the coming decade (Haddad et al., 2021; Sousa-Ribeiro et al., 2022). In particular, long-term care facilities are significantly impacted by the changing demographics in the United States, as retiring baby-boomers simultaneously deplete the workforce while increasing the demand for that same labor force (Berridge et al., 2018; Harris-Kojetin et al., 2019; Sousa-Ribeiro et al., 2022). Consequently, it is vitally important that business leaders manage employee turnover strategically (Brymer & Sirmon, 2018; Burnett, 2018).
CNAs are the primary caregivers in long-term care facilities, providing roughly 80% of the daily direct care, including helping patients with eating, bathing, ambulatory needs, and toiletry assistance (Bryant, 2018; Loomer et al., 2021). Despite their active role in patient care, however, there is a common perception within long-term care facilities that CNAs are inferior to their colleagues, and, as such, they are often excluded from the development of patient care plans (Kennedy et al., 2020). The limited education and training experience required to become a CNA, and corresponding lower pay compared to other care staff, results in a perceived hostile environment, which encourages turnover intention (Berridge et al., 2018). Additionally, CNA staff in long-term care facilities are often subjected to verbal and physical abuse from their colleagues, patient families, and the patients themselves, which further drives turnover intention (Funk et al., 2021; Xiao et al., 2021).

Long-term care facilities are significantly impacted by high CNA turnover rates (Caspar et al., 2020). There are numerous costs associated with turnover, including employee replacement costs, loss of productivity, reduced quality of care, reduction in staff and patient morale, increased work stress, and resident dissatisfaction (Gandhi et al., 2021; Gracieux, 2021; Kittles, 2021). These issues are detrimental to both a facility’s profitability and sustainability. Thus, long-term care facility leaders must analyze turnover intention and deploy strategic solutions not only for the benefit of their organization, but for the communities they serve (Boone, 2021).

Prior research has attempted to address turnover intention in long-term care. Knapp et al. (2017), Bryant (2017), Hagerty and Buelow (2017), Burnett (2018), Kelly (2019), and Kittles (2021) have all found that a noteworthy correlation exists between job satisfaction and long-term care facility employee turnover intention. As such, leaders must ensure job satisfaction in order
to increase employee retention and decrease turnover intention (Behrens & Parmelee, 2018; Nemteanu et al., 2021). Although retention strategies can reduce employee turnover, many leaders overlook their importance and fail to put them in place (Burnett, 2018; Luo, 2018; Patterson, 2018). Retaining experienced professionals is key to the success of an organization (Gamble et al., 2019). Yet organizational leaders have had difficulty reducing high turnover rates in long-term care facilities for decades, with the challenge only increasing with the onslaught of the COVID-19 pandemic (Bennett et al., 2020; Campo-Arias et al., 2021).

Given that many long-term care leaders continue to struggle in identifying the factors that influence turnover intention, there is a need for continued research into this issue (Gracieux, 2021). The focus of this study helps to provide healthcare leaders with the research-based knowledge required to enact effective practices to retain CNA staff. Further, healthcare leaders also benefit from an enhanced understanding of the factors influencing turnover intention, allowing them to foster better relationships with staff and reduce costly labor disputes (Matthews et al., 2018).

**Problem Statement**

The general problem addressed is the high level of employee turnover in long-term care facilities resulting in increased operational costs related to replacing staff. Turnover in health facilities reduces the effectiveness of delivering care and increases national costs by over $4 billion annually (Han et al., 2019). In nursing homes, direct care staff, such as CNAs, have turnover rates of 129% (Brown, 2020; Loomer et al., 2021) with an estimated replacement cost for each individual CNA between $1,750 and $5,000 (Eaton et al., 2019). CNA turnover directly impacts quality of resident care as well, with one study of 980 California nursing homes finding that a 10% increase in CNA staff turnover results in a 19.3% rise in deficiency citations, thus
indicating that an increase in turnover leads to worse quality of care (Antwi & Bowblis, 2018). Bryant (2018) noted that long-term care facility leaders have inadequate information on the factors contributing to CNA turnover, and suggested that employee compensation, engagement, job satisfaction, motivation, and work environment may be correlated with CNA turnover in nursing homes. The specific problem to be addressed is the potential failure of leaders to develop successful retention strategies within the long-term care facility industry in central Texas, potentially resulting in increased operational costs related to replacing CNA staff.

**Purpose Statement**

The purpose of this quantitative correlational research study was to provide an understanding of the factors that influence employee turnover intention. This understanding was gained by examining the relationships between six independent predictor variables and a single, continuous dependent criterion variable. The dependent criterion variable was the employee turnover intention of certified nursing assistants in the long-term care facility industry. The independent predictor variables were employee compensation, engagement, job satisfaction, motivation, perceived work stress during the COVID-19 pandemic, and work environment. The population for this study consisted of CNAs working in long-term care facilities in central Texas. Earlier research, throughout various industries, has explored these predictor variables as potential reasons for employee turnover intention in order to gain a better understanding of the issue and improve employee retention (ADP Research Institute, 2012; Bryant, 2017; Bryant, 2018; Carnahan, 2013; Gelard & Rezaei, 2016; Holston-Okae, 2017; Holston-Okae & Mush, 2018; Kuo et al., 2020; Lerner, 2010; Society for Human Resource Management, 2016). Guided by the findings of this study, organizational leaders may develop and deploy strategic retention plans to decrease turnover rates. Consequently, the implications for positive social change include
reduced CNA turnover, resulting in improved patient outcomes for institutionalized patients in long-term care facilities (Loomer et al., 2021). Moreover, organizational leaders equipped with a research-based understanding of the factors that drive employee turnover intention will be better able to implement initiatives designed to increase retention, lower business operating costs, and improve the work-life experience of their employees (Holston-Okae & Mushi, 2018; Lee, 2022; Xiao et al., 2021).

**Research Questions**

The objective of this quantitative correlational study was to explore the relationships between predictor and criterion variables. The central research inquiry for this study was: What is the relationship between employee compensation, engagement, job satisfaction, motivation, perceived work stress during COVID-19, work environment, and employee turnover intention of CNAs working in the nursing home industry? From this fundamental research inquiry, six independent research questions were developed for this study, one for each predictor variable. Additionally, six null and six alternative hypotheses were established to determine whether a relationship exists and, if so, the strength of the correlation between the criterion and predictor variables. The research questions, and their corresponding hypotheses are below.

RQ1. What is the relationship between employee compensation and CNA turnover intention in the nursing home industry?

RQ2. What is the relationship between employee engagement and CNA turnover intention in the nursing home industry?

RQ3. What is the relationship between employee job satisfaction and CNA turnover intention in the nursing home industry?
RQ4. What is the relationship between employee motivation and CNA turnover intention in the nursing home industry?

RQ5. What is the relationship between employee perceived work stress during COVID-19 and CNA turnover intention in the nursing home industry?

RQ6. What is the relationship between employee work environment and CNA turnover intention in the nursing home industry?

Each of the above research questions addresses a specific predictor variable, with the intent of determining if there is a correlation between the variable and CNA turnover intention in the long-term care facility industry. Each of these variables have been explored for their impact on turnover intention in various industries in recent years. RQ1 addresses employee compensation and CNA turnover intention in the nursing home industry. Holston and Mushi (2018) found employee compensation to be highly correlated with turnover intention in the hospitality industry. RQ2 addresses employee engagement and CNA turnover intention in the nursing home industry. Within the healthcare industry, in a study of Chinese hemodialysis nurses, Cao (2021) concluded that lower levels of employee engagement resulted in higher levels of compassion fatigue, resulting in higher turnover intention.

With regards to certified nursing assistants in particular, prior research has considered the impact these variables have on CNA turnover intention. RQ3 addresses employee job satisfaction and CNA turnover intention in the nursing home industry. Gard (2020) conducted a quantitative study of CNAs in Delaware and determined that intent to leave decreases drastically when nursing home leaders prioritize increasing employee job satisfaction. RQ4 addresses employee motivation and CNA turnover intention in the nursing home industry. Lyman et al. (2021) found that a higher level of CNA motivation has a mitigating impact on the adverse
effects of the job, such as burnout and compassion fatigue, and suggested that increased CNA motivation may lead to a reduction in turnover intention. RQ6 addresses employee work environment and CNA turnover intention in the nursing home industry. Kelly (2019) found that when CNAs have a less satisfactory view of their work environment, they also report a greater degree of turnover intention. Bryant (2018) also conducted a quantitative correlational study that explored CNA turnover intention in the long-term care facility industry. In her study of CNAs in Florida, Bryant (2018) found that there was a statistically significant relationship between employee compensation, employee engagement, job satisfaction, work environment, and employee turnover intention. Additionally, her study found that there was no significant relationship between employee motivation and turnover intention (Bryant, 2018).

Nursing home workers have been exposed to great physical and mental burdens during the COVID-19 global pandemic (Blanco-Donoso et al., 2022). RQ5 addresses employee perceived work stress during COVID-19 and CNA turnover intention in the nursing home industry. In their study of Spanish nursing homes, Blanco-Donoso et al. (2022) found that when organizational leaders prioritize staff communication and ensuring optimal working conditions, nursing home workers report high rates of job satisfaction during COVID-19, despite the high job demands placed upon them. Given that the pandemic is still ongoing, there remains a need for research on the impact it has, if any, on turnover intention. The research questions of this study each addressed a different factor that other studies have found to impact turnover intention, especially within the healthcare industry. Taken together, the answers to these research questions supplied organizational leaders of long-term care facilities with the knowledge they require to develop successful retention strategies and reduce costly CNA turnover.
Hypotheses

$H_{01}$: There is no statistically significant relationship between employee compensation and CNA turnover intention in the nursing home industry.

Alternative $H_{a1}$: There is a statistically significant relationship between employee compensation and CNA turnover intention in the nursing home industry.

Relationship to Research Questions – $H_1$ addressed RQ1 in seeking to determine the influence of employee compensation on CNA turnover intention in the nursing home industry.

Variables included – $H_1$ included employee views on compensation using a 1-7 Likert scale as well as employee turnover as a criterion variable. This Likert scale instrument has been used in other studies regarding compensation and turnover intention and was used with the permission of the instrument creator.

$H_{02}$: There is no statistically significant relationship between employee engagement and CNA turnover intention in the nursing home industry.

Alternative $H_{a2}$: There is a statistically significant relationship between employee engagement and CNA turnover intention in the nursing home industry.

Relationship to Research Questions – $H_2$ addressed RQ2 in seeking to determine the influence of employee engagement on CNA turnover intention in the nursing home industry.

Variables included – $H_2$ included employee views on engagement using a 1-6 Likert scale as well as employee turnover as a criterion variable. This Likert scale instrument has been used in other studies regarding engagement and turnover intention and was used with the permission of the instrument creator.
\textit{H}_03: \text{There is no statistically significant relationship between employee job satisfaction and CNA turnover intention in the nursing home industry.}

Alternative \textit{H}_a3: There is a statistically significant relationship between employee job satisfaction and CNA turnover intention in the nursing home industry.

Relationship to Research Questions – \textit{H}_3 addressed RQ3 in seeking to determine the influence of employee job satisfaction on CNA turnover intention in the nursing home industry.

Variables included – \textit{H}_3 included employee views on job satisfaction using a 1-6 Likert scale as well as employee turnover as a criterion variable. This Likert scale instrument has been used in other studies regarding job satisfaction and turnover intention and was used with the permission of the instrument creator.

\textit{H}_04: There is no statistically significant relationship between employee motivation and CNA turnover intention in the nursing home industry.

Alternative \textit{H}_a4: There is a statistically significant relationship between employee motivation and CNA turnover intention in the nursing home industry.

Relationship to Research Questions – \textit{H}_4 addressed RQ4 in seeking to determine the influence of employee motivation on CNA turnover intention in the nursing home industry.

Variables included – \textit{H}_4 included employee views on motivation using a 1-5 Likert scale as well as employee turnover as a criterion variable. This Likert scale instrument has been used in other studies regarding motivation and turnover intention and was used with the permission of the instrument creator.

\textit{H}_05: There is no statistically significant relationship between employee perceived work stress during COVID-19 and CNA turnover intention in the nursing home industry.
Alternative $H_{a5}$. There is a statistically significant relationship between employee perceived work stress during COVID-19 and CNA turnover intention in the nursing home industry.

Relationship to Research Questions – $H5$ addressed RQ5 in seeking to determine the influence of employee perceived work stress during COVID-19 on CNA turnover intention in the nursing home industry.

Variables included – $H5$ included employee views on perceived work stress during COVID-19 using both a 1-10 Likert scale and 0-3 Likert scale, as well as employee turnover as a criterion variable. These Likert scale instruments have been used in other studies regarding illness perception, stress related to care for patients with SARS, and turnover intention and were used with the permissions of the instrument creators.

$H_{06}$: There is no statistically significant relationship between employee work environment and CNA turnover intention in the nursing home industry.

Alternative $H_{a6}$. There is a statistically significant relationship between employee work environment and CNA turnover intention in the nursing home industry.

Relationship to Research Questions – $H6$ addressed RQ6 in seeking to determine the influence of employee work environment on CNA turnover intention in the nursing home industry.

Variables included – $H6$ included employee views on work environment using a 1-5 Likert scale as well as employee turnover as a criterion variable. This Likert scale instrument has been used in other studies regarding motivation and turnover intention and was used with the permission of the instrument creator.
Nature of the Study

A research methodology is the process used in the collection of information and data for a study (Kelly, 2019). Correspondingly, a research design refers to the plan for the study’s methodology (Abutabenjeh, 2018). The design specifies the research’s purpose and explains the plan that will answer the research questions (Abutabenjeh, 2018). Therefore, the research methodology is the actual enquiry approach while the paradigm is the philosophy the researcher brings to their study (Nardi, 2018). The type of research being conducted often informs the research methodology to be used, as it is the methodology that determines how the researcher will investigate the problem. Conversely, the research paradigm is the researcher’s worldview, and helps define who they are as a person (Christensen, 2022). Although some paradigms appear to be better aligned with specific methodologies, a researcher’s paradigm does not govern the choice of methodology used to tackle a research problem.

Discussion of Research Paradigms

The paradigms that define a researcher’s worldview can be categorized as positivism, post-positivism, constructivism, and pragmatism. Positivists believe that there is a single objective reality that can be discovered by testing hypotheses and verifying or refuting them (Christensen, 2022). Post-positivists also assume that there is a single, objective reality, but differ from positivists in that post-positivists contend that this reality can only be understood imperfectly (Shan, 2022). Conversely, advocates for constructivism argue that knowledge is obtained subjectively, and the goal of the researcher is to understand their subject’s view of reality (Christensen, 2022). As such, constructivists assume there are multiple, socially constructed, and holistic realities, as opposed to a single a single, objective reality (Shan, 2022). Pragmatism, however, rejects any sort of incommensurability between positivism/post-
positivism and constructivism (Christensen, 2022). Instead, promoters of pragmatism suggest that knowledge is a product of the interaction between individuals and the environment, and can be either objective or subjective, depending on the needs of the problem (Shan, 2022). Pragmatists are concerned with the research problem, and are free to choose the methods, data, and procedures of research that are most appropriate for their needs and purposes (Christensen, 2022; Shan, 2022).

My research paradigm is pragmatism. Epistemologically, pragmatism is based on the concept that research can avoid metaphysical debates about the nature of truth and reality and instead focus on tangible understandings of concrete, practical issues (Kelly & Cordeiro, 2020). In essence, pragmatism focuses on the research problem being addressed, rather than a view of reality and uses any available tool to better understand the problem (Kankam, 2019). Fundamentally, pragmatism is a paradigm that claims to bridge the gap between the scientific method of older approaches and the naturalistic methods of newer approaches (Kaushik & Walsh, 2019). Pragmatism is typically associated with abductive reasoning, which moves back forth between induction and deduction to link data to theory (Kankam, 2019; Kaushik & Walsh, 2019). Consequently, a pragmatism research paradigm guided my study in that my focus was on the problem of CNA turnover in the long-term care facility industry, and I used any tools available to help me better understand the predictors of turnover intention.

**Discussion of Design**

Research can fundamentally be categorized into three design types: fixed design, flexible design, and mixed methods design (Jubaer et al., 2021). Fixed designs are fully defined in the research proposal, while flexible designs are initially defined at a high-level and allow for the researcher to modify and adjust the research as required following the proposal (Jubaer et al.,
2021). These designs are diametrically opposed to each other, with one being more rigidly defined and structured, while the other remains fluid and more generally designed. A mixed method design, on the other hand, equally combines aspects of both a fixed and flexible design methods (Christensen, 2022; Shan, 2022).

Data collection and analysis are key components of any research study. Approaches to research collection and analysis fall under two categories: quantitative and qualitative. Advocates for the quantitative research approach contend that research should be conducted using quantitative methods that develop an objective, universal body of knowledge (Shan, 2022). Conversely, supporters of qualitative research believe that knowledge is subjective, and that research should be conducted using qualitative methods to build a body of knowledge of the socially constructed realities (Shan, 2022). Each type of research design lends itself to a particular type of research. Fixed designs are best utilized with a quantitative research approach, where the researcher is concerned with objectivity and avoiding bias (Jubaer et al., 2021). Flexible designs are more appropriate with qualitative research, where the role of the researcher is to investigate or portray a problem, and is less concerned with objectivity (Jubaer et al., 2021). A flexible design was not appropriate for this study because the focus of a qualitative study is to comprehend the beliefs, experiences, and perspectives of the participants, and not to consider the causal relationships between variables (Holston-Okae, 2017). A mixed method design is particularly useful when the researcher is concerned about possible contradictions between quantitative results and qualitative findings (Christensen, 2022). The intent of this study was to conduct statistical analysis on numerical data regarding known variables, making the collection of qualitative data unnecessary. Therefore, a mixed method approach was inappropriate for this study.
**Discussion of Method**

Fixed research designs include several methods: experimental, quasi-experimental, and nonexperimental (Jubaer et al., 2021). Experimental designs depend on randomization, with research subjects being arbitrarily assigned to experimental and control gatherings (Jubaer et al., 2021). A quasi-experimental study aims to establish a cause-and-effect relationship between manipulated and controlled variables (Bryant, 2018). Quasi-experimental research involves the researcher making observations of current conditions and historical events from specific groups of people to study the research problem and is used when a random population selection is not feasible (Martino, 2021). In nonexperimental research, the researcher measures variables as they occur, without any manipulation (Jubaer et al., 2021). Nonexperimental research is used when the research problem is about a causal relationship, where the independent variable cannot be manipulated (Reio, 2016). Neither the quasi-experimental nor experimental designs were appropriate for this study because there was no need to manipulate variables.

Furthermore, nonexperimental research is comprised of several subcategories, such as descriptive, causal-comparative, and correlational. Descriptive nonexperimental research involves describing a phenomenon as it is, as is the case during contextual investigation or naturalistic perception (Jubaer et al., 2021). A descriptive nonexperimental research design was inappropriate for this study because the intent is not to merely observe CNA turnover, but to investigate the relationships between various factors and turnover intention. The causal comparative design encompasses the gathering and analysis of information relating to existing conditions or completed events but does not provide determinations of causality (Kelly & Pingel, 2022). Therefore, the causal comparative design was inappropriate for a study investigating the relationships between multiple variables. Lastly, correlational research involves observing
multiple variables and comparing the statistical relationship between them (Jubaer et al., 2021). Bryant (2018) suggested that a correlational design is appropriate for a study with the purpose of determining if relationships exist among known variables and to quantify the extent of any relationships among predictor variables and the criterion variable. Each of the research questions in this study referenced a predictor variable and sought to determine if a relationship existed between that predictor variable and the criterion variable of CNA turnover intention. Accordingly, a quantitative correlational research design was fitting for this research study.

**Summary of the Nature of the Study**

A research paradigm represents a researcher’s view of reality or truth (Kankam, 2019). I have always been one to focus on the problem at hand and use whatever methodological approach works best for the particular problem being investigated. In both my academic and professional lives, I tend to be pragmatic and willing to adapt to the needs of the situation. Given that this research study explored the relationships between predictor variables and the criterion variable of CNA turnover intention, a quantitative correlational research methodological design was appropriate for this study. While qualitative case studies can provide context as to why CNAs choose to leave their profession, the numerical nature of studying data through vetted scales resulted in the research problem of this study being better answered through a quantitative study. As a result of my pragmatic research paradigm, I have consequently chosen the quantitative correlational design and believed a mixed-method approach was not required.

**Theoretical Framework**

Herzberg’s (1959) motivation-hygiene theory represented the framework for exploring the relationships between the predictor and criterion variables in this research study. Using Herzberg’s (1959) theory as a foundation to investigate the variables, the predictor variables
were then examined for their impact on the actors of the study, who in turn either influenced or were impacted by the study’s criterion variable of turnover intention. Additionally, the concepts that were central to the research problem of this study were directly affected by the central construct of the study as well.

Figure 1. Relationships between theory, actors, and variables

**Theories**

The primary theory central to the research problem was Herzberg’s motivation-hygiene theory. Although there have been multiple theories put forth to address the concept of job satisfaction, the motivation-hygiene theory first proposed by Herzberg et al. (1959) has often been used to investigate job satisfaction in many disparate areas of employment (Akinyemi et al., 2022; Bryant, 2018; Kelly, 2019; Lerner, 2010; Liu et al., 2020; Nemteanu et al., 2021). Herzberg et al. (1959) put forth the notion that worker fulfillment came from achievement and growth within the job itself, due to numerous factors. The motivation-hygiene theory, often referred to as the two-factor theory, consists of job dissatisfaction, which Herzberg (1976)
argued is related to what he called hygiene factors, and job satisfaction, which is influenced by what he has termed as motivational factors (Herzberg, 1968). Hygiene factors include things such as job security, organizational commitment, work environment, relationships with colleagues and supervisors, and company policies (Herzberg, 1968; Liu et al., 2020). Herzberg has used the term “hygiene” to describe these factors in the sense that these are maintenance factors and are extrinsic to the work itself but can result in job dissatisfaction. Conversely, motivation factors result in job satisfaction, and include things such as achievement, recognition, responsibility, advancement, and the possibility for growth (Akinyemi et al., 2022). As such, the motivation-hygiene theory contends that job satisfaction is hierarchical. The basic needs (i.e., hygiene factors) of a worker must be satisfied or job dissatisfaction occurs. However, simply meeting these needs does not result in job satisfaction, merely the removal of job dissatisfaction. To achieve job satisfaction, motivation factors must be present. Furthermore, because Herzberg considered job dissatisfaction separate from job satisfaction, if motivation factors are present in large enough numbers, it’s possible for employees to remain with an organization despite their perceived unhappiness with the hygiene factors (Herzberg et al., 1959).

Previous researchers have used Herzberg’s motivation-hygiene theory to examine how the independent variables of compensation, engagement, job satisfaction, motivation, and work environment influence employee turnover intention (Bryant, 2018; Davis, 2013; Holston-Okae & Mushi, 2018; Kelly, 2019). Considering the current pandemic, I added an additional predictor variable to my research study, the perceived work stress related to COVID-19, and used Herzberg’s theory as the framework for investigating the relationships of these predictor variables and CNA turnover intention in long-term care facilities.
**Actors**

There are several key groups and organizations that were central to the research problem of this study. First, long-term care facility leaders were related to the specific problem addressed in this research study in that they will be able to develop better retention strategies from the information gathered in the study regarding the possible predictors of turnover intention (Caspar et al., 2020). Correspondingly, given that this study narrowed the focus of CNA turnover intention specifically to those working in long-term care facilities, long-term care organizations were directly related to the specific problem of this study. Additionally, this study explicitly focused on CNA employees and the predictors of their turnover intention, thus making them the primary actors related to this research study. Reducing CNA turnover intention in long-term care facilities is correlated with improved quality of patient outcomes (Trinkoff et al., 2017). Consequently, long-term care residents and their loved ones were actors related to the specific problem addressed in this study because the potential failure of long-term care leaders to develop successful CNA retention strategies results in more rehospitalizations, more frequent use of physical restraints, increased infection control violations, and worsened patient health outcomes (Funk et al., 2021; Texas Health Care Association, 2018; Xiao et al., 2021).

**Variables**

There was a single dependent criterion variable found in this research study, which was turnover intention. Even before the COVID-19 pandemic, high CNA turnover was deemed a crisis in the long-term care industry (Texas Health Care Association, 2018). This crisis has only been exacerbated by the global pandemic, with long-term care staff leaving their positions in unprecedented levels (Feder, 2020; White et al., 2021; Zhao et al., 2021). The dependent variable
of turnover intention was related to the specific problem of this research study because the problem addressed the possible predictors of CNA turnover in the long-term care industry.

There were six predictor variables, each mentioned in the specific problem statement, which were also found in this study. Poor compensation is one of the leading factors contributing to high CNA turnover in nursing homes (Bryant, 2018; Scales, 2021). As such, the independent variable of compensation related to both the dependent variable of the study and was one of the predictor variables mentioned in the specific problem statement. Within the healthcare industry, employee engagement is a significant negative predictor of turnover intention (Bonilla, 2018). Thus, engagement was related to the specific problem statement and this independent variable was also one of the predictor variables mentioned. Increased job satisfaction leads to greater CNA retention and reduced costs for long-term care facilities (Patterson, 2018). Consequently, this independent variable related to both the criterion variable of the study and was one of the predictor variables mentioned in the specific problem statement. Research has shown that long-term care facilities that have a culture of respecting nursing assistants have a lower turnover rate than those that do not, due to increased CNA motivation (Gyllensten et al., 2019). As such, this independent variable related to both the dependent variable of the study and was one of the predictor variables mentioned in the specific problem statement.

Several authors suggested that the perceived threat of COVID-19 can cause severe psychological turmoil, which leads to emotional exhaustion of healthcare employees and increased turnover (Alatawi et al., 2020; Kuo et al., 2020; Pérez-Fuentes et al., 2020). As such, the independent variable of perceived work stress related to COVID-19 related to both the dependent variable of the study and was one of the predictor variables mentioned in the specific problem statement. Lastly, a broad range of work environment elements have a considerable
impact on long-term care facility staff turnover, such as workload and training, leadership styles, coworker support, staff autonomy, role expectations, and work relationships with resident families (Choi et al., 2020). Subsequently, this independent variable related to both the criterion variable of the study and was one of the predictor variables mentioned in the specific problem statement.

**Relationships Between Theories, Actors, and Variables**

The foundation of this study was Herzberg’s (1959) motivation-hygiene theory. As the theoretical framework for investigating the relationships between the predictor variables and the criterion variable of this research study, Herzberg’s (1959) theory was linked to each of the predictor variables. These independent predictor variables could be thought of as inputs to the study and, in turn, impacted the actors of the study. While the predictor variables remained independent from one another, each variable served to influence each of the actors in this study. The primary actors of this study were CNAs working in long-term care facilities. They were directly influenced by each independent variable in the study, and each predictor variable was evaluated to determine what, if any, influence it had on the turnover intention of these employees. Additionally, long-term care organizations and facility leaders were influenced by these variables as they establish the work environment, promote job satisfaction and motivation, mitigate employee stress from COVID-19, and assign compensation (Bryant, 2018). The residents of long-term care facilities and their loved ones were impacted by each of these variables via the influence these variables had on CNA employees and their job performance. Furthermore, the residents and their loved ones also influenced the work environment, motivation, and job satisfaction of CNA employees through their actions. Thus, each actor of this study was also interrelated to one another.
**Summary of the Research Framework**

Herzberg’s (1959) motivation-hygiene theory served as the foundation of this study, informing the way in which the independent variables interacted with each of the actors, how the actors influenced one another, and the resulting relationship between the independent variables of this study and the dependent variable of turnover intention. The final output, turnover intention, addressed several of the broader concepts that were central to the research problem of this study, including employee retention, improved patient outcomes, improved organizational performance, and serving God. Through the investigation of the relationships between the predictor variables and the criterion variables, it was hoped that each of the actors in this study benefited from the resulting increased knowledge surrounding turnover intention and the promotion of these broader concepts.

**Definition of Terms**

*Certified Nursing Assistant (CNA)*: CNAs are often referred to as nursing assistants, nursing aides, and direct care workers (Dreher et al., 2019). These employees deliver basic healthcare services and assist with the basic living needs of their patients (Dreher et al., 2019).

*Employee engagement*: Employee engagement is an increase in the emotional and intellectual commitment an employee expresses towards their occupation, manager, or organization, and usually results in the employee exerting additional effort (Carnahan, 2013).

*Employee turnover*: Employee turnover is the voluntary or involuntary permanent exit from an organization and includes things such as resignations, layoffs, and discharges (Akinyemi et al., 2022).

*Hygiene factors*: Hygiene factors are those job factors that are extrinsic to the employee and are a means of job dissatisfaction (Herzberg, 1968). These factors include such things as job
security, organizational commitment, work environment, relationships with colleagues and supervisors, and company policies (Herzberg, 1968).

*Job satisfaction:* Job satisfaction is the level in which an employee is content with their job and is influenced by internal and external factors that impact an individual’s attitudes about the function they perform in the workplace (Gu et al., 2022).

*Long-term care:* Long-term care encompasses a broad array of personal and healthcare services provided over an extended period of time, typically to individuals who have lost the capability to perform said services themselves (Baughman et al., 2022).

*Motivation:* Motivation describes an individual’s desire to achieve an objective (Herzberg, 1976). When motivation exists, the likelihood of goals being achieved increases, and when motivation is non-existent, goals typically remain unmet (Herzberg, 1976).

*Motivation factors:* Motivation factors are those job factors that are intrinsic to the employee and are a means of job satisfaction (Herzberg et al., 1959). These factors include things such as achievement, recognition, responsibility, advancement, and the possibility for growth (Herzberg et al., 1959).

*Retention:* Retention refers to retaining staffs through organizational actions that encourage employees to maintain employment with the organization for a sustained period of time (Boone, 2021).

*Turnover intention:* Turnover intention is a construct that refers to an employee’s thoughts and feelings when they anticipate fully separating from an organization (Bryant, 2017).

*Work environment:* Work environment refers to the working conditions affecting an employee during the performance of their job function and includes work hours, legal rights and
Responsibilities, physical surroundings, organizational climate, and workload (Holston-Okae, 2017).

Assumptions, Limitations, Delimitations

Assumptions are unsubstantiated or uncontrollable elements of the research that are thought to be true and include commonly accepted information, uncontrollable concepts that are thought to be constant, and factors beyond the researcher’s control due to time or technical constraints (Holston-Okae, 2017). This study was founded on assumptions that could potentially influence the validity of its findings. Limitations are potential weaknesses or complications that have uncontrollable outcomes and may constitute a threat to the internal validity of a study (Bryant, 2017). As such, the limitations of this study may have impacted the validity of its results. Lastly, delimitations are characteristics that limit the scope and define the boundaries of a study (Davis, 2013). The delimitations of this study defined the geographical scope, participant population, and theoretical framework that were utilized.

Assumptions

In this study, I assumed that all participants understood the survey questions and provided honest and truthful responses. To mitigate this first assumption, I instructed participants to leave questions unanswered if they did not understand the question, and upon receipt of the surveys, I only used fully completed questionnaires. Additionally, I relied on the code of ethics required for certification as a nursing assistant to ensure that each participant provided truthful answers. To ensure that participants felt safe in expressing their true opinions, specific parameters were taken via the SurveyMonkey® platform to ensure that anonymity and confidentiality were preserved for each participant (Holston-Okae & Mushi, 2018). A second assumption of this study was that the choice of questionnaires for data collection provided the most appropriate method to obtain
information on the perceived reasons employees may voluntarily exit the long-term care industry or their facilities. To mitigate this second assumption, I utilized survey instruments that have been found to be successful when used by previous researchers to study turnover intention. Kelly (2019) contended that utilizing survey instruments that have demonstrated reliability and validity in prior research ensures that appropriate measures are taken to obtain data in a suitable method for addressing a research problem of interest. The third assumption of this study was that all respondents were current employees of long-term care facilities. To mitigate this third assumption, I only solicited responses from long-term care facilities in central Texas. Additionally, I included a demographic questionnaire seeking participant confirmation of current employment as a CNA in a long-term care facility located in central Texas. Bryant (2018) argued that when providing a platform that ensures participant confidentiality, a researcher can reliably trust that participants express their true opinions. As such, by only soliciting responses from CNAs employed in central Texas long-term care facilities and seeking confirmation of their geographical location via a demographic questionnaire, the mitigation plan for this assumption is presumed to have been successful (Bryant, 2018). Lastly, I have assumed that turnover intention correlates to or is a contributor of actual turnover rates. To mitigate this final assumption, I conducted a thorough review of the current research literature on turnover intention and first confirmed that prior research indicated that turnover intention is significantly correlated with actual turnover. Kittles (2021) maintains that conducting a thorough review of literature surrounding CNA turnover intention is an appropriate method for determining the correlation between turnover intention and actual turnover.
Limitations

There were several limitations to the current study. First, this study only included CNAs working in long-term care facilities in central Texas who voluntarily participated. Consequently, the limited geographical location may have resulted in the exclusion of CNAs with differing opinions and experiences. Moreover, the questionaries were distributed using an online survey tool. Thus, the requirement of internet participation may also have resulted in the exclusion of CNAs with differing opinions. Both the limitations of using an online survey tool and the geographical location may have excluded employees who would have otherwise participated under other circumstances, resulting in a restricted participant pool. To mitigate the limitation of the geographical range, I included a thorough review of the current literature on CNA turnover intention that incorporated research from other geographical locations. To mitigate the risk of participants being unable to access the internet, I included my contact information when distributing the surveys and ensured that participants were made aware that they could contact me personally and I would schedule time with the appropriate computer resources if they required it. Additional limitations to the study included not applying other theoretical frameworks that may have had relevance in interpreting the results and evaluating only self-reported data regarding employee turnover intention, and not data from actual turnover. To mitigate these final limitations, I conducted a thorough review of the current literature on turnover intention and included a review of other relevant theoretical frameworks and why they have not been utilized in the current study, as well as a review of the correlation between turnover intention and actual turnover.
**Delimitations**

The first delimitation of this study was the limiting of the data collection to the geographical location of central Texas. The second delimitation was the sample that was drawn from this location, which included only CNAs who were aged 18 years or older and are currently employed in long-term care facilities. A third delimitation of this study was to limit the scope to those factors that peer-reviewed literature revealed to be antecedents to turnover intention. As such, factors that impact involuntary turnover were not within the scope of the present study. The fourth delimitation for this study was the selection of the motivation-hygiene theory, which has been applied to previous research studies regarding employee turnover intention, as the theoretical framework for this study. The final delimitation was the rejection of the qualitative method in favor of a quantitative method, which was more appropriate for hypothesis testing.

**Significance of the Study**

The significance of this study was to extend and contribute to the existing body of knowledge of employee turnover in the long-term care industry. This expansion of knowledge regarding employee turnover may be useful to long-term care leaders in their efforts to reduce CNA turnover in their facilities. Even before the COVID-19 pandemic, the median staff turnover in United States nursing homes was 94% (Gandhi et al., 2021). Worse still, CNAs, who provide 80% to 90% of direct resident care, had a mean turnover rate of 129.1% (Gandhi et al., 2021). The negative effects of high turnover rates significantly impact employees, residents, organizations, and society (Davis, 2013). The results of this study may assist organizational leaders in developing solutions to the issues of CNA turnover that affect older Americans who rely on this workforce in long-term care facilities. High employee turnover adversely affects the quality of life for nursing home residents and is detrimental to their health outcomes (Fulmer et
al., 2021). The COVID-19 pandemic ravaged the elderly populations in nursing homes and has emphasized the need to better understand the factors that influence turnover intention in this industry (Feder, 2020). This study could have a significant impact on reducing the gaps in literature surrounding CNA turnover intention, improving the long-term care workforce, and encouraging long-term care organizational growth by reducing the costs associated with employee turnover and corresponding improvements in care delivery.

**Reduction of Gaps in the Literature**

Despite increasingly high turnover rates in long-term care facilities, there remains a research gap regarding the factors that influence CNA turnover intention (Kittles, 2021). There is a gap in literature concerning studies that specifically identify factors that influence CNA turnover intention. Holston-Okae and Mushi (2018) conducted a study that addressed the factors that influence turnover intention, but did so with a focus on the hospitality industry. As such, their findings may not be applicable to employees working in healthcare. Kelly (2019) also addressed turnover intention and studied its underlying factors, but did so under the broader context of the healthcare industry in general. While this indirectly relates to CNA turnover in long-term care, the factors that influence physician and registered nurse turnover may not be relevant to CNAs, whose workforce is comprised of employees of a different socio-economic status (Gandhi et al., 2021).

Bryant’s (2018) study is the sole research study that aimed to address this gap through the generation of new data. In her study, Bryant (2018) used the motivation-hygiene theory as a foundation to investigate the influence of employee compensation, engagement, job satisfaction, motivation, and work environment on CNA turnover intention in Florida. Similarly, Kittles (2021) used the motivation-hygiene theory as a theoretical framework for her secondary analysis.
of 70 studies to examine the relationships between these same variables and turnover intention amongst American nursing assistants. However, Kittles (2021) study relied solely on secondary data and involved no primary research.

Accordingly, with Bryant’s (2018) study being the only quantitative research specifically aimed at addressing the factors tied to CNA turnover intention in the United States, there remains a significant gap in the research. Moreover, Bryant’s (2018) study was concluded long before the commencement of the COVID-19 pandemic. While much research has been conducted highlighting the stress healthcare workers feel while working during the pandemic, there remains a need to explore the influence of this stress on CNA turnover intention (Baughman et al., 2022; Bennett et al., 2020; Denny-Brown et al., 2020; Pérez-Fuentes et al., 2020; Travers, Schroeder et al., 2020; White et al., 2021; Zhao et al., 2021).

**Implications for Biblical Integration**

Keller and Alsdorf (2016) put forth the concept that through work we show our love and worship of God. Moreover, because we serve God through our work and carry our faith with us in all that we do, we are constantly integrating our faith with our work. This integration of faith and work is particularly apparent in the work that CNAs do. In being the primary care providers to long-term care facility residents, CNA employees serve others daily, incorporating Christ into their professional nursing practices, often without even being aware of doing so (Murphy & Walker, 2013). Consequently, any study that can reduce CNA turnover and assist them in providing quality care to their patients only serves to better God’s world.

Mello (2019) noted that the human element is the most critical factor in an effective organization’s performance. Likewise, Frémeaux and Michelson (2017) proffered the notion that the human element is the most important factor in business and that work should be a means of
creating, helping, and serving others. As such, HR managers in any industry should strive to develop those under their care and help them better themselves and, subsequently, the organization as a whole. Ecclesiastes 9:10 directs us to do all things to the best of our ability (Holy Bible, New International Version, 1984). Therefore, HR managers should, to the best of their ability, use the results this study produced to enact cultural changes that demonstrate the human element value that the CNA staff provide.

The purpose of this study was to reduce CNA turnover in long-term care facilities by identifying factors that result in job satisfaction and job dissatisfaction. In reducing turnover, this study aimed to better both the lives of CNA employees as well as the lives of the patients they care for, in hopes of bettering God’s world, just as Corinthians 10:31 instructs us to do all things for the glory of God (Holy Bible, New International Version, 1984). Long-term care facility leadership utilizing this study can be seen to be adopting a Christian worldview themselves, in that they would be engaging in acts of service for their CNA employees, which would foster loyalty within the organization and minimize conflict (Ali et al., 2000).

Recognition is the most fundamental building block of workplace dignity and is a critical component of cultural respect in the workplace (Islam, 2013). Moreover, recognition, or rather lack thereof, is often cited as a primary factor behind CNA turnover intention (Akinyemi et al., 2022). This study identified other factors related to turnover and helps leadership target ways in which they can better demonstrate their recognition of their CNA staff. God has tasked mankind with working and serving others, which dictates that organizations strive to develop their employees in a way that serves God’s calling (Hardy, 1990). If this study assisted in that goal, then it has had a positive impact on God’s world.
Benefit to Business Practice and Relationship to Cognate

High employee turnover is an economic drain on the financial capabilities of an organization (Bebe, 2016). Within the context of the larger healthcare industry as a whole, high rates of employee turnover have an adverse impact on an organization’s ability to deliver quality patient care, as well as negatively impacting the quality of life for both patients and remaining staff (Brossoit et al., 2020). This negative impact on patient care is most poignant when considering its effect on the health outcomes for older adults (Fulmer et al., 2021). Mitigating issues related to high turnover in nursing homes, where many of these older adults reside, can help long-term care leaders improve resident health outcomes, and focus on developing an organizational culture that ensures both residents and employees feel their quality of life is enhanced (Kittles, 2021).

Finding an outlet to voice workers’ frustrations improves retention (Akinyemi et al., 2022). The most sustainable solution to worker dissatisfaction is changing managerial decision-making so that workers’ voices have not only an intrinsic value but also an influential role in improving the workers’ employment experience (Adhvaryu et al., 2019). Because many CNAs report feeling unappreciated by their supervisors and that their input isn’t valued, the findings of this study can contribute to an overall change in how management and low-wage earners in long-term care facilities interact with one another (Berridge et al., 2018). If the organizational culture of long-term care facilities changes so that those employees who are responsible for the vast majority of direct patient care feel more appreciated and that their voices are recognized and contribute to managerial decision making, then quality of care delivery will be improved, which is the end goal for all healthcare providers.
This research study provides long-term care facility leaders with a better understanding of the factors resulting in CNA turnover intention. As such, this study may contribute to an overall culture change in the way long-term care facility management interacts with their CNA employees. In assessing the specific factors that contribute to CNA turnover, long-term care facility management can utilize the results of this study to address those factors exhibiting the greatest correlation with turnover intention. Moreover, outside of the long-term care facility industry, this study furthered the use of Herzberg’s motivation-hygiene theory as a theoretical framework to evaluate job satisfaction and its corresponding correlation with employee turnover in general.

**Summary of the Significance of the Study**

The significance of this study lies in its contribution to the existing body of knowledge regarding turnover intention in the long-term care industry. In studying the factors that may influence CNA turnover intention, this study armed long-term care leaders with knowledge that enables them to enact strategic human resource management plans aimed to increase the retention rates of this vital workforce. High rates of CNA turnover have had devastating impacts on long-term care residents and organizations for decades, and the issue has only been exacerbated by the COVID-19 pandemic (Baughman et al., 2022). This study could have a significant effect on organizational growth and knowledge by filling in the gaps in organizational awareness concerning employee turnover and intention. Organizational leaders can use the findings of this study to improve business practices that ensure their growth and sustainability.

**A Review of the Professional and Academic Literature**

Human resources are the heart of the healthcare industry and play a vital role in improving patient care and achieving organizational success (Gowen III et al., 2006). Largely
ignored by traditional views of human resource development, human capital is a healthcare organization’s most significant resource, and must be developed continuously if an organization hopes to maintain its competitive advantage (Sundari & Rao, 2017). The U.S. Population Reference Bureau projects that the American population aged 65 and older will nearly double from 52 million in 2018 to 95 million by 2060, with the 65-and-older age group’s share of the total population rising from 16% to 23% (Population Reference Bureau, 2019). This aging population faces a rising number of health disparities and chronic illnesses. Indeed, the National Council on Aging has found that approximately 80% of older adults have at least one chronic disease, with 77% having at least two (National Council on Aging, 2018). Given this demographic shift and the correlating growth in the percentage of the population requiring healthcare, there will undoubtedly be an increase in the need for long-term care facilities. With CNAs providing the majority of direct care to patients in nursing homes, the growing need for these facilities will in turn mean a growing need for more CNAs (Bureau of Labor Statistics, 2021b).

The U.S. Census Bureau (2018) reports that by 2060 there will be just two-and-a-half working-age adults for every retirement-age person. With the projected growth in America’s aging population, there will be an increase in demand for direct care services and CNA trained employees, while simultaneously being a disproportionately younger and limited workforce to support this demand. Therefore, it will become increasingly important for long-term care facilities to reduce CNA turnover intention so that they not only maintain their competitive advantage but ensure their very existence.

One of the driving factors behind the high turnover rate amongst CNAs is the lack of job satisfaction and engagement (Berridge et al., 2018). Across all industries, including healthcare,
employee engagement is related to increased job performance, innovation, commitment, as well as a lower rate of attrition (Mello, 2019). Nursing homes that empower CNAs to partake in leadership training opportunities, include them in decisions about social events, and seek out CNA input in decision making about staff assignments to residents are more likely to retain their staff (Berridge et al., 2018). Indeed, only those with a positive attitude towards their work will produce at the highest levels and be more satisfied with their employer (Hardy, 1990).

Mello (2019) argued that human resources should deliver results that enrich an organization’s value to its customers through its execution of various roles, one of which being a champion for employees. Consequently, this literature review will address CNA employee turnover intention by reviewing current strategic human resource management literature and considering Herzberg’s (1959) motivation-hygiene theory with relation to CNA job satisfaction and turnover intention. If long-term care facilities were to shift from viewing CNA’s as simply under-skilled staff and instead see them as chief assets and something that can give them a competitive advantage over their rivals, then employee turnover intention would be reduced, and quality of the care given to residents would increase (Soyer et al., 2021).

**Business Practices**

As cases of COVID-19 approach 70 million and related deaths exceed 200,000 in the United States alone, research is showing that nursing homes account for a large percentage of morbidity and mortality (Baughman et al., 2022). According to the most recent data published by the Centers for Medicare & Medicaid Services, Medicare (the primary healthcare insurance provider in the United States) provided healthcare coverage to nearly 53 million beneficiaries aged 65 and older in 2019 (Centers for Medicare & Medicaid Services, 2021). Due to the aging population, this number is projected to exceed 79 million by 2030, placing a significant strain on
the United States healthcare system (Peng Ng et al., 2022). Indeed, the United States is facing a healthcare workforce shortage due to demands from an aging population (Singh et al., 2022). The United States currently has the highest number of Americans aged 65 and older than at any other point in history (Haddad et al., 2021). As the baby boomer generation continues to reach retirement age, this population will continue to grow. There has already been a 73% increase in Americans 65 years and older over the past decade, with the population jumping from 41 million in 2011 to 71 million in 2019 (Haddad et al., 2021).

As the population ages, the need for long-term care services increases (Kittles, 2021). These services include such things as supportive care, specialized mental health care, memory care, and assisted living care (Bryant, 2017). With the increase in demand, there is an ever-increasing expectation that CNAs must perform more critical roles than they historically have (Bryant, 2017). However, like the population they serve, the CNA workforce is also aging (Haddad et al., 2021). In the U.S., over half a million CNAs provide daily direct care to 1.4 million nursing home residents (Bluth et al., 2021). Yet a large percentage of the current CNA workforce is set to retire over the next decade (Sousa-Ribeiro et al., 2022). The National Network of Career Nursing Assistants predicts that there will be a need to fill an additional 700,000 new nursing assistant positions over the next 25 years, in addition to replacing current staff who enter retirement (Byrd, 2021). However, high rates of CNA turnover have plagued the long-term care industry for decades, leaving many long-term care leaders concerned they’ll be unable to meet the growing demand for their services (Kennedy et al., 2020).

Consequently, long-term care organization business practices will need to incorporate retention strategies going forward to reduce turnover intention (Bryant, 2017). Although the need for culture change strategies is known, long-term care leaders lack the requisite knowledge
surrounding the factors that impact CNA turnover intention. Subsequently, long-term care leaders are unable to enact business practices that will allow them to reduce turnover intention and maintain sufficient levels of care delivery (Berridge et al., 2018). The results of the current study provide long-term care leaders with additional information surrounding the factors that influence the turnover intention of this vital staff and empower them with the requisite knowledge to initiate practices that will increase retention.

**The Problem**

**CNAs and Long-Term Care.** Certified nursing assistants (CNAs) are the largest segment of nursing home caregivers, comprising 37% of the workforce (Eaton et al., 2019). Every year more than 600,000 CNAs provide 80% of direct care to the 1.4 million Americans in nursing homes (Eaton et al., 2019). Moreover, the number of older Americans continues to increase each year, resulting in an ever-greater need for nursing home services (Castle, 2021). CNAs spend more time with nursing home residents than any other staff, providing a median of 2.4 hours of direct resident care daily (Eaton et al., 2019). Comparatively, their LPN and RN colleagues spend less than one hour per day each (Eaton et al., 2019). Subsequently, CNAs serve a vital role in the delivery of quality care. The way in which CNAs communicate and interact with other staff, residents, and residents’ loved ones is associated with improved safety outcomes, reduced stress for resident families, greater CNA job satisfaction, and resident perceptions of quality care (Eaton et al., 2019).

Adapting to life in a long-term care facility can be a complex, emotional, and challenging experience for older people and their families (O’Neill et al., 2022). The loss of autonomy, independence, and identity can make adaption to life in a care home more challenging. As such, residents come to rely heavily upon the relationships they build with their care staff. Indeed,
older people living in nursing homes rely on their caretakers to provide more than just healthcare (Telhede et al., 2022). Social relationships and participating in both physical and mental activities can positively influence the health of nursing home residents, and CNAs are relied upon to support resident activity, independence, and develop their cognitive capacity through engaging in activities with residents outside of standard care (Telhede et al., 2022). Lin et al. (2022) found that empowering residents of long-term care facilities requires CNAs to maintain a delicate balance between providing appropriate care, and not interfering too much with a resident’s ability to maintain self-care. Self-care strengthens the self-esteem, self-confidence, and physical functions of long-term care residents, which results in better health outcomes (Lin et al., 2022). Therefore, if long-term care organizations want to provide their residents with the best quality of care, they require a CNA staff with the necessary experience to know when to help a resident and when to let a resident help themselves (Lin et al., 2022). Moreover, experienced CNAs are better able to apply effective communication strategies with nursing home residents, so that residents feel more comfortable asking for assistance when needed (Degen et al., 2022).

Despite the critical role CNAs play in nursing home caregiving, CNAs face several barriers that hinder their ability to provide quality care and ultimately affect resident and family care. These barriers include receiving less formal training than other care staff, lack of recognition as professional caregivers, and workplace abuse (Akinyemi et al., 2022; Antwi & Bowblis, 2018; Xiao et al., 2021). Consequently, nursing homes have struggled with high levels of CNA turnover for the past 30 years, along with the correlated negative impacts to delivering quality resident care (Castle, 2021; Gilster et al., 2021).

**CNA Turnover Intention.** Castle (2021) found that barely half of CNAs remain at their facilities after one year of employment, with that number plummeting to 17% by 5 years.
Additionally, Castle (2021) noted that reduced CNA turnover is correlated with improved quality measures in nursing homes. Gilster (2021) argued that although high levels of CNA turnover in nursing homes is not a new phenomenon, the COVID-19 pandemic has only served to heighten the need for resolving this complex issue. Gandhi et al. (2021) reviewed payroll data submitted electronically to the Centers for Medicare and Medicaid Services to investigate 2016-2017 turnover in all skilled nursing providers in the United States and found that the average turnover for all nursing staff in long-term care facilities was as high as 128%. The current turnover rate may be considerably higher given that Gandhi et al.’s (2021) research examined pre-pandemic turnover rates.

Certainly, the strong economy and low unemployment rates recorded in 2021 and 2022 have increased options for CNAs to find alternative employment, further reducing CNA retention (Kennedy et al., 2022). Additionally, COVID-19 significantly affected nursing homes, with caregivers having safety concerns as well as having increased job demands, which made it difficult for nursing homes to hire and retain staff (Kennedy et al., 2022). Aside from safety concerns, CNAs experience numerous nursing home stressors that may influence their turnover intention, including challenging resident behaviors, difficulties related to high workload and chronic understaffing, lack of support from colleagues, and a sense of being undervalued members of resident caregiver teams (Lathren et al., 2021). Because CNA retention and nursing home care quality are interconnected, long-term care leaders need to be cognizant of CNA turnover intention and manage it appropriately (Kennedy et al., 2022).

**Impact of High CNA Turnover.** High levels of CNA turnover can have a profound impact on long-term care organizations. Nursing assistants provide the vast majority of direct care to residents in nursing homes, and the quality of care is adversely affected when there are
CNA staff shortages resulting from high turnover rates (Round & Sturdevant, 2019). Moreover, Loomer et al. (2021) noted that high levels of nursing home staff turnover are correlated with increased risk of infectious diseases being spread among residents. Similarly, COVID-19 has also been identified as spreading more easily among nursing home residents when there are insufficient levels of care staff (Baughman et al., 2022). By the end of 2020, 8% of U.S. COVID-19 cases and 41% of the deaths were linked to nursing homes, and in 20 states, more than half of all COVID-19 deaths were tied to nursing homes (Baughman et al., 2022). To put that into perspective, nursing home patients represent less than half a percent of the U.S. population, and only 3% of the over-65 population (Baughman et al., 2022). Many of these nursing home cases were the result of inadequate care related to insufficient staffing levels (Boone, 2021).

Diminished resident quality of life has also been associated with high levels of CNA turnover in nursing homes (Texas Health Care Association, 2018). Retaining experienced staff is crucial to providing high quality of care (Round & Sturdevant, 2019). Yet workforce stability continues to remain a significant problem for long-term care organizations, with a 71% average annual CNA job turnover rate creating challenges for nursing homes (Eaton et al., 2019). However, when nursing homes have CNA staff stability, the residents’ quality of life is enhanced, as well as their health outcomes (Rajamohan et al., 2019).

In their study to examine if daytime activity, unit tumult, and mood were associated with the sleep quality of long-term care residents, Taani and Kovach (2022) had CNAs from both a temporary agency and full-time staff CNAs collect sleep data on 53 long-term care residents. The authors found that residents slept longer when they were cared for by their consistent CNA compared to when they had a temporary agency CNA (Taani & Kovach, 2022). Taani and Kovach (2022) suggested that having consistent staff assignments, who know the needs of the
residents very well and can recognize early signs of distress, is a key component in quality resident care, and can also decrease long-term care staff frustration as well. Furthermore, the authors noted that additional sleep may not only improve the sleep quality and quality of life among long-term care residents, but it may also significantly reduce the burdens placed on CNA caregivers, thus reducing turnover intention (Taani & Kovach, 2022).

Similarly, Kennedy (2021) found a correlation between CNA retention and improved quality of care. In her study to determine whether CNA retention was related to better resident care experiences in Ohio nursing homes, Kennedy (2021) found that long-term care facilities with high CNA retention rates also reported significantly higher overall resident care experience scores and better care environment scores. However, Kennedy (2021) also noted that some facilities with high retention also reported lower scores for resident care experience, facility culture, and time spent with residents by staff. Kennedy (2021) attributed these negative effects as being potentially due to high CNA burnout, despite retention. Given that turnover intention is increased due to burnout, long-term care leaders may be more successful when considering turnover intention than simply looking at retention rates (Han et al., 2019; Van der Heijden et al., 2019).

The work of CNAs tends to be underrecognized, underpaid, and emotionally and physically taxing (Kennedy et al., 2022). Yet, nursing homes can benefit significantly by lowering costs related to recruiting, hiring, and training new CNA staff, simply by addressing the factors influencing turnover intention (Kennedy et al., 2022). Moreover, reduced CNA turnover rates are essential to a long-term care facility’s ability to deliver the most consistent, individualized care, since CNA retention rates signify resident-staff relationships that are built over time. Long-term care organizations that fail to reduce turnover intention will bear both the
direct and indirect costs of increased turnover. The direct costs of turnover include things such as advertising and recruiting costs, which encompasses costs for personnel who do the recruiting and costs for things such as job fairs, interviewing, background checks, bonuses for new hires, and training and orientation costs (Van der Heijden et al., 2019). Indirect costs include the cost of replacement labor, such as temporary agency staff, which not only costs more but is less effective in terms of care delivery (Kennedy et al., 2022; Van der Heijden et al., 2019).

Given that replacing an individual CNA can cost upwards of $5,000, long-term care leaders have an economic incentive to reduce turnover intention (Eaton et al., 2019). Moreover, CNAs who have been well trained in facility policies, procedures, and resources, and who have an existing relationship with residents are extremely valuable to both nursing homes and their residents (Kennedy et al., 2020). While modifying the work environment and adapting a more empowering organizational culture could be costly to nursing homes, Lee (2022) argued that the corresponding reduction in turnover intention and actual turnover would likely save nursing home expenditures.

**Theories**

**Motivation-Hygiene Theory.** The theory serving as the foundational support of this study was Herzberg’s motivation-hygiene theory (Herzberg, 1968). Herzberg used data collected from interviews with 200 engineers and accountants to ascertain the factors that drove employees to be satisfied or dissatisfied with their job (Herzberg et al., 1959). From this data, the motivation-hygiene theory was developed, with the assertion that occupation characteristics can be differentiated between intrinsic (termed motivator) and extrinsic (dubbed hygiene) features (Gu et al., 2022). Intrinsic factors are those that positively impact employees’ job satisfaction because their self-actualization needs are satisfied (Holston-Okae & Mushi, 2018). The intrinsic
worth of the profession comes directly from performing the work itself, and includes factors such as achievement, recognition, increased responsibility, advancement, promotion, and learning (Gu et al., 2022; Holston-Okae & Mushi, 2018; Ngo-Henha, 2017). Conversely, extrinsic, or hygiene, aspects are external to the employee and supplied by the organization or other outside forces (Gu et al., 2022). Hygiene factors include things such as compensation, job security, company policies, administrative regulations, and working conditions (Gu et al., 2022; Holston-Okae & Mushi, 2018; Qiu & Dauth, 2022; Thomas & Gupta, 2022).

Satisfying an employee’s hygiene need may lower dissatisfaction and function as a stalwart against poor performance (Bryant, 2017). However, satisfying hygiene needs will not lead to job satisfaction (Herzberg, 1976). Herzberg’s (1959) theory argued that the two factors are not simply the opposite of one another. An employee who is dissatisfied because of poor working conditions (i.e., having their hygiene needs going unfulfilled) will not automatically become satisfied if their working conditions suddenly improve (Ngo-Henha, 2017). Herzberg (1968) suggested employees must have their motivation needs met to feel job satisfaction and have improved levels of productivity. The motivation-hygiene theory puts forth the notion that an employees’ attitudes affect their performance; negative attitudes lead to psychological withdrawal from the organization and decreased productivity, while positive attitudes result in enhanced performance (Bryant, 2017; Gu et al., 2022; Holston-Okae & Mushi, 2018).

Organizations must ensure that work environments meet motivation factors so that employees feel valued and integral to the firm, thus improving job satisfaction levels (Akinyemi et al., 2022). Simultaneously, however, organizations must also ensure that hygiene factors are also being satisfied (Lortie et al., 2021). The core of the motivation-hygiene theory is that the two types of factors do not exist on a continuum, meaning hygiene factors do not produce
satisfaction, and motivational factors are not correlated with dissatisfaction (Lortie et al., 2021; Shatrov et al., 2021). Essentially, Herzberg conceptualizes satisfaction and dissatisfaction as two independent continuums, with a hygiene attribute having no effect on an employee’s satisfaction and a motivation attribute only influencing the presence of satisfaction (Lortie et al., 2021). Herzberg’s (1959) theory provides an understanding of the factors that may influence turnover intention in any industry (Bryant, 2018).

Herzberg’s motivation-hygiene theory has been utilized as a means for studying turnover intention for decades and continues to be one of the key theories used in modern research, regardless of the industry (Qiu & Dauth, 2022; Thomas & Gupta, 2022). Holston-Okae and Mushi (2018) used the motivation-hygiene theory to assess the relationship between employee turnover intention and job satisfaction, employee compensation, engagement, motivation, and work environment in the hospitality industry. In their sample of 156 hospitality employees located in the southern United States, Holston-Okae and Mushi (2018) found that all variables, except motivation, were significant predictors of employee turnover intention. The authors concluded that while the environment might be a hygiene rather than a motivational factor, they found that environment related positively and significantly to job satisfaction (Holston-Okae & Mushi, 2018).

More recently, Pratson et al. (2021) used the motivation-hygiene theory to examine the influences of organizational practices on environmental education instructors’ workplace motivations to teach environmental programs. The authors found that motivation strongly influences the performance of employees, and that Herzberg was correct in the assertion that numerous practices and policies can influence motivation (Pratson et al., 2021). Furthermore, they found that a lack of meaningful work led to turnover in educational leaders (Pratson et al.,
Thus, in industries where high turnover is a concern, the motivational-hygiene theory be applicable to research regarding the underlying causes.

In the context of the healthcare industry, Herzberg’s theory has also been applied in diverse applications. Shatrov et al. (2021) used the motivation-hygiene theory as the foundation for their study of the factors related to the successful implementation of kaizen in acute care hospitals. Akinyemi et al. (2022) discussed the motivation-hygiene theory in their analysis of the relationship between job satisfaction, pay, engagement, and turnover intention among registered nurses in Nigeria. As is the case with the present study, Bryant (2018) used the Herzberg’s (1959) theory to represent the framework for investigating the relationship of employee compensation, engagement, job satisfaction, motivation, work environment, and turnover intention among CNAs in Florida long-term care facilities. Bryant (2018) found a statistically significant correlation between CNA turnover intention and all variables except for motivation.

**Competing Turnover Theories.** While the motivation-hygiene theory serves as the basis for this study, other applicable theories could be pertinent to investigating turnover intention amongst CNAs as possible alternative, competing theories. A brief assessment of these theories offers an additional conceptual understanding of the factors driving turnover intention. Several theories, including the theory of organizational equilibrium, social exchange theory, job embeddedness theory, and the equity theory have been used in prior research to understand high turnover and its potential impacts. These theories provide further insight into the effects of high CNA turnover rates on the quality of care delivered.

**Theory of Organizational Equilibrium (TOE).** The Theory of Organizational Equilibrium (TOE) is commonly considered to be the first formal theory on turnover intention, and purports that there is a need for firms to balance employees’ contributions and inducements
with those of the organization (Ngo-Henha, 2017). TOE asserts that there are two primary forces that encourage employees to voluntarily leave their place of employment: the desirability of movement and the ease of movement (Porter, 2021). These two factors also determine job satisfaction, which TOE argues primarily depends on the employees’ compatibility with their role in the workplace, the predictability of their work relationships, and the way in which their job conforms with their self-image (Porter, 2021).

Siuta-Tokarska (2021) noted that under TOE, every organization struggling with high turnover, including those who are strongly influenced by the environment, is forced to respond in one of two specific ways. First, the organization can aim at homeostasis through adaptive actions that prevent further disruptions, or they can take innovative actions (Siuta-Tokarska, 2021). Because TOE considers the perceived desirability and perceived ease of movement to influence turnover intention, there is a need for organizational leadership to develop initiatives and interventions by maintaining the equilibrium between employee contributions and organization inducements (Ngo-Henha, 2017). In her study of turnover intention in nursing homes, Filipova (2007) used TOE to investigate the factors driving turnover, but noted that the theory was flawed for several reasons, including its great emphasis on the importance of pay as a motivator, its inability to address how different forms of commitment influence turnover, and that it fails to address the behavioral and cognitive processes that go on after an employee becomes dissatisfied.

**Social Exchange Theory.** The social exchange theory stipulates that relationships between two social entities are dependent upon the extent to which each entity adheres to social rules and norms of exchange that have been implicitly and explicitly agreed upon between the two entities (Ngo-Henha, 2017). Thus, the social exchange theory considers human social
activities through the lens of economic transactions, with interpersonal communication as an exchange process of tangible (i.e., economic) and intangible (i.e., emotional) resources (Duan et al. 2022). If the exchange is rewarding, then interactions between the parties are positive and behaviors are reinforced; however, when the exchange is considered costly by one party, the relationships become strained (Duan et al. 2022). Thus, for the exchange relationship to be sustainable, interactions must be considered equitable for both parties involved (Ngo-Henha, 2017).

In the context of CNA turnover, Kelly (2019) defines the construct of social exchange theory as those characteristics of employment that benefit CNAs which are viewed as being a sign of the employer’s investment in the CNA, and when present result in the employee responding with positive attitudes and behaviors towards their organization. Researchers have used the social exchange theory to examine CNA turnover numerous times. Taylor and Pillemer (2009) applied the theory as their conceptual framework to study the effect of nursing home staff attachment to their organization on turnover intention. Similarly, Trybou et al. (2014) used the theory to investigate the importance of social exchange to nursing assistants and its impact on retention in both nursing homes and hospitals. More recently, Sesen and Ertan (2021) applied the social exchange theory in their study of the relationship between CNA workplace stress and CNA job satisfaction. In each of the above-mentioned studies, the researchers found that turnover intention decreases when the exchange relationship between the organization and CNAs is viewed harmoniously (Sesen & Ertan, 2021; Taylor & Pillemer, 2009; Trybou et al., 2014). This theory sheds light on the importance of the exchange relationship between long-term care organizations and CNAs, while also highlighting that turnover intention may be a consequence of the non-respect of the implicitly or explicitly agreed upon rules (Ngo-Henha, 2017). However,
workplace environment and employee engagement may only partially explain CNA turnover intention. As such, Herzberg’s (1959) motivation-hygiene theory may serve to provide a broader scope of the reasons behind an employee’s intent to leave.

Job Embeddedness Theory (JET). The job embeddedness theory (JET) postulates that organizational links play a crucial role in embedding an employee within an organization (Self et al., 2022). In essence, job embeddedness represents a wide-ranging, multidimensional paradigm comprising ‘fit’ (i.e., workplace compatibility), links (i.e., connections to organizational and community elements), and sacrifice (i.e., the benefits forfeited upon leaving) (Wangrow et al., 2022). JET contends that employees can feel so fully integrated in their professional social environments that they are hesitant to leave for an unknown environment at a new job (Ngo-Henha, 2017).

In the perspective of the JET, employees are apt to remain at their current workplace if they feel a sense of embeddedness towards their professional and social lives (Smith et al., 2021). Thus, the greater the colleague support an employee perceives, the greater the level of their organizational embeddedness and the lower their turnover intention (Self et al., 2022). Consequently, organizational retention strategies should aim to promote a sense of embeddedness towards the professional and social environment in order to reduce turnover intention (Ngo-Henha, 2017; Porter, 2021). Pressman (2020) used the JET as the theoretical foundation for her study on certified nursing assistant retention in skilled nursing facilities. Pressman (2020) found that there was a statistically significant relationship between job embeddedness and CNA retention but noted that Herzberg’s (1959) motivation-hygiene theory is not only associated with CNA retention as well, but also speaks to job satisfaction.
**The Equity Theory.** The equity theory proposes that people are motivated if they have a sense of fairness of equity in their job’s inputs in comparison to their outcome’s ratio (Hao & Chon, 2022). Fundamentally, the equity theory claims that employees seek a fair and equitable exchange for their labor, desiring a balance between what they contribute and what they receive (Gates & Reinsch, 2022). Within this theory, inputs refer to the experience, skills, and efforts of individual workers, while outcomes include compensation, benefits, responsibilities, and rewards (Ngo-Henha, 2017).

The equity theory also contends that people will strive to restore equity whenever they perceive a sense of inequity (Ngo-Henha, 2017). Accordingly, turnover intention may result from perceived inequity, when employees seek to alter their inputs by withdrawing from the organization because of said inequity (Gates & Reinsch, 2022). In her study of direct care workers in assisted living facilities, Chou (2012) discussed the equity theory in relation to employee turnover intention. However, Chou (2012) found Herzberg’s theory to be more relevant in studying the factors behind turnover intention. This may be because the equity theory is flawed for considering macro policies due to its subjective nature (Hao & Chon, 2022).

**Variables**

**Employee Compensation.** Nursing assistant work is physically demanding and mentally taxing, yet the salary is extremely low when compared to other direct care providers (Byrd, 2021). Because the educational and training requirements are lower for CNAs in long-term care settings, they have historically received lower wages and benefits than their counterparts in other healthcare environments (Matthews et al., 2018). In fact, as many as 70% of CNAs who leave their place of employment report doing so due to poor compensation (Kittles, 2021). This implies
that the socioeconomic status of nursing assistants encourages them to leave their field and seek alternative employment (Bryant, 2018).

CNAs are classified as low wage earners, which is typically defined as individuals whose full-time salary falls below the state poverty line for a family of four (Matthews et al., 2018). In 2020, the average annual salary for CNAs was $32,050 or $15.41 an hour (Bureau of Labor Statistics, 2021). The bottom tenth percentile of CNAs earned less than $22,750 while the highest ten percent earned more than $42,110 (Bureau of Labor Statistics, 2021). Indeed, 19% of CNAs report working more than 21 hours a week at a second job just to make ends meet (Van Houtven et al., 2020).

Consequently, 48% of CNAs live below the poverty line (DePasquale et al., 2018). Another 6.7% are classified as working poor, when defined as having worked at least 27 weeks over the past year and having an income below the poverty line (Weller et al., 2020). Furthermore, 9.7% of CNAs had no health insurance in 2019 and only 22.6% had any retirement benefit at work (Weller et al., 2020). Lack of adequate compensation, either in the form of increased salary or other incentives (such as paid time off or special bonus rewards) can lead to job dissatisfaction, reduced productivity, resentment, and turnover intention (Homisak, 2019).

Direct care workers often struggle financially, resorting to a reliance on public programs and tax credits to survive. Weller et al. (2020) noted that more than half of all CNAs relied on some public program or tax credit in 2018. Dill et al. (2013) argued that low wage earners, such as CNAs, are more vulnerable because they are typically minorities and women, many of whom are single mothers. As a result of not having the same available resources as higher-wage healthcare professionals, CNAs have a lower ability to act on their intentions to leave and may grow to resent feeling trapped in their position (Dill et al., 2013). Despite this weakened ability
to act on turnover intent, poor compensation is one of the leading factors contributing to high CNA turnover in nursing homes (Bryant O. A., 2018; Scales, 2021). Both before and during the COVID-19 pandemic, low wages have been the underlying cause of CNA staff shortages in long-term care facilities (Denny-Brown et al., 2020).

Denny-Brown et al. (2020) found that long-term care financing is largely dependent upon Medicaid funding. However, the authors found Medicaid reimbursement rates for nursing home stays often do not offset the cost of care, with nursing homes receiving only $200 per day for a Medicaid patient, compared to the $500 per day for traditional Medicare patients (Denny-Brown et al., 2020). These lower reimbursement rates severely limit funding for nursing homes and, as such, contribute to the low compensation for workers such as CNAs, as well as reduced hours of care for residents and staff shortages (Denny-Brown et al., 2020).

In their study of injury and illness claim rates for Minnesota CNAs from 2005 to 2016, Rosebush et al. (2020) found that CNAs are at a heightened risk for musculoskeletal disorders and patient handling injuries. The authors found that claims filed by CNAs were more frequently settled outside of the standard workers’ compensation benefit structure, which they deemed to be an indication that the workers’ compensation system was failing to provide adequate and timely benefits to these employees (Rosebush et al., 2020). Rosebush et al. (2020) suggested that CNAs were particularly vulnerable because they receive lower compensation than other direct care providers, leaving them disempowered to influence workplace safety practices. Indeed, despite the fact that CNAs working in nursing homes are twice as likely than registered nurses to experience a patient handling injury, they are less likely than registered nurses to receive traditional workers’ compensation benefits, such as temporary, total, and permanent partial
disability, for their injuries (Rosebush et al., 2020). This lack of adequate compensation drives high CNA turnover (Rosebush et al., 2020).

In her analysis of 70 studies regarding the high turnover rate among nursing assistants in nursing homes, Kittles (2021) found that a statistically significant relationship exists between CNA compensation and turnover intention. A lack of adequate benefits, such as salary, paid sick time, paid vacation, health insurance, and educational reimbursement programs were shown to have a negative impact on nursing assistant retention (Kittles, 2021). Thus, when considering compensation holistically, the literature would suggest that it significantly impacts nursing assistant turnover intention (Bryant, 2018).

**Employee Engagement.** The CNA workforce has been predominantly female for decades (Dill et al., 2013; Van Houtven et al., 2020). In fact, 87% of the direct care workers in long-term care facilities are women (Scales, 2021). In addition, nearly one in four CNAs are single mothers with children living with them (Weller et al., 2020). DePasquale et al. (2018) noted that many CNAs also function as double-duty caregivers in that they informally care for children or older adults at home or even triple-duty caregivers by caring for both children and older adults. Compared with workplace-only caregivers, CNAs acting as double-and-triple-duty caregivers report struggling more with emotional exhaustion and staying engaged in the workplace (DePasquale et al., 2018).

The demands of balancing personal and professional lives leave CNAs feeling stressed and overburdened (Byrd, 2021). DePasquale et al. (2018) conducted a study of 972 CNAs working in United States based nursing homes. They found that compared to workplace-only caregivers, double and triple-duty caregivers reported being more emotionally exhausted and feeling pressured to sacrifice family for the sake of work (DePasquale et al., 2018). Furthermore,
triple-duty caregiver CNAs also reported being less satisfied with their job and their work environment (DePasquale et al., 2018). The authors also noted that long-term care organizations experienced more workforce stability and greater CNA staff retention when they implemented initiatives that allocated resources to providing greater family time adequacy (DePasquale et al., 2018).

Within the healthcare industry, employee engagement is a significant negative predictor of turnover intention and often associated with a lack of organizational communication (Bonilla, 2018). Communication structures in nursing homes are often hierarchical, resulting in the reduced engagement of nursing assistants (Xue et al., 2021). In their descriptive qualitative study of 28 nursing home workers, including 11 CNAs, Xue et al. (2021) found that staff engagement was inhibited by a lack of proactive communication among staff and severe time constraints placed upon employees. However, they also found that increased engagement corresponded with increased staff retention (Xue et al., 2021).

In nursing homes, research has shown that cultivating and implementing empowered workforce practices that foster and encourage collaborative decision making and increased CNA autonomy and self-determination has resulted in increased employee engagement and reduced turnover (Berridge et al., 2018; Caspar et al., 2020; Matthews et al., 2018). Yet only 23% of traditional nursing homes include CNAs in social event planning, and only 13% involve them in staff assignment decisions (Berridge et al., 2018). Berridge et al. (2018) revealed that empowered CNAs are less likely to quit or be fired. Their study found that when CNAs were given decision-making authority over their work there was a positive effect on CNA empowerment, performance, patient care, satisfaction, and retention.
Blanco-Donoso et al. (2022) found that during the on-going COVID-19 pandemic, nursing home workers have struggled to remain engaged. Healthcare workers have a strong inclination to help others. Their view of the value and impact of their work, and how it affects the lives of residents during the pandemic, has contributed to a greater sense of satisfaction and professional engagement (Blanco-Donoso et al., 2022). The increased job recognition and social support contributed to feelings of gratification and fulfillment (Blanco-Donoso et al., 2022). However, the extreme demands of the job without adequate resources and a lack of inclusion in care planning resulted in exhaustion and lower engagement, which in turn lead to greater turnover intention. Long-term care leaders need to foster the sense of community that was present during the early stages of the pandemic, which would lead to CNAs feeling engaged in their professions again (Campo-Arias et al., 2021).

**Employee Job Satisfaction.** There is a significant relationship between employee engagement and job satisfaction in the long-term care industry (Lee et al., 2020). Hence, many of the contributors to increased engagement also influence job satisfaction. Key facilitators of job satisfaction within healthcare systems include manager support and style, supportive workplace processes and technology, existence of a positive organizational culture, employee’s sense of making a difference, positive workplace relationships, employee growth and development, and frequent and transparent communication (Lee et al., 2020).

Supportive leaders are those who extend trust between team members, as well as demonstrate respect and caring (Lee et al., 2020). O’Hara et al. (2019) argued that compared to other factors, supportive leadership accounts for a 63% influence over job satisfaction. Indeed, when CNAs are acknowledged as vital members of the care team, research has shown a corresponding increase in reported CNA job satisfaction and reduced turnover intention (Travers,
Accordingly, CNAs who perceive that their people leaders are supportive tend to have more job satisfaction (Shanks, 2020).

CNAs, being the primary care givers in nursing homes, can contribute substantially to both treatment planning and implementation of the care plan (Hospice and Palliative Nurses Association, 2019). However, their expertise in observing and reporting relevant patient and family information, as well as providing hands-on personal care, is often overlooked, and not consistently recognized by management (Hospice and Palliative Nurses Association, 2019).

Nursing assistants are vital to the success of long-term care facilities, and yet there is nationwide shortage of the workforce (Behrens & Parmelee, 2018). When their expertise is considered and CNAs perceive to have their supervisors respect, not only does job satisfaction increase and turnover intention decrease, but so too does positive word-of-mouth communication about long-term care facilities to potential employees, which may help to reduce worker shortages as well (Behrens & Parmelee, 2018).

CNAs are on the front lines of nursing home settings, and residents are dependent upon them for their activities of daily living (Rajamohan et al., 2019). Job-related stress and burnout are critical concerns for CNAs, and often negatively impact job satisfaction and lead to turnover intention (Rajamohan et al., 2019). The high rate of CNA turnover has been correlated with a decreased quality of care among nursing home residents (Rajamohan et al., 2019).

In caring for nursing home residents, CNAs face many compounded stressors, such as exposure to human suffering, long work hours, exposure to illness, and mistreatment and violence from patients (Brossoit et al., 2020). Workplace violence toward CNAs from nursing home residents is often minimized or normalized, and therefore goes underreported by CNAs as a coping mechanism for managing fear (Funk et al., 2021). Violence can come in many forms.
Types of aggression from residents toward CNA workers can be verbal (e.g., cursing, verbal threats), physical (e.g., biting, hair pulling, hitting), or sexual (e.g., touching intimate areas of the body) (Stutte et al., 2017). Verbal aggression occurs at the highest frequency (77%), proceeded by physical (54%) and sexual aggression (7%) (Stutte et al., 2017).

Overall, CNAs in nursing homes are 23 times more likely to experience aggression than in other healthcare settings (Stutte et al., 2017). The perceived lack of safety in the workplace can negatively impact CNAs’ job satisfaction, resulting in increased turnover rate, diminished resident outcomes, and increased cost to long-term care facilities (Xiao et al., 2021). Furthermore, workplace violence disrupts the therapeutic environment required to develop a meaningful relationship between nursing home residents and CNAs (Long et al., 2019). In order to circumvent a violent interaction, CNAs may begin to avoid or distance themselves from residents, thus leading to a reduction in the quality of care provided and job satisfaction (Xiao et al., 2021).

CNAs spend more time with nursing home residents than any other nursing staff, a median of 2.4 hours of direct resident care per day compared to less than one hour for both LPNs and RNs (Eaton et al., 2019). As such, how a CNA communicates with others is associated with resident and family perceptions good quality of care, enhanced CNA job satisfaction, and improved safety outcomes for patients (Eaton et al., 2019). Yet despite having regular contact with residents who often exhibit aggressive behavior, CNAs are provided with little formal education specific to communication and de-escalation skills (Eaton et al., 2019).

Bluth et al. (2021) suggested that not only is additional training needed to help CNAs navigate their daily workspaces in a safe manner, but self-compassion training should also be initiated to help CNAs cope and manage their stress. Self-compassion training, coupled with a
supportive management structure, can significantly reduce CNAs’ feelings of isolation, stress, depression, and anxiety (Bluth et al., 2021).

Implementing self-care and compassion training can be instrumental in promoting job satisfaction and reducing turnover intention. Dreher et al. (2019) explored the impact of a 90-minute evidence-based education program on compassion fatigue awareness and several self-care strategies for CNA retention, with forty-five CNAs participating. After one month, CNA retention increased by 43% and by the end of the fourth month the facility’s retention rate was 100% (Dreher et al., 2019). CNAs in the study reported significantly increased job satisfaction scores. Having a supportive management structure and proper training on coping mechanisms will increase CNA job satisfaction (Kalisch & Lee, 2014). Increased job satisfaction leads to greater CNA retention and reduced costs for long-term care facilities (Patterson, 2018).

**Employee Motivation.** Research indicates that there is a positive correlation between organizations’ team climate and quality of care (Backhaus et al., 2017; Estabrooks et al., 2016). Given that CNAs have the most direct care contact with residents, understanding their motivations is crucial to fostering a positive team climate and organizational culture. (Lyman et al., 2021).

Long-term care facilities that have a culture of respecting nursing assistants have a lower turnover rate than those that do not (Gyllensten et al., 2019). A sense of belonging is key to motivating employees. CNAs feel disappointed when their colleagues fail to value their experience and competence (Gyllensten et al., 2019). When CNAs perceive that they have the support of their co-workers and are a part of a group, their motivation to continue working is increased (Gyllensten et al., 2019). Aside from the sense of belonging, CNA employee motivation and job satisfaction increases when they are given meaningful tasks where they have
an opportunity to use their experience, knowledge, and education in the workplace (Gyllensten et al., 2019). Turnover intention increases when CNAs in nursing homes feel a lack of autonomy and pressure to perform their duties faster and less well (Soyer et al., 2021).

In their semantic analysis of the discourse of 42 direct care providers working in nursing homes, Soyer et al. (2021) found that nursing assistants have three specific needs that, when met, correspond with increased work motivation resulting in improved quality of care: the need for autonomy, the need for competence, and the need for relatedness. The need for autonomy refers to CNAs experiencing freedom of choice and the ability to perform their job functions without leaders who micromanage them (Soyer et al., 2021). When direct care workers lack autonomy, they feel they are not responsible for their actions and become disengaged from the workplace (Boudrias et al., 2020). The need for competence denotes the need for CNAs to master the skills required to perform their work and feel confident and productive in doing so (Soyer et al., 2021). Soyer et al. (2021) claim that feelings of incompetence will induce feelings that organizational goals are unattainable, resulting in reduced motivation to perform well. Lastly, the need for relatedness involves the desire for meaningful work relationships, without which employees become frustrated since they feel they don’t belong (Boudrias et al., 2020). Employee motivation decreases, resulting in greater turnover intention when these three needs are not met (Boudrias et al., 2020).

Nursing homes are demanding workplaces where CNAs are tasked with physically arduous work and high patient loads, which creates an unsustainable work situation and negatively affects employee motivation and their willingness to stay at work (Gyllensten et al., 2019). Lyman et al. (2021) suggested that CNAs are motivated by their natural caregiving tendencies, support from administration, their capacity to work as a team, their love for residents,
and self-care. The authors noted that self-care can increase CNA motivation by mitigating the adverse effects of stress and burnout, thus reducing turnover (Lyman et al., 2021).

**Employee Perceived Work Stress During COVID-19.** On March 11, 2020, the World Health Organization (WHO) declared coronavirus (COVID-19) a pandemic. The COVID-19 pandemic is having several negative social effects on healthcare professionals, including discrimination by the general population (Cassiani-Miranda & Campo-Arias, 2020). Additionally, some healthcare workers self-stigmatize and struggle with anxiety and depression as a result (Zolnikov & Furio, 2020). CNAs have a lower social status than nurses and doctors since the occupation requires very little technical training by comparison (Campo-Arias et al., 2021). Consequently, CNAs are victims of discrimination more frequently than physicians and nurses (Lynn & Ellerbach, 2017). In a study examining the association of perceived discrimination related to COVID-19 with psychological distress among healthcare workers in the Caribbean region of Colombia, Campo-Arias et al. (2021) found that CNAs report more perceived discrimination than nurses or physicians. Furthermore, the authors contended that perceived discrimination is related to increased stress, depressive symptoms, and suicide risk among CNAs (Campo-Arias et al., 2021).

Furthermore, healthcare organizations have struggled to provide nursing assistants with the critical resources they need during the pandemic, which has led to decreased employee commitment, resulting in high turnover, and increased organizational cost (Cho et al., 2021). Access to personal protective equipment (PPE), in particular, is vital for alleviating CNAs’ fears regarding working in an unsafe environment (Travers, Schroeder et al., 2020). CNAs recognize the importance of PPE and that the lack of both sufficient PPE equipment and proper training on the use of PPE predisposes them to serious risk (Travers, Schroeder et al., 2020).
Research has indicated that CNAs working in nursing homes require more practical guidance regarding COVID-19 prevention and control measures (Zhao et al., 2021). Aside from mere PPE, CNAs have reported that approachable management, peer support, and teamwork are perceived as effective coping strategies for stress associated with the pandemic (Zhao et al., 2021). Several authors suggested that the perceived threat of COVID-19 can cause severe psychological turmoil, which leads to emotional exhaustion of healthcare employees and increased turnover intention (Alatawiet al., 2020; Kuo et al., 2020; Pérez-Fuentes et al., 2020). Already many nursing assistants having chosen to leave their low paying jobs during the pandemic out of fear of infection, childcare issues, or merely just the stress of working in a high-risk environment amidst a pandemic (Byrd, 2021).

In their study of 335 Spanish nursing home workers, Blanco-Donoso et al. (2022) found that the workers presented high levels of stress, anxiety, depression, and fear related to COVID-19. Similarly, in Brady et al.’s (2022) study of 390 nursing home staff in Ireland, the authors found that the combined stresses of witnessing resident deaths in an ever-changing work environment, while living in a pandemic, adversely affected nursing home staff mental health. Moreover, nursing assistants have reported a significantly higher degree of morale injury related to the pandemic than other staff, likely due to their being the primary caregivers in nursing homes (Brady et al., 2022).

Employee Work Environment. An extensive range of work environment elements have a substantial bearing on long-term care facility staff turnover, such as workload and training, leadership styles, coworker support, staff autonomy, role expectations, and work relationships with resident families (Choi et al., 2020). Studies have demonstrated that there is a positive correlation between perceived poor work environment and high turnover in the healthcare
industry (Min et al., 2021; Takemura et al., 2020; Travers, Teitelman, et al., 2020; Yeatts et al., 2018). Healthcare professionals’ working conditions are correlated with burnout, and when the work environment is improved, retention increases (Möckli et al., 2020; Takemura et al., 2020). Where there is a positive work environment, there is a reduced likelihood of feelings of burnout (Möckli et al., 2020; Yeatts et al., 2018). Many CNAs in nursing homes struggle with not having enough time to perform all their assigned tasks (Yeatts et al., 2018). As CNAs choose between responsibilities, burnout develops and some tasks go undone, resulting in diminished care quality (Yeatts, et al., 2018). Adequate staffing and material resources are crucial to develop a work environment that enables healthcare staff to mitigate occupational fatigue and focus on providing quality care to patients (Min et al., 2021).

Leadership style is also critical to a work environment that does not induce turnover intention. In their study of 591 nursing assistants in 42 nursing homes in Canada and Spain, McGilton et al. (2022) found that long-term care supervisors play a significant role in shaping the work environment and the stress that staff undergo in these environments, particularly in the context of the COVID-19 pandemic. Likewise, in their study of work-related attitudes in a sample of 340 direct care workers across 32 nursing homes in Oregon, Dys et al. (2022) concluded that cultivating a supportive work environment is crucial to increasing job satisfaction, elevating engagement levels, and reducing turnover intention. Dys et al. (2022) argued that CNAs are chronically underpaid, undertrained, and undervalued, with the COVID-19 pandemic serving to highlight the cost of underinvestment in this workforce.

More than half of the CNA workforce in nursing homes is comprised of racial/ethnic minorities, and 90% of CNAs are women (Travers, Teitelman, et al., 2020). Unfortunately, CNAs are routinely subjected to discrimination based on their race and gender in their work
environments (Travers et al., 2020). Indeed, 56% of CNAs report having experienced racism from nursing home residents, and 40% report having experienced it from colleagues (Travers et al., 2020). Travers and Teitelman et al. (2020) argued that without policy changes aimed at improving the work environment for CNAs, the long-term care workforce will lack the capacity to meet the growing needs of the nursing home residents in the future. Travers and Schroeder et al. (2020) suggested that any primary policy change focus should be on developing supportive and caring work environments for CNAs where they can feel empowered to communicate and collaborate with colleagues.

Developing a work environment based on a foundation of trust and communication is key to the success of any long-term care organization (Söderberg, 2022). Long-term care leadership should establish a professional practice environment that involves shared goals and values as well as interprofessional respect, support, and discourse (Söderberg, 2022). Such a work environment would help to alleviate perceived stress and some of the long-term health risks associated with the demanding work of nursing assistants (Sousa-Ribeiro et al., 2022). Rosebush et al. (2020) suggested that a collaborative work environment would help to reduce the high number of injuries CNAs sustain in the workplace, with the workforce being twice as likely to experience patient related injuries than their RN colleagues. Thus, a community-based work environment is associated with positive work-related outcomes, such as increased job satisfaction, enhanced work engagement, and reduced turnover intention (Sousa-Ribeiro et al., 2022).

**Resolving the Problem**

**Strategies to Reduce Employee Turnover.** Reducing turnover and retaining a skilled, experienced CNA workforce is the most pressing concern long-term care leaders will face in the
coming decades (Brady et al., 2022). Consequently, long-term care administrators will need to be equipped with the knowledge of the factors underlying turnover intention. Moreover, they will need a comprehensive knowledge of strategies to reduce employee turnover (Dennis, 2019). The following section elaborates on successful retention strategies.

**High Commitment and Involvement.** In recent years, researchers have touted high commitment management practices as an effective method for strategic human resource management (Mello, 2019). High commitment and high involvement management strategies are those that focus on empowering employees to engage in the decision-making process, while also prioritizing training and development programs to further enhance the organization’s human capital (Bryant, 2017). Implementing such practices will increase an organization’s productivity and lower turnover rates (Mello, 2019). To reduce turnover intention, long-term care facilities must provide ongoing training and development for their CNA teams (Kennedy et al., 2020).

Training and development should focus on enhanced employee engagement, with practices including the development of active listening skills and the use of strategies for respecting autonomy (Xue et al., 2021). Additionally, leaders can seek to increase commitment and involvement through the use of incentive programs, such as offering CNAs a sponsorship into nursing programs (Elliott et al., 2020). 36% of RNs began their healthcare careers as CNAs, and the opportunity for career growth within a facility may increase staff retention (Elliott et al., 2020). Further, including CNAs as members of the nursing home interdisciplinary team alongside physicians, RNs, dietary nutritionists, and residents will increase their involvement in patient care and help them feel less stigmatized as direct care workers (Travers et al., 2021).

**Organizational Culture of Empowerment.** Using data from 2,034 nursing home administrators from a 2009/2010 national nursing home survey, Berridge et al. (2018) found that
a greater staff empowerment practice score was positively correlated with greater CNA retention. Their study identified practices such as the offering of training and education opportunities, the implementation of employee appreciation and value practices, CNA involvement in care planning, and in managerial and day-to-day decision making, as practices commonly associated with staff empowerment (Berridge et al., 2018).

Likewise, Cready et al. (2008) also found that CNAs with high empowerment and better relationships with their nurse colleagues tended to report better CNA performance and work-related attitudes. In their survey of 298 CNAs and 136 nurses, Cready et al. (2008) compared five nursing homes where CNA-empowered work teams had been implemented and five nursing homes where more traditional management approaches were utilized. Those nursing homes with the work teams were found to not only have greater CNA staff retention, but also the nurses were less likely to report considering alternative employment (Cready et al., 2008). Consequently, focusing on developing human capital in the long-term care facility industry can not only reduce CNA turnover, thus minimizing constant changes in the direct care provided to patients, but also in the specialty skilled nurses as well.

Improvements in compensations, benefits, and promotion opportunities for CNAs working in nursing homes would likely reduce turnover intention, but long-term care leadership also needs to focus on providing an organizational culture of empowerment (Gilster et al., 2021). Gilster et al. (2021) present the SERVICE Model of Leadership as a comprehensive framework for long-term care leadership to implement to reduce turnover intention. The goal of this model is to provide person-centered resident care through an organization-wide culture (Gilster et al., 2021). The authors argued that such a culture would address the needs and desires of the primary stakeholders: residents and their loved ones, as well as nursing home staff. The SERVICE Model
of Leadership endorses the concept of servant leadership, where leaders work for a purpose higher than themselves and focus on being a teacher, coach, and servant (Dameron, 2016; Gilster et al., 2021). According to Gilster et al. (2021), embracing this model of leadership will increase long-term care employee job satisfaction by enhancing the work environment through meaningful work, respect and support from colleagues, enhanced communication, and increased employee recognition.

Developing a more inclusive and embracing work environment may lead to reduced employee turnover. DePasquale et al. (2018) contended that CNA turnover intention significantly decreases when long-term care organizations provide family-friendly work environments that allow CNAs with multiple caregiving roles to spend more time with their family, thus buffering against work strain. The COVID-19 pandemic further strained CNAs working in multiple caregiver roles, increasing their desire for a less stressful and emotionally demanding work environment, as well as their need for more family time (Gilster et al., 2021). Thus, a long-term care organizational culture that empowers CNAs to participate in meaningful work, where they feel supported by their colleagues, and affords them adequate family time may result in reduced turnover intention (Berridge et al., 2018).

**Strategic Human Resource Planning.** Elarabi and Johari (2014) found that healthcare professionals become more motivated and committed to their profession when their organizations empower them to be more responsible and autonomous. The implication of their study being that if long-term care facilities wish to retain their CNA staff, they need to further value their human capital (Elarabi & Johari, 2014).

Some long-term care facilities are taking action to future-proof their success. Dove Healthcare-Wissota Health and Regional Vent Center in Chippewa Falls, Wisconsin has joined
with a local high school to put teenagers through a state-approved course that trains CNAs, and even offers students tuition assistance so their employed teens can attend technical college for nursing while working (Levitz & Morath, 2018). By focusing on a younger workforce and providing incentives such as tuition assistance, the Dove Healthcare-Wissota Health and Regional Vent Center is both shifting their HR focus towards developing their human capital, whilst also ensuring their workforce is younger, despite the aging population. According to Mcguire et al. (2007), the goal of strategic human resource management is to develop people in order to improve both individual and organizational performance. The aforementioned example of the health center in Chippewa Falls demonstrates how strategic human resource management can be used to improve performance for both the employee and the firm.

In studying the work environment perceptions of 584 Iowa CNAs across 166 nursing homes, Culp et al. (2008) found that CNAs who left their jobs rated their work environment as characteristic of excessive managerial control and task orientation. The authors suggested that the results of their study emphasize the importance of a positive relationship between CNAs and their supervisors. To attain a positive relationship, Culp et al. (2008) argued that CNAs need greater workplace autonomy, and that HR management needs to innovate the work environment so that CNAs have a greater sense of ownership of their work and involvement in the healthcare of their patients.

Valcour (2016) contended that when an organization’s HR department encourages employees to develop professionally and takes strategic developmental actions to reduce job stressors, then not only do team dynamics improve, but as does overall organizational performance. Matthews et al. (2018) discussed how the need for long-term care facilities is steadily increasing as baby boomers age and begin retiring. Their study examined the manager-
subordinate relationship and how this relationship related to turnover, specifically among low-wage earners in the long-term care environment. Collecting data over the course of 18 months, Matthews et al. (2018) found that supervisor loyalty was the only significant predictor of turnover among low wage employees. These findings highlight the need for HR strategies that include explicit employee engagement systems, continuous improvement and learning systems, and strive to recognize and award employees (Bryant, 2017). Additionally, an effective HR strategy should involve effective selection and recruitment processes, proper role definition, career expansion processes, and succession planning (Mello, 2019).

**Effective Leadership.** Effective long-term care leadership can exist at many levels (Backman et al., 2017). This begins from the very top, starting with long-term care ownership (Huang & Bowblis, 2020). In their study of for-profit Ohio nursing homes from 2005 to 2015, Huang and Bowblis (2020) found that compared to salaried managers, owner-managed nursing homes have higher workforce retention rates. Huang and Bowblis (2020) noted that they did not find higher wages at owner-managed nursing homes, and therefore dismissed the concept of better retention being achieved through higher wages. Instead, the authors suggested that owner-managers are better able to reduce turnover intention without increasing operational costs through effective leadership practices that enable them to better address workforce concerns as they arise (Huang & Bowblis, 2020).

Of course, not all long-term care owners can also be managers. However, even salaried managers must work to foster open communication and teamwork amongst their staff (Round & Sturdevant, 2019). Long-term care leaders are responsible for empowering their workforce, and ensuring that their work environments cultivate CNA knowledge, so that they are equipped with methods that allow them to manage difficult caregiving scenarios. Additionally, effective
leadership must include supervisor training to enhance the recognition, prevention, and management of compassion fatigue, which will further reduce CNA turnover intention (Dreher et al., 2019).

While the long-term care owner, administrative, and managerial staff are vital to ensuring an organization’s mission and values are clearly communicated and executed, all staff in supervisory positions over CNAs play a role in demonstrating effective leadership (Backman et al., 2017). Nursing trainers in long-term care homes demonstrate standards for safe patient care and articulate organizational values to CNAs (Burt, 2019). Moreover, including CNAs in programs to develop job specific leadership skills can result in them not only feeling more knowledgeable about nursing home best practices, but that their leadership cares more about their career growth thus reducing their turnover intention (Round & Sturdevant, 2019).

**Challenges to Retention Strategies.** The long-term care industry faces some unique challenges that make high turnover a persistent problem (Caspar et al., 2020). Firstly, long-term care faces issues related to diversity and inclusion (Dreachslin et al., 2017). A large percentage of the CNA workforce in the United States consists of minorities, and they often face racial discrimination (Eaton et al., 2019). Retaining racial and ethnic minorities is key to ensuring quality patient care delivery to the diverse populations long-term care facilities serve (Cuevas & O’Brien, 2019; Herrera-Peco et al., 2021). However, when this population is regularly subjected to both verbal and physical abuse from residents, their turnover intention increases (Xiao et al., 2021). Consequently, long-term care leadership should focus on diversity training for both employees and residents, as well as skills training to equip employees with the knowledge necessary to manage challenging situations with residents (Xiao et al., 2021).
Another challenge to CNA staff retention strategies is funding (Baughman et al., 2022). Long-term care facilities are predominantly funded through Medicaid and Medicare, and thus these providers operate on tight margins that allow little room for them to increase staff salaries or other job quality investments (Scales, 2021). However, the COVID-19 pandemic has brought to light the devastating impact of inadequate investment in long-term care, so the opportunity exists for greater funding in the aftermath of the pandemic (Scales, 2021).

Lastly, time constraints and a lack of proactive communication among staff are challenges to retention strategies in long-term care (Xue et al., 2021). CNAs in long-term care are report feeling over-burdened and overworked, especially during the COVID-19 pandemic (Blanco-Donoso et al., 2022). Additionally, nursing home leadership often excludes CNAs from care planning communication, resulting in CNAs feeling siloed in their organizations (Brady et al., 2022). Indeed, staff shortages and employee burnout has resulted in some healthcare organizations are using delivery care robot nursing assistants as an alternative (Gaines, 2022). However, while this may alleviate some of the time constraints placed on nurses and nursing assistants, these robots lack the empathy, knowledge, and critical thinking capabilities required to ensure quality patient care (Cao, 2021; Gaines, 2022). As such, even if these care robots become increasingly popular, proactive communication with CNA staff will still be needed to ensure proper staff retention levels and the delivery of quality patient care (Xue et al., 2021).

**Related Studies**

Holston-Okae and Mushi (2018) conducted a correlational study, using the motivation-hygiene theory as a foundation, to assess the relationship between employee turnover intention and employee job satisfaction, compensation, engagement, motivation, and work environment. With a sample of 156 hospitality employees working in the southern United States, Holston-
Okae and Mushi (2018) found of the five predictor variables, only motivation was not a significant predictor of turnover intention. Although Holston-Okae and Mushi’s (2018) study focused on the hospitality industry and not long-term care, their review of five of the six predictor variables, coupled with the shared theoretical framework of this study, makes their findings useful when investigating the complex nature of employee turnover intention.

Similarly, Bryant (2018) also conducted a correlational study on turnover intention, using both the motivation-hygiene theory as it’s conceptual framework and the same five predictor variables as Holston-Okae and Mushi (2018). Bryant’s (2018) study focused on 157 CNAs working in long-term care facilities in Florida. As was the case with the results of Holston-Okae and Mushi’s (2018) study, Bryant (2018) found a statistically significant correlation between turnover intention and employee compensation, engagement, job satisfaction, and environment, but not between turnover intention and motivation. Consequently, both Holston-Okae and Mushi (2018) and Bryant (2018) suggested further study into motivation as a factor of turnover intention, with Bryant (2018) noting that CNAs’ lack of motivation in their positions represents an area for future research.

Kelly (2019) expanded the population of Bryant’s (2018) to include all healthcare employees in the United States, aged 18 and older, while using the same theoretical framework as both Holston-Okae and Mushi (2018) and Bryant (2018). Additionally, Kelly (2019) utilized the same predictor variables of employee compensation, engagement, job satisfaction, and work environment. Interestingly, Kelly (2019) excluded motivation as an independent variable in his study which aimed to expand upon Bryant’s (2018) work. Kelly (2019) found a statistically significant relationship between all predictor variables and turnover intention. As such, Kelly’s (2019) results were in alignment with those of both Holston-Okae and Mushi (2018) and Bryant
(2018), since he excluded motivation as a variable, the only predictor variable the previous researchers had found to have no statistically significant relationship with turnover.

More recently, Kittles (2021) examined turnover intention amongst CNAs working in nursing homes in the United States. Kittles (2021) investigated the associations between high turnover rates among nursing assistants in nursing homes and employee compensation, engagement, job satisfaction, motivation, and work environment, using Herzberg’s (1959) motivation-hygiene theory as the theoretical framework for her study. Hence, Kittles (2021) echoed the aforementioned studies by using the same predictor variables in relation to the criterion variable of turnover intention, as well as the same theory as a conceptual framework. However, Kittles (2021) differs from the previous studies in that her results showed a statistically significant correlation between all predictor variables, including motivation. In her recommendations for further research, Kittles (2021) suggested that further examination of the predictor variables in other locations and utilizing other examination methods may be fruitful.

Based on the above recommendations, this study aimed to provide further analysis into the five predictor variables described above and their impact on CNA turnover intention. Given the discordant results surrounding motivation as a predictor of CNA turnover intention, this study provided researchers with further insight into any possible correlations between motivation and turnover intention. Furthermore, while the above studies touch on work stress, they were conducted prior to the onset of the COVID-19 pandemic. Subsequently, the predictor variable of work stress related to COVID-19 was also added to this study to examine any possible correlations between it and turnover intention as well.
Table 1. Related Studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Summary of study</th>
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<tbody>
<tr>
<td>Holston-Okae and Mushi (2018)</td>
<td>This is a correlational study, using the motivation-hygiene theory as a foundation, to assess the relationship between employee turnover intention in the hospitality industry and five of the six variables of the current study (employee job satisfaction, compensation, engagement, motivation, and work environment).</td>
</tr>
<tr>
<td>Bryant (2018)</td>
<td>This is a correlational study on turnover intention, using both the motivation-hygiene theory as it’s conceptual framework and the same five predictor variables as Holston-Okae and Mushi (2018). Of note, the focus of Bryant’s (2018) was CNA turnover intention in long-term care.</td>
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<tr>
<td>Kelly (2019)</td>
<td>This study mirrors Bryant (2018), using the same theoretical framework and all the same variables except employee motivation, but expands the population to all healthcare workers in the United States, not just CNAs.</td>
</tr>
<tr>
<td>Kittles (2021)</td>
<td>This study conducts a secondary analysis of data from 70 studies to examine the relationship between CNA turnover intention and the same predictor variables as Bryant (2018), as well as the same theory as conceptual framework.</td>
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**Summary of the Literature Review**

The primary goal of human resource managers is to increase productivity for their organizations (Mello, 2019). To do so, they carefully manage recruitment and retention policies, and strive to increase employee job satisfaction and motivation (Bryan, 2017). There are numerous individual and organizational factors that contribute to CNA job satisfaction and improved productivity. Individual factors include things such as age, autonomy, empowerment, ethnicity, gender, education level, specialized training, and experience. Organizational factors include salary/benefits, facility resources, workload, and job requirements (Squires et al., 2015). These factors help HR management understand their CNA stakeholder influence and motivation.
and is the initial step in enabling them to establish a framework and process for strategic human resource management.

Frémeaux and Michelson (2017) submit that the human element is the most important factor in business and that work should be a means of creating, helping, and serving others. This is very much congruent with the ‘divine economy’ concept of all stakeholders using their talents, abilities, and skills to work together to help and serve others (Hardy, 1990). Moreover, concentrating on human capital can be a source of competitive advantage when policies for managing people are integrated with strategic organizational planning and are fully apart of the business culture (Nuangjamnong & Maj, 2017). Taking a strategic approach to human resource development and attempting to bring a divine economy to fruition within an organization’s job design can result in the development of a high-quality workforce through investment in human capital and a cost-effective utilization of labor through increased employee engagement (Mello, 2019). In short, as organizations focus on human capital during work design and restructuring phases, they concentrate on skills training and continuous learning, employee participation, and internal partnerships (Mello, 2019). This focus on working together, developing skills and talents, and being a change agent for the betterment of the organization correlates with the ideals and principles espoused in the ‘divine economy’ concept.

Long-term care leaders should strive to be a change agent for their organizations and develop a work environment where employees work together as a team and focus on nurturing one another. Such a work environment would help to reduce CNA turnover and improve patient outcomes (Möckli et al., 2020). Organizations cannot ignore the problems of CNA turnover, which is projected to plague long-term care facilities for decades to come (Byrd, 2021). Nursing homes suffer substantial costs related to high turnover, such as recruitment and training for new
nursing staff (Lee, 2022). Due to poor resident health outcomes and the high costs of CNA turnover, long-term care administrators and healthcare policymakers must be equipped with the requisite knowledge needed to identify factors related to turnover in the long-term care industry (Lee, 2022).

The literature review established that CNA staff turnover can have adverse effects on residents, leading to significant economic and personal costs to nursing home residents and organizations (Burt, 2019). Furthermore, the literature review confirmed that empowered CNAs provide better care for nursing home residents and report reduced levels of burnout and turnover intention (Yeatts et al., 2018). Lastly, the literature review also noted that retention strategies could help to alleviate the U.S. healthcare system, which is currently strained by overburdened and overworked healthcare professionals (White et al., 2021).

Long-term care organizations recognize the problem of high CNA turnover in the industry. Indeed, the problem has existed for decades (Castle, 2021). Even before the onset of the COVID-19 pandemic, the CNA staff shortage was being deemed a crisis in the long-term care industry (Texas Health Care Association, 2018). The issue has only been exacerbated by the pandemic, with fewer people wanting to enter the field and current employees reporting greater turnover intention (Sousa-Ribeiro et al., 2022). This literature review served to expand on the issue of CNA turnover and place the present study in the context of the current body of knowledge surrounding the subject.

**Summary of Section 1 and Transition**

Long-term care administrators have struggled to address high levels of CNA turnover for the past three decades, despite its detrimental influence on ensuring quality resident care (Castle, 2021; Gilster et al., 2021). In recent years, the COVID-19 pandemic has served to emphasize the
importance of CNA retention and how shortages of this skilled nursing home staff can lead to not only a decrease in resident quality of life and health outcomes, but also an increase in resident death (Cimarolli et al., 2022). Indeed, as the American population aged 65 and older continues to increase, the need for both long-term care facilities and CNA staff will only grow in demand (Ng et al., 2022). Consequently, it is critical that long-term care leaders be equipped with the knowledge surrounding the factors influencing CNA turnover intention so that they can develop strategic retention strategies that allow them to be sustainable and meet the growing demand for their services (Cimarolli et al., 2022). The purpose of this study was to examine if there is a correlation between employee compensation, engagement, job satisfaction, motivation, perceived work stress during COVID-19, work environment, and employee turnover intention of CNAs working in the nursing home industry. The findings of this study could potentially aid leaders of long-term care organizations with developing effective retention strategies for this vital staff that could lead to reduced operational costs and improved resident health outcomes (Bryant, 2018).

Section 1 of this study included information that represented the foundation for this study. The information presented in this section addressed the background of the problem and details about the problem that has been addressed in this study, which was identified through a comprehensive review of the current research literature on the issue. Additionally, this section included the purpose statement for this study, the nature of the study, the research questions, and the theoretical framework of the study. Lastly, a detailed literature review elaborated on the causes, effects, and potential solutions to the research problem that will be investigated in this study.

Section 2 will provide a thorough explanation of the methodology used to identify the focus of this quantitative correlational study. This next section will include a review of the purpose of the study and provide a description of the role of the researcher, a review of the
research methodology that will be used in this study, and an examination of the participants of the study. In addition, Section 2 also contains a discussion of the research population and sampling, data collection and organization, and data analysis techniques, as well as an assessment of the reliability and validity of the instruments that were used in this study.
Section 2: The Project

Employee turnover is a part of the business cycle for every organization (Eckardt et al., 2014; Reukauf, 2018). Turnover affects an organization’s performance and profitability and is particularly harmful in the long-term care industry (Seavey, 2004). The focus of this quantitative correlational study was to investigate the relationships between CNA turnover intention and employee compensation, engagement, job satisfaction, motivation, perceived work stress during the COVID-19 pandemic, and work environment. To evaluate these potential relationships, data was collected from CNAs currently employed in long-term care facilities in central Texas.

Section 2 will provide a discussion of the project elements required to perform this study. To begin, a restatement of the project’s purpose statement is provided, followed by a discussion of the role of the researcher. The research methodology will then be described, with a detailed discussion surrounding the appropriateness of the research design and method being provided. Subsequently, a deliberation on the sampled population and sampling methods will be given. In addition, the section will include a review of the data collection, organization, and analysis procedures. Lastly, the section will conclude with a discussion on how the reliability and validity of the study was ensured.

Purpose Statement

The purpose of this quantitative correlational research study is to provide an understanding of the factors that influence employee turnover intention. This understanding was gained by examining the relationships between six independent predictor variables and a single, continuous dependent criterion variable. The dependent criterion variable is the employee turnover intention of certified nursing assistants in the long-term care facility industry. The independent predictor variables are employee compensation, engagement, job satisfaction,
motivation, perceived work stress during the COVID-19 pandemic, and work environment. The population for this study consisted of CNAs working in long-term care facilities in central Texas. Earlier research, throughout various industries, has explored these predictor variables as potential reasons for employee turnover intention in order to gain a better understanding of the issue and improve employee retention (ADP Research Institute, 2012; Bryant, 2017; Bryant, 2018; Carnahan, 2013; Gelard & Rezaei, 2016; Holston-Okae, 2017; Holston-Okae & Mushi, 2018; Kuo et al., 2020; Lerner, 2010; Society for Human Resource Management, 2016). Guided by the findings of this study, organizational leaders may develop and deploy strategic retention plans to decrease turnover rates. Consequently, the implications for positive social change include reduced CNA turnover, resulting in improved patient outcomes for institutionalized patients in long-term care facilities (Loomer et al., 2021). Moreover, organizational leaders equipped with a research-based understanding of the factors that drive employee turnover intention will be better able to implement initiatives designed to increase retention, lower business operating costs, and improve the work-life experience of their employees (Holston-Okae & Mushi, 2018; Lee, 2022; Xiao et al., 2021).

**Role of the Researcher**

The role of the researcher is to serve as the coordinator for data collection and conduct data analysis using procedures that enhance rigor and validity (Bryant, 2017). The researcher should work to recruit participants, collect data with impartiality, and report results without being judgmental of the findings (Holston-Okae, 2017). Further, a researcher should engage in the process of identifying and mitigating potential biases that they cannot readily eliminate (Kelly, 2019). Consequently, to improve the trustworthiness of the current study and mitigate bias, I chose research methods founded upon the endorsements of published research experts and
applied data collection and analysis techniques that followed recognized research standards. My role in this study was to collect, analyze, and validate data, as well as to present findings while avoiding bias, following appropriate research standards, and protecting the rights of participants. Unlike the researcher, the participants were all be employees of the long-term care industry. Additionally, to ensure that participants are protected, I complied with the guidelines established for ethical research in the Belmont Report which include respect for individuals, informed consent, and respecting privacy and confidentiality (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979).

The researcher obtained permission from the Institutional Review Board of Liberty University to conduct the study. My role was to act as an outsider of the study, and not have any influence over study participants. As such, no personal identification information of the participants was made available to the researcher and participants were provided with a means of withdrawal from the study, should they have chosen. I served only to act as an impartial collector of data and reported the results accordingly.

Research Methodology

A research method and design are simply a systemic means for attempting to solve a problem (Creswell & Poth, 2018). Nardi (2018) considers a research method and design to be the procedures a researcher uses to describe and study a particular phenomenon. A correlational quantitative research method is most suitable to investigate the relationships between two or more variables (Creswell & Creswell, 2017). This quantitative correlational design study included a multiple linear regression analysis to test the hypotheses of this research study and determine if there was any relationship between the predictor variables of the study and the criterion variable. This section includes a comprehensive review of the research method and
design used for this study, along with justifications for the choices of a quantitative methodology and correlational design that are supported by a review of the scholarly literature relating to comparable studies.

**Discussion of Fixed Design**

A fixed research design allows for the collection, formatting, coding, and statistical analysis of data, which empowers researchers to generate conclusions from data analysis (Brunsdon, 2016). Quantitative research is crucial to identify and understand how the variables of a study are interrelated and is appropriate when examining the relationships among a study’s variables (Creswell & Creswell, 2017). Nardi (2018) noted that quantitative research requires the use of objective measures, such as surveys, controlled experiments, and defined data sets. For this study, survey instruments measured by Likert-type scales have been used to collect the necessary data. Utilizing this approach has allowed me to measure the opinions of the study’s participants as numerical values that are more easily interpreted through statistical analysis (Hackett, 2019). According to Hackett (2019), the statistical analysis performed in quantitative research is vital to summarizing data, detecting patterns, and identifying relationships between variables. The fixed design allows the researcher to generalize the relationships identified between variables and apply them to the larger population as a whole (Creswell & Creswell, 2017). A fixed design was appropriate for this study because it provided a means for identifying and measuring relationships between the dependent ordinal variable, CNA turnover intention, and the independent ordinal variables of employee compensation, engagement, job satisfaction, motivation, perceived work stress during COVID-19, and work environment.
Discussion of Correlational Method

Quantitative research studies are comprised of one of three types of research design methods: experimental, quasi-experimental, and nonexperimental (Jubaer et al., 2021). An experimental design is contingent upon randomization of the research subject assignments, and a quasi-experimental study attempts to establish a cause-and-effect relationship between manipulated and controlled variables (Abutabenjeh, 2018). Conversely, in a nonexperimental study, a researcher measures the variables as they are, without manipulation (Jubaer et al., 2021). Additionally, nonexperimental research is utilized when the research problem involves a causal relationship, where the independent variable cannot be manipulated (Reio, 2016). Thus, neither the experimental or quasi-experimental designs would have been appropriate for this study because there was no need to manipulate variables or assign subjects to control groups.

A non-experimental correlational research design was selected for this study. A correlational research design enables researchers to study the relationship between two phenomena (Walliman, 2022). Mukaka (2012) argued that a correlational design is an approach to inferential quantitative research that allows the researcher to investigate potential relationships among variables instead of causation. Nardi (2018) contended that a correlational design allows for evaluating relationships between variables with different operational measures. The present study measured the relationships between variables with different measures, making a correlational design well suited for this study. Creswell and Creswell (2017) proposed that a correlational research design is governed by the following rules: participants are measured only a single time, the purpose of the study is to confirm or invalidate relationships between variables, and the sample population is of adequate size to ensure that a valid evaluation of an indiscriminate relationship between variables has been achieved. In the present study, I
performed a one-time study of the variables to determine if a relationship exists between the dependent and independent variables.

A correlational method was appropriate for this study because the purpose of the study was to assess if relationships exist between known variables and to quantify the extent of any relationships between the predictor variables and the criterion variable. Using a regression equation allows a researcher to obtain statistical findings that can lead to conclusions about predictions within the population of a study (Walliman, 2022). To quantify the tests for correlation, various survey instruments were employed that consisted of close-ended questions that allowed for multiple linear regressions, which are analysis techniques to test hypotheses and quantify any relationships that exist between the variables of a study (Bryant, 2017). Table 2 shows the variables included in the current study, along with the corresponding survey instrument that was used to collect data for the multiple linear regression analysis to test the hypothesis associated with each of the independent variables.

Each of the study’s six hypotheses has been tested using a Spearman’s rho test, which is the most appropriate test for determining the strength of relationships among ordinal variables when performing a statistical test between Likert-type variables (Bryant, 2017). Each hypothesis in this study relates to one of the six variables of the study. The variables are ordinal given that they have a consequential order to them, and thus they can be examined using nonparametric statistics, such as Spearman’s rho (Xiao et al., 2016). Xiao et al. (2016) argued that Spearman’s rho enables a researcher to measure the degree of association between the variables of a study, making the Spearman’s rho test appropriate to test the variables associated with the hypotheses of this study.
Multiple linear regression tests have also been performed to test each hypothesis of this study. Pallant (2020) suggested that multiple linear regression tests are useful for examining the relationship between one continuous criterion variable and several predictor variables. Likewise, Öztürk and Başar (2022) contended that multiple linear regression analysis provides a) the existence of a causal relationship between predictor variables and a dependent variable, b) the strength and significance of the impact predictor variables have on the dependent variable, and c) for the use of the predictor variables to forecast the dependent variable. As such, correlational analysis forms the foundation for multiple linear regression tests, given that a researcher can assess the strength and direction of the linear relationship between variables (Mukaka, 2012).

Chen et al. (2014) proposed that both Spearman’s rho and multiple linear regression tests are not sensitive to non-normality and that while Spearman’s rho is useful for assessing the degree of association among variables, multiple linear regression tests are useful for determining how the action of one or more predictor variables affects the outcome of a dependent variable. Consequently, both Spearman’s rho and multiple linear regression tests were performed to test each hypothesis of the current study, given the research questions of the study aimed to assess whether a relationship existed between each of the predictor variables of the study and the criterion variable.
Table 2. The Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Type</th>
<th>Data</th>
<th>Survey Instrument</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation</td>
<td>Independent</td>
<td>Ordinal</td>
<td>Compensation Scale</td>
<td>1 to 5</td>
</tr>
<tr>
<td>Engagement</td>
<td>Independent</td>
<td>Ordinal</td>
<td>Utrecht Work Engagement Scale</td>
<td>0 to 6</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>Independent</td>
<td>Ordinal</td>
<td>Job Satisfaction Scale</td>
<td>1 to 6</td>
</tr>
<tr>
<td>Motivation</td>
<td>Independent</td>
<td>Ordinal</td>
<td>Work Extrinsic and Intrinsic Motivation Scale</td>
<td>1 to 5</td>
</tr>
<tr>
<td>Perceived Work Stress During COVID-19</td>
<td>Independent</td>
<td>Ordinal</td>
<td>The Brief Illness Perception Scale; Stress of Caring for Highly Infectious Disease Patients Scale</td>
<td>0 to 10; 0 to 3</td>
</tr>
<tr>
<td>Work Environment</td>
<td>Independent</td>
<td>Ordinal</td>
<td>Work Environment Scale</td>
<td>1 to 5</td>
</tr>
<tr>
<td>CNA Turnover Intention</td>
<td>Dependent</td>
<td>Ordinal</td>
<td>Turnover Intention Scale</td>
<td>1 to 5</td>
</tr>
</tbody>
</table>

Summary of Research Methodology

Quantitative research has evolved over the past several decades, advancing to allow researchers to investigate and assess research questions from new angles and perspectives (Nardí, 2018). Although there are several methods for conducting a fixed, quantitative study, a fixed research design with a nonexperimental, correlational research method were selected for this study. A fixed design with a correlational method was appropriate because it facilitates examining the relationship between CNA turnover intention and employee compensation, engagement, job satisfaction, motivation, perceived work stress during the COVID-19 pandemic, and work environment. The selected design and method were appropriate to effectively examine the proposed research hypotheses and assess the study’s research questions through a statistical analysis of the participants’ quantified responses (Hackett, 2019).
Participants

The population of this research study was comprised of CNAs, aged 18 years and older, currently employed in long-term care facilities in central Texas. Brunsdon (2016) contended that participant recruitment should provide the researcher with a sample of individuals that adequately represents the population being studied. I accessed the participant pool following authorization from the Liberty University Institutional Review Board (IRB). To access participants for this sample population, I have utilized an internet-based survey management service, and administer surveys through SurveyMonkey® Audience, a platform that recruits participants from different study populations and allows surveys to be distributed and analyzed on the web (Nazlı et al., 2022).

SurveyMonkey® Audience has facilitated access to CNAs with a minimum of two years’ experience working in long-term care facilities in central Texas. SurveyMonkey® Audience uses a process that prequalifies each participant to assess their employment and age and establishes relationships with individuals to gather survey responses within a reasonable timeframe (Bryant, 2017). Additionally, I also contacted long-term care facilities in Texas and provided them with a link that will take respondents directly to the questionnaires. The data collected were the answers the participants provide to the questions administered via SurveyMonkey® Audience, using the questions included in Appendices A through P. I closed the survey after I had obtained the desired number of usable responses.

Population and Sampling

Ideally, a research study would be able to measure an entire population of interest to gain a full understanding of the research problem; unfortunately, that is generally not feasible under most research conditions (Creswell & Creswell, 2017). However, to circumvent the inability to
study the total population, the research community has universally accepted using a sample population to produce findings that can be generalized to the whole population being studied (Creswell & Creswell, 2017). The subsequent sections below will discuss the population and eligibility criteria for inclusion in the study, as well as the method used for obtaining the appropriate sample size for the present study.

**Discussion of Population**

The population for this study included CNAs currently working in long-term care facilities in central Texas. All Texas CNAs are under the jurisdiction of the Texas Department of Aging and Disability Services (DADS) and must successfully complete a state-approved nurse aide training program and the competency evaluation program examination (Texas Health & Human Services Commission, 2022). Additionally, Texas CNAs must be at least 18 years of age, have up-to-date immunization records, and pass a criminal background check (Texas Health & Human Services Commission, 2022). The Texas Center for Nursing Workforce Studies conducted a statewide survey in 2019 to assess nurse staffing (including CNAs) and related issues in long-term care settings (Texas Center for Nursing Workforce Studies, 2019). Their survey results found that CNAs represent the majority of care staff in long-term care facilities, and that Texas long-term care facilities have an average CNA turnover of 85% (Texas Center for Nursing Workforce Studies, 2019). Furthermore, central Texas has a median CNA turnover of 60.5% (Texas Center for Nursing Workforce Studies, 2019). In 2020, there were 100,161 actively licensed CNAs providing care in Texas (see Figure 2), which represents an 8.3% decrease since 2015 (Health Professions Resource Center, 2021). Relative to population growth, the size of the CNA workforce has declined by nearly 53% since 2010 (see Figure 3), with that delta likely growing given that these are pre-pandemic values (Health Professions Resource
Center, 2021). Furthermore, by 2030, nearly 15% of the CNA workforce will be at or past retirement age (Health Professions Resource Center, 2021). At present, Texas has fewer CNAs per capita than the national average (Health Professions Resource Center, 2021).

Figure 2. Total CNAs in Texas

![Figure 2. Total CNAs in Texas](image)

Figure 3. Ratio of Texas Population to CNA

Consequently, the recruitment of prospective participants occurred within various long-term care facilities operating in central Texas. According to the Texas comptroller of public accounts, the geographical region of central Texas consists of 49 counties that are broken out into three distinct economic regions: the Alamo economic region (consisting of 19 counties), the Capital Region (consisting of 10 counties) the Central Texas region (consisting of 20 counties) (Texas Comptroller of Public Accounts, 2020). These 49 comptroller counties have been used to define the central Texas region for the present study. Given the diminishing CNA workforce in
central Texas, this population is appropriate for a research study investigating CNA turnover intention. Participants were given the opportunity to respond to close-ended survey questions through the SurveyMonkey® Audience application, once a link had been provided for them. All participants were aged 18 years or older and currently employed in central Texas long-term care facilities, with a minimum of two years’ experience in the field.

**Discussion of Sampling**

Burkholder et al. (2019) argued that quantitative research consists of two distinguished features: variables and sampling selection. Sampling selection is defined as the process of selecting participants for the analysis (Burkholder et al., 2019). Researchers use a variety of sampling strategies to draw participants from a population of interest and generate inferences that are generalized to apply to the total population (Nardi, 2018). To extrapolate conclusions about the greater population, I have applied a sampling technique (elaborated and justified below) that resulted in a sample ranging from 378 to 384 CNAs. Participants who engage in the study were those who made themselves readily available and, based on their self-reported eligibility, have met the criteria for inclusion.

The sample frame, which is also referred to as a list of all the units of the population of interest, for this study has been all CNAs employed in long-term care facilities in central Texas (Ishak & Bakar, 2014). Probability sampling was not suitable for this study because the population consisted of a large number of specialized individuals and the surveys were administered via the internet (Creswell & Creswell, 2017). However, Baker et al. (2013) contended that non-probability sampling may be representative enough to make appropriate generalizations when issues such as access or population size prevent probability sampling. Convenience sampling is a type of non-probability sampling where members of the target
population that meet certain criteria, such as accessibility, geographical proximity, or willingness to participate are included in the study (Etikan et al., 2016). Studies utilizing surveys delivered through the internet utilize convenience sampling (Bryant, 2017). Thus, a convenience sample was appropriate for the current study given the method for survey delivery.

An advantage of using convenience sampling is the ease of recruitment of participants who willingly opt-in and provide responses in a manner that reduces the need for the researcher to travel to access the population (Etikan et al., 2016). However, a possible disadvantage of using convenience sampling is the associated sampling bias that occurs by including only participants who willingly opt-in and complete a survey administered via the internet (Etikan et al., 2016). Baker et al. (2013) noted that convenience sampling may result in the exclusion of participants who are unwilling or unable to engage in instruments delivered via the web, thus resulting in a possible sampling bias. To mitigate this bias, participants had the ability to contact the researcher and schedule time to be provided with the appropriate resources to complete the study, should they have so chosen.

In his discussion of survey design, sampling, and significance, Walters (2021) suggested using a sample size calculator to determine the appropriate number of participants that should be drawn from the population of interest to ensure the results can be generalized. Walters (2021) then went on to recommend the sample size calculators offered by Raosoft (2004) and Creative Research Systems (2012). In his study of turnover intention by trauma nurses, Waters (2021) used Creative Research Systems’ (2012) sample size calculator to determine the appropriate sample size for her quantitative correlational research study. Walters (2021) also noted that sample size calculators require the researcher to have an estimate for the total population of interest. Health Professions Resource Center (2020) published a 2020 census of the total number
of CNAs by county, along with total population by county. Using the counties identified as part of the geographical region of central Texas (Texas Comptroller of Public Accounts, 2020), the total number of CNAs currently employed in central Texas, as of 2020, is 20,638, as shown in Table 3 (Health Professions Resource Center, 2020). Using this figure, I have consulted both the Raosoft (2004) and Creative Research Systems (2012) sample calculators to determine the appropriate sample size for a statistical test with a 95% confidence level and a 5% confidence interval. Raosoft (2004) recommended a sample size of 378, while Creative Research Systems (2012) recommended a sample size of 384. Consequently, I aimed to recruit 384 participants for this study and accessed this participant pool through SurveyMonkey® Audience. The study was to remain open for a maximum length of five months in hopes of obtaining the desired sample size. Yet, if after five months the number of recruited participants had failed to achieve the desired sample size to ensure a 95% confidence level, I planned to widen the population to include participants from a larger geographical region by including south Texas, contact potential participants in this expanded geographical range, and keep the survey open an additional five months in order to achieve an appropriate sample size. Ultimately, however, these contingency plans were unnecessary, as the appropriate sample size was reached within two months.
Table 3. Central Texas CNA Population

<table>
<thead>
<tr>
<th>Geographical Region</th>
<th>Economic Region</th>
<th>Sum of 2020 Total Population</th>
<th>2020 CNA Total</th>
<th>Ratio of 2020 Population to CNA</th>
<th>Ratio of CNAs to 100,000 Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Texas</td>
<td>Alamo Region</td>
<td>2,954,742</td>
<td>9,280</td>
<td>318.40</td>
<td>314.07</td>
</tr>
<tr>
<td>Central Texas</td>
<td>Capital Region</td>
<td>2,369,534</td>
<td>5,277</td>
<td>449.03</td>
<td>222.70</td>
</tr>
<tr>
<td>Central Texas</td>
<td>Central Texas Region</td>
<td>1,223,427</td>
<td>6,081</td>
<td>201.19</td>
<td>497.05</td>
</tr>
<tr>
<td>Grand Central Texas Total</td>
<td></td>
<td>6,547,703</td>
<td>20,638</td>
<td>317.26</td>
<td>315.19</td>
</tr>
<tr>
<td>Texas Total</td>
<td></td>
<td>29,677,668</td>
<td>100,161</td>
<td>296.30</td>
<td>337.50</td>
</tr>
</tbody>
</table>

**Summary of Population and Sampling**

Identifying the total population of interest and an appropriate sampling method are necessary to investigate possible correlations between CNA turnover and employee compensation, engagement, job satisfaction, motivation, perceived work stress during the COVID-19 pandemic, and work environment. By concentrating on participants with particular characteristics, researchers can gain insights that can be extrapolated to the entirety of population of interest (Etikan et al., 2016). A suitable sample size allowed the results of this study to be generalized to the total population (Creswell & Creswell, 2017). The above sections addressed the population of interest to this study and the criteria required for participant inclusion, as well as the methodology behind obtaining an appropriate sample size for the study. Achieving the required sample size was vital during the data collection process, which is considered in the following sections.
Data Collection & Organization

Data collection was critical to correctly examine the factors that influence CNA turnover intention and necessitated that the researcher performed a variety of actions. Fixed research is founded on the collection and statistical analysis of numerical data that denotes the opinions and attitudes of the study’s participants (Creswell & Creswell, 2017). Acquiring meaningful results on these opinions dictates that I needed to ethically recruit survey participants, obtain a purposeful sample size, and acquire and store data securely (Creswell & Poth, 2018). Carter (2018) argued that quantitative analysis begins even before the data collection process and requires that the researcher decide what the data are intended to demonstrate, what the data collection plan is, and what statistical tests are appropriate to use. This section will provide a discussion outlining the data collection plan, followed by a description of the instruments used to collect the data, and will conclude with a review of the methods used for data organization.

Data Collection Plan

To collect data from the sample population for this quantitative correlational research study, I used SurveyMonkey® to administer consent forms and surveys through an online survey link. Bernerth et al. (2018) contended that surveys allow for the investigation of the characteristics of a population of interest through the collection of data from a sample of that population and use of statistical methodologies to make inferences to the population as a whole. There are a variety of survey type instruments, with the most common being interviews, multiple-choice questionnaires, and Likert-type scales (Nardi, 2018). The survey instruments used in the present study consisted of items on the graduated Likert-type scales and are discussed below. Each instrument has been validated and used in previous studies regarding turnover
intention in other industries. All participants answered eligibility questions to ensure they met the inclusion criteria.

The data collection process did not begin until approval was obtained from the Liberty University IRB and followed ethically appropriate protocols for housing a record of participants’ responses to the survey instruments. Participants were sent a link to complete the survey instrument through SurveyMonkey® and I closed the survey after obtaining the desired number of usable responses (Bebe, 2016). Bryant (2018) noted that an advantage of using SurveyMonkey® is that approximately 1 million members are accessible through the platform’s participant pool and that it is more economical compared to other electronic survey tools. Additionally, an advantage of using an online survey tool is that participants can access the survey from multiple devices, anywhere, and at any time that is convenient to them (Holston-Okae, 2017).

The recruitment of participants involved the researcher corresponding with long-term care facilities in central Texas and providing CNAs employed there with a link to access the SurveyMonkey® instruments. Additionally, the link was provided to prospective participants through the use of social media forums used by CNAs in Texas. Data collection using SurveyMonkey® ensured that participants remained anonymous, and their responses remained confidential (Bryant, 2017). Using an online survey administration service was appropriate for this research project because it ensures ease of access to the participant pool, enables data to be collected confidentially, allows for participants to withdraw from the study at any time during the collection process, and provides participants the ability to engage with the survey instruments through multiple devices and on a schedule that is suitable for them (Holston-Okae, 2017).
Instruments

The selected survey instruments for the measurement of the six predictor variables in the study were the following: (a) the Compensation Scale developed by Mensah (2014) to measure employee compensation, (b) the Utrecht Work Engagement Scale developed by Schaufeli et al. (2002) to measure employee engagement, (c) the Job Satisfaction Scale developed by Spector (1985) to measure employee job satisfaction, (d) the Work Extrinsic and Intrinsic Motivation Scale developed by Tremblay et al. (2009) to measure employee motivation (e) the Brief Illness Perception Scale developed by Broadbent et al. (2006) to measure employee perception of illness from COVID-19, (f) the Stress of Caring for Highly Infectious Disease Patients Scale developed by Chuang and Lou (2005) to measure preceived stress related to caring for infectious patients (g) the Work Environment Scale developed by Røssberg et al. (2004) to measure employee work environment, and (h) the fifteen item version of the Turnover Intention Scale developed by Roodt (2004) to measure employee turnover intention. The eight survey instruments have been used in prior research studies and have demonstrated both reliability and validity. Additionally, all surveys were distributed in a Likert-scale format and composite scores were assessed from the summation of each scale, after reversing scores when necessary. A brief summary of each instrument is provided below.

Compensation Scale. Mensah (2014) used the Compensation Scale survey instrument to measure employees’ views of the monetary and non-monetary aspects of their job. Appendix I contains the request and permission to use the survey instrument. The Compensation Scale consists of five questions that gauge an employee’s perspective of compensation based on intrinsic and extrinsic rewards, including monetary pay and other benefits such as health insurance and paid time off. Mensah (2014) developed this five-point Likert-type scale to
investigate the influence of compensation on employee retention in the banking industry.

Obtaining responses from 230 bank employees, Mensah (2014) determined that compensation was not correlated with employee retention in the banking industry. However, Shay and White (2013) argued that while compensation alone does not guarantee healthcare employee retention, it does influence a healthcare professional’s intention to leave.

The Compensation Scale is presented in Appendix J and allows for responses that range from 1 (strongly disagree) to 5 (strongly agree). Scores consisted of a summation of the individual scores for each question, with no reverse coding required, resulting in an additive answer range between 5 and 25 for the compensation portion of the survey. Mensah (2014) designed the scale so that higher scores indicate a more positive attitude regarding participants’ experiences with compensation. The five questions address participant views regarding their earnings compared to those in similar positions in the healthcare industry. This survey instrument provided insights into employees’ feelings regarding compensation and, in tandem with the Turnover Scale addressed below, addressed RQ1. Ude (2015) contended that the validity of a given data collection instrument remains the same for different populations and samples. Consequently, a validity test was not necessary for the compensation scale. Using Cronbach’s alpha, the reliability of the instrument is .81, which indicates the instrument was a valid measure for assessing participants’ experiences with employee compensation (Mensah, 2014).

**Utrecht Work Engagement Scale.** Appendix C contains the permission to use the Utrecht Work Engagement Scale to gauge employees’ engagement in the long-term care industry. Schaufeli et al. (2002) designed the Utrecht Work Engagement Scale to gauge employee’s engagement, utilizing a seven-point, ordinal Likert-type scale. The instrument contains 17 questions across three subscales to determine the level of employee work
engagement: a) vigor, b) dedication, and c) absorption. Vigor addresses the energy and mental resilience an employee has while working that enables them to persevere through work-related challenges and invest effort in their work (Schaufeli et al., 2002). Dedication involves an employee’s willingness to face a challenge and the pride the employee feels upon overcoming the difficulty (Schaufeli et al., 2002). Absorption involves an employee being deeply engaged in their tasks, to the point where the employee feels time passing quickly and has difficulties detaching from their work (Schaufeli et al., 2002). Appendix D contains the 17 questions involved with the Utrecht Work Engagement Scale and assigns each question to a specific subscale. Each question in this survey instrument gauges employee engagement with their workplace and has been used effectively in previous research (Bryant, 2018; Kelly, 2019). Consequently, this survey instrument provided insights into employees’ feelings regarding work engagement and, in tandem with the Turnover Scale addressed below, addressed RQ2.

Individual responses to each question on the seven-point Likert-type rating scale can range from 0 to 6. The scale requires no reverse coding, and the total participant score was a summation of their scores from the three subscales. As such, the total scale measurement for individual scores can range from 0 to 102. Higher scores are indicative of higher levels of work engagement, with lower scores representing lower levels of work engagement. The internal consistency of the three subscales of the Utrecht Work Engagement Scale is good, with vigor having a Cronbach’s alpha of .83, dedication having a Cronbach’s alpha of .92, and absorption having a Cronbach’s alpha of .82 (Schaufeli et al., 2002). Given the prior validity tests, the Utrecht Work Engagement Scale can be deemed a reliable and valid instrument for measuring employee work engagement (Schaufeli et al., 2002).
Job Satisfaction Scale. Permission to use the Job Satisfaction Scale is in Appendix G. Spector (1985) developed the Job Satisfaction Scale to measure employee job satisfaction by investigating nine aspects of job satisfaction: pay, promotion, supervision, fringe benefits, contingent/performance-based rewards, operating procedures, coworkers, nature of work, and communication. The Job Satisfaction Scale is comprised of 36 items fashioned on a six-point Likert-type scale. Each of the nine aspects is evaluated by four items, with the total job satisfaction score being calculated from the composite score of all items. Possible participant responses range from 1 (disagree very much) to 6 (agree very much), resulting in a total job satisfaction score ranging from 36 to 216. Higher scores indicate a greater degree of job satisfaction, while lower scores indicate greater dissatisfaction. In computing the total scores, items 2,4,6,8,10,12,14,16,18,19,21,23,24,26,29,31,32,34, and 36 were reversed and added to that of the other items. Spector (1985) purported that scores ranging from 36 to 108 suggest job dissatisfaction; scores ranging from 109-143 imply ambivalences; and scores ranging from 144 to 216 suggest general job satisfaction.

Based on a sample size of 2,870 participants in various human services fields, Spector (1997) found that the Job Satisfaction Scale has a test-retest reliability of .71 and that the Cronbach’s alpha value of the scale is .91. Therefore, the Job Satisfaction Scale has an acceptable level of reliability and validity. The 36 questions of the Job Satisfaction Scale are found in Appendix H. Each question of this survey instrument addresses an aspect of employee job satisfaction and gauges participants’ feelings about their level of satisfaction working in long-term care facilities. This survey instrument provided insights into employees’ feelings regarding job satisfaction and, in conjunction with the Turnover Scale addressed below, addressed RQ3.
**Work Extrinsic and Intrinsic Motivation Scale.** The permission to use this instrument is found in Appendix E. Tremblay et al. (2009) developed the Work Extrinsic and Intrinsic Motivation Scale to measure employees’ levels of motivation in the workplace. This survey uses an ordinal scale and contains eighteen questions to measure six aspects of employee motivation: a) intrinsic motivation (survey questions 4,8,15), b) integrated regulation (survey questions 5,10,18), c) identified regulation (survey questions 1,7,14), d) introjected regulation (survey questions 6,11,13), e) external regulation (survey questions 2,9,16), and f) amotivation (survey questions 3,12,17). This instrument uses a five-point Likert-type rating scale, with responses ranging from 1 (does not correspond at all) to 5 (corresponds exactly) to gauge employee motivation. Three of the subscales (introjected regulation, external regulation, amotivation) lead to negative outcomes and reflect a lack of motivation; thus, reverse scoring enables their contribution to a total motivation score. Tremblay et al. (2009) employed this scoring method, and the same method was used in the present study to calculate total data scores from the six subscales.

Tremblay et al. (2009) and Ude (2015) used this instrument in their research and determined that it displays high levels of reliability and validity, with a Cronbach’s alpha coefficient .84. Additionally, Holston-Okae and Mushi (2018) found the instrument to be reliable in assessing the influence of employee motivation on turnover intention in the hospitality industry. Each of the questions of this instrument aims to address an aspect of employee motivation in the workplace. After reverse scoring when appropriate, this survey instrument provided insights into employees’ feelings regarding motivation in the workplace and, in combination with the Turnover Scale addressed below, addressed RQ4.
**Brief Illness Perception Scale.** Permission to use a modified version of the Brief Illness Perception Scale is in Appendix K. Broadbent et al. (2006) designed the Brief Illness Perception Scale to assess an individual’s perception of a perceived health threat. The modified version used in this study contains a modified version of the first 8 items of the original scale, only removing the ninth, qualitative item. Five of the items of this instrument assess cognitive illness representations: consequences (Item 1), timeline (Item 2), personal control (Item 3), treatment control (Item 4), and identity (Item 5); two of the items assess emotional representations: concern (Item 6) and emotions (Item 8); and one item assesses illness comprehensibility (Item 7). Broadbent et al. (2006) noted that while the general version of the instrument uses the word ‘illness’, future researchers could replace this with the name of a particular illness. The current study used this instrument to ascertain CNAs perceived level of threat from COVID-19. Both Pérez-Fuentes et al. (2020) and Alatawi et al. (2020) have used a modified five question version of this instrument to investigate healthcare workers perceived threat from COVID-19 in Spain and Saudi Arabia, respectively.

The test-retest reliability of the Brief Illness Perception Scale was originally assessed in renal patients attending outpatient clinics and Pearson correlations demonstrated the instrument to have good test-retest reliability (Broadbent et al., 2006). The Cronbach’s alpha coefficient is .83 for this instrument (Karataş et al., 2017). Moreover, previous research has indicated that this instrument is a reliable and valid tool for investigating the perceived threat of COVID-19 (Alatawi et al., 2020; Pérez-Fuentes et al., 2020). Appendix L contains the eight questions that were used in this Likert-type scale. Possible participant responses range from 0 to 10. In computing the total scores, items 3,4, and 7 were reversed and added to that of items 1,2,5,6, and 8 (Karataş et al., 2017). A higher score reflects a greater perceived threat by COVID-19 (Pérez-
Fuentes et al., 2020). This instrument assessed CNA perceived threat from COVID-19, with each question gauging the level of threat the participant feels from the disease. In conjunction with the Stress of Caring for Highly Infectious Disease Patients Scale and the Turnover Intention Scale (both of which are discussed below), a measure of the perceived stress a CNA feels when working during a pandemic and its impact on CNA turnover was attained, thus addressing RQ5.

**Stress of Caring for Highly Infectious Disease Patients Scale.** Permission from the author to use this instrument is in Appendix M. The Stress of Caring for Highly Infectious Disease Patients Scale was developed by Chuang and Lou (2005) following the 2003 SARS outbreak and comprises four subscales: a) fear of social isolation (survey questions 1-10), b) discomfort caused by protective equipment (survey questions 11-18), c) difficulties and anxieties related to infection control (survey questions 19-25), and d) burden of caring for patients (survey questions 26-32). Each of the 32 items is rated on a four-point Likert-type scale (0: not at all, 1: about the same as usual, 2: slightly more severe than usual, 3: more severe than usual) to determine the degree of stress caused by the various stressors of the subscales (Chuang & Lou, 2005). The total score of an individual participant ranges from 0 to 96, with a higher total score indicating a greater degree of stress, and no reverse coding is required. Chuang and Lou (2005) contended that a total score of 46 to 96 indicates severe stress; a score of 33 to 46 suggests moderate stress; a score from 1 to 32 signifying low stress; a 0 score indicates no stress. Appendix N includes the 32 questions that comprise the Stress of Caring for Highly Infectious Disease Patients Scale.

In Chuang and Lou’s (2005) original study, the content validity index of the scale was .92 and the Cronbach’s alpha values for the four subscales ranged from .84 to .90. With the emergence of the COVID-19 pandemic, the scale has been used in variety of studies to gauge
healthcare workers’ stress levels (Chen et al., 2021; Kuo et al., 2020; Wang et al., 2020; Zhang et al., 2021). While the Cronbach’s alpha score of the original study already indicated the scale was reliable, studies using the scale to measure COVID-19 related stress have found an even greater degree of reliability, with Cronbach’s alpha scores of .94 (Kuo et al., 2020), .965 (Wang et al., 2020), and .968 (Zhang et al., 2021). Consequently, these scores indicate that the instrument was a valid measure for assessing participants’ experiences with stress related to caring for patients with COVID-19.

The use of the Brief Illness Perception Scale is designed to gauge the concern CNAs have regarding COVID-19 in general. If the threat perception of the disease is low, it can be assumed that perceived work stress related to COVID-19 is also lower. Thus, the Brief Illness Perception Scale gauged employee threat perception of the disease, while the Stress of Caring for Highly Infectious Disease Patients Scale measured employee stress related to working with highly infectious patients during a pandemic. Each question of the scale addresses an aspect of stress related to patient care and the scale has been found to be a successful measure of healthcare employee related stress related to COVID-19 levels (Chen et al., 2021; Kuo et al., 2020; Wang et al., 2020; Zhang et al., 2021). In combination with the Brief Illness Perception Scale and the Turnover Intention Scale (discussed below), the scale was a valid measure of the perceived stress a CNA feels when working during a pandemic and its impact on CNA turnover was attained, thus addressing RQ5.

**Work Environment Scale.** Permission from the author to use this instrument is in Appendix A. Røssberg et al. (2004) developed the ten question Work Environment Scale to measure employees’ perceptions of their work environment and Appendix B includes the questions that comprise this instrument. The Work Environment Scale includes four subscales: a)
self-realization (questions 1,2,4,8), b) nervousness (questions 3,7), c) conflict (questions 5,6), and d) workload (questions 9,10). The items comprising the Work Environment Scale were rated on a five-point Likert-type scale ranging from 1 to 5. In computing the total scores, items 3,5,6,8, and 10 were reversed and added to that of items 1,2,4,7, and 9. As such, individual scores for this instrument ranged from 10 to 50. After reverse coding, a higher summative score was indicative of positive perceptions about the work environment, while a lower score reflected a less positive perception about the work environment.

Røssberg et al. (2004) reported high levels of reliability and validity associated with the scale, with a Cronbach’s coefficient alpha score of .85. The Work Environment Scale has been used in several studies regarding the possible correlation between employee work environment and turnover intention and has been found to a reliable indicator of employee perceptions of work environment (Bryant, 2018; Holston-Okae & Mushi, 2018; Kelly, 2019). Each of the questions of this instrument addresses an aspect of work environment and was appropriate for measuring the predictor variable of work environment in the present study. This survey instrument provided insights into employees’ feelings regarding work environment and, in tandem with the Turnover Scale addressed below, addressed RQ6.

**Turnover Intention Scale.** Permission from the author to use the instrument is in Appendix O. The Turnover Intention Scale was developed by Roodt (2004) and has been used to study turnover intention in a variety of industries (Bonds, 2017; Bothma & Roodt, 2013; Tootle, 2020; Wilson-Chatman, 2020). The Turnover Intention Scale consists of fifteen items that evaluate a broad scope of conditions that may influence an employee’s intention to leave their organization. The items comprising the Turnover Intention Scale were rated on a five-point Likert-type scale ranging from 1 to 5. In computing the total scores, items 11,12, and 14 were
reversed and added to that of items 1-10,13, and 15. As such, individual scores for this instrument ranged from 15 to 75. After reverse coding, a higher summative score was indicative of greater turnover intention, while a lower score reflected a lower turnover intention. The questions that comprise the Turnover Intention Scale are included in Appendix P.

The Turnover Intention Scale is appropriate to obtain data regarding employee turnover intention because it has been found to accurately reflect employees’ perceptions of their intention to leave (Bonds, 2017; Bothma & Roodt, 2013; Tootle, 2020; Wilson-Chatman, 2020). Jacobs and Roodt (2007) reported a Cronbach alpha coefficient of .91 for this instrument, which was later verified by Bothma and Roodt (2013). Given the successful use of the instrument in measuring turnover intention in recent research studies, the Turnover Intention Scale can be considered a valid and reliable instrument in measuring turnover intention. As such, this instrument was used to measure the criterion variable of the current study, and therefore was of use to every research question of this study.

**Data Organization Plan**

Data were collected using the online survey platform SurveyMonkey® and imported into Statistical Package for the Social Science – Version 28 (SPSS-28) once an adequate sample size had been achieved. Data were secured in the online survey platform and SPSS-28 through the use of username and password authorizations. Digital files were stored on an encrypted external hard drive and locked in a document safe that only I had access to. Data were de-coded and analyzed cumulatively to ensure that individual participant responses were not trackable or compromised. Waters (2021) contended that utilizing a secure online survey platform to house data that is then imported into an appropriate SPSS platform ensures participant anonymity and is an appropriate method for data organization.
Summary of Data Collection & Organization

A detailed discussion of the data collection techniques, instruments, and data organization plan was provided above. Fixed research requires the collection and statistical analysis of numerical data that can be used to infer the opinions and attitudes of a given study’s participants (Creswell & Creswell, 2017). To obtain this numerical data, appropriate survey instruments that demonstrate adequate reliability and validity must be used (Carter, 2018). As such, this section described each survey instrument that was used in the present study and how the data obtained from these instruments were collected and organized.

Data Analysis

Statistical analysis was performed using SPSS-28. The data collected from this quantitative correlational research study were evaluated to determine if a correlation exists between each of the independent predictor variables and the dependent criterion variable. A multiple linear regression analysis was the data analysis technique utilized for this study. Chen et al. (2014) maintains that when examining possible correlations between multiple predictor variables and a dependent variable a multiple linear regression analysis is the most appropriate form of data analysis. This section will present a synopsis of the variables involved in the current research study and provide a discussion of the descriptive statistics that were utilized in the study to evaluate and test the hypotheses of the study.

The Variables

In this study, the independent predictor variables were employee compensation, engagement, job satisfaction, motivation, perceived work stress during the COVID-19 pandemic, and work environment. The dependent criterion variable was the employee turnover intention of certified nursing assistants in the long-term care facility industry. The independent and
dependent variables were included in this study because of the relationship of the variables to the research question of this study. The variables, along with the data scale that was used and their range, are found in Table 2 above.

**Descriptive Statistics**

Ude (2015) contended that the use of statistical software, such as SPSS-28, allows a researcher to generate a series of both descriptive and inferential statistics including mean, mode, range, standard deviation, kurtosis, and sample skew. The descriptive analysis of this study enabled the aggregation of participant responses (Holston-Okae, 2017). Descriptive statistics, such as the mean, median, frequency distribution, and standard deviation were generated from the appropriate statistical calculations in preparation for the inferential statistics. Green and Salkind (2021) suggested using descriptive statistics to evaluate the general distributions of variables using frequency and percentage levels. The descriptive analysis permitted a way of appreciating the individual and group responses provided by the sample population of the study (Bryant, 2017). The descriptive statistics that were included in this study were measures of central tendency (mean, median, mode) and measures of variability (standard deviation and range).

Inferential statistics allow for a researcher to make inferences about a population of interest (Leedy & Ormrod, 2020). Inferential analysis provided a means of identifying the relationships between the participants’ responses and the variables from the sample size (Polit, 2010). Xiao et al. (2016) argued that when conducting statistical tests between Likert-type variables, executing a Spearman rank-order correlation coefficient is appropriate for determining the strength of that relationship among ordinal variables, a process typically known as the Spearman’s rho test. Spearman’s correlation tests were applied to each of the predictor variables
in relation to the criterion variable of turnover intention, which is ideal of Likert-type data (Bryant, 2017). The analysis of this data was performed using SPSS-28.

**Hypotheses Testing**

Research hypotheses are predictive statements that propose explanations for the relationships between variables (Green & Salkind, 2021). In the present study, there were six research hypotheses tested, with each hypothesis relating to a specific research question. Each individual hypothesis in the study addressed an individual research question, and collectively they addressed the specific problem of the current study by arming long-term care leaders with information regarding the factors that influence CNA turnover intention. For each hypothesis in the current study, a detailed discussion of the type of research question the hypothesis addressed, what specific tests were performed to test the hypothesis, and the variables included in the hypothesis is provided below.

**H01: There is no statistically significant relationship between employee compensation and CNA turnover intention in the nursing home industry.** $H_{01}$ related to RQ1, which was an associational research question because it associated or related the independent variable (employee compensation) and the dependent variable (CNA turnover intention) (Morgan et al., 2013). An associational question essentially asks how one or more variables enable a researcher to predict another variable (Pallant, 2020). Morgan et al. (2013) contended that a Spearman’s rho test is appropriate for associational research hypotheses where both variables are ordinal data, as is the case in the present study. Spearman’s rho allows a researcher to measure the degree of association between the variables of a study, thus having made it an appropriate test for this hypothesis (Xia et al., 2016).
Furthermore, multiple linear regression tests were also be performed to test $H_{01}$. Multiple regression attempts to predict a dependent variable, CNA turnover intention in this case, from a combination of predictor variables, one of which being compensation which was addressed in this hypothesis (Morgan et al., 2013). Similarly, Pallant (2020) argued that multiple linear regression tests are appropriate for investigating the relationship between one continuous variable and several predictor variables. Öztürk and Başar (2022) suggested that multiple linear regression analysis identifies the existence of a relationship between predictor variables and a dependent variable, measures the strength of that relationship and significance of the impact predictor variables have on the dependent variable, while also using the independent variables to predict the dependent variable. Several recent studies have successfully used both Spearman’s rho tests and multiple linear regression tests to examine the factors that influence turnover intention in various industries (Fakunmoju, 2021; Nazir & Ahmed, 2016; Urban & Moloi, 2022). Moreover, Marshall and Stephenson (2020), who only used Spearman’s rho in their study of burnout and turnover intention among electronics manufacturing employees in South Africa, suggested that future research on the predictors of turnover intention must use multiple regression analysis to test the relationships between variables. Consequently, both Spearman’s rho and multiple linear regression tests were performed to test $H_{01}$.

**H02: There is no statistically significant relationship between employee engagement and CNA turnover intention in the nursing home industry.** $H_{02}$ related to RQ2, which was an associational research question because it associated or related the independent variable (employee engagement) and the dependent variable (CNA turnover intention) (Morgan et al., 2013). Following the rationale explained in the above discussion regarding $H_{01}$, both Spearman’s rho and multiple regression tests were appropriate for testing this hypothesis. Spearman’s rho is
useful for assessing the degree of association among variables and multiple linear regression tests are suitable for determining how the action of one or more predictor variables affects the outcome of a dependent variable (Chen et al., 2014). Accordingly, both Spearman’s rho and multiple linear regression tests were performed to test $H_{02}$.

**H03: There is no statistically significant relationship between employee job satisfaction and CNA turnover intention in the nursing home industry.** $H_{03}$ related to RQ3, which was an associational research question because it associated or related the independent variable (employee job satisfaction) and the dependent variable (CNA turnover intention) (Morgan et al., 2013). Following the rationale explained in the above discussion regarding $H_{01}$, both Spearman’s rho and multiple regression tests were appropriate for testing this hypothesis. Spearman’s rho is useful for assessing the degree of association among variables and multiple linear regression tests are suitable for determining how the action of one or more predictor variables affects the outcome of a dependent variable (Chen et al., 2014). Accordingly, both Spearman’s rho and multiple linear regression tests were performed to test $H_{03}$.

**H04: There is no statistically significant relationship between employee motivation and CNA turnover intention in the nursing home industry.** $H_{04}$ related to RQ4, which was an associational research question because it associated or related the independent variable (employee motivation) and the dependent variable (CNA turnover intention) (Morgan et al., 2013). Following the rationale explained in the above discussion regarding $H_{01}$, both Spearman’s rho and multiple regression tests were appropriate for testing this hypothesis. Spearman’s rho is useful for assessing the degree of association among variables and multiple linear regression tests are suitable for determining how the action of one or more predictor variables affects the
outcome of a dependent variable (Chen et al., 2014). Accordingly, both Spearman’s rho and multiple linear regression tests were performed to test $H_{04}$.

**H05: There is no statistically significant relationship between employee perceived work stress during COVID-19 and CNA turnover intention in the nursing home industry.**

$H_{05}$ related to RQ5, which was an associational research question because it associated or related the independent variable (employee perceived work stress during COVID-19) and the dependent variable (CNA turnover intention) (Morgan et al., 2013). Following the rationale explained in the above discussion regarding $H_{01}$, both Spearman’s rho and multiple regression tests were appropriate for testing this hypothesis. Spearman’s rho is useful for assessing the degree of association among variables and multiple linear regression tests are suitable for determining how the action of one or more predictor variables affects the outcome of a dependent variable (Chen et al., 2014). Accordingly, both Spearman’s rho and multiple linear regression tests were performed to test $H_{05}$.

**H06: There is no statistically significant relationship between employee work environment and CNA turnover intention in the nursing home industry.** $H_{06}$ related to RQ6, which was an associational research question because it associated or related the independent variable (employee work environment) and the dependent variable (CNA turnover intention) (Morgan et al., 2013). Following the rationale explained in the above discussion regarding $H_{01}$, both Spearman’s rho and multiple regression tests were appropriate for testing this hypothesis. Spearman’s rho is useful for assessing the degree of association among variables and multiple linear regression tests are suitable for determining how the action of one or more predictor variables affects the outcome of a dependent variable (Chen et al., 2014). Accordingly, both Spearman’s rho and multiple linear regression tests were performed to test $H_{06}$. 
Hypotheses Testing Alternatives

Chen et al. (2014) noted that both Spearman’s rho and multiple linear regression tests are not sensitive to non-normality. The survey instruments that were used in this study ensure that the data collected were ordinal, which also served to ensure that the data met the requirements for the aforementioned tests. However, if the data failed to meet the requirements for the chosen tests, then a Bayesian analysis would have been conducted. Hobbs and Hilborn (2006) first proposed using Bayesian techniques as alternative to statistical hypothesis testing. A Bayesian analysis involves using the Baye’s theorem to update the probability for a hypothesis as more information is gathered (Hobbs & Hilborn, 2006). Advantages of using Bayesian tests include the ability to provide evidence in favor of both the null and alternative hypotheses (Dienes, 2014) and the ability to monitor data as the evidence is accumulated (Rouder, 2014). Van Doorn et al. (2020) developed a Bayesian counterpart for the Spearman’s rho and argued that a Bayesian analysis is robust to outliers and to violations of distributional assumptions, which occur frequently in the analysis of questionnaire data. Moreover, Van Doorn et al. (2020) suggested that a Bayesian analysis may perform better than a Spearman’s rho when assumptions are violated and believe the analysis is ideal for Likert-type surveys. Subsequently, if the data collected had failed to meet the criteria for the Spearman’s rho and multiple linear regression tests, then a Bayesian analysis would have been utilized as alternative testing method for the hypotheses of the current study.

Summary of Data Analysis

Data analysis for this quantitative correlational research study was performed using SPSS-28 and was assessed to determine if a correlation exists between each of the independent predictor variables and the dependent criterion variable of the study. The above section presented
an outline of the variables that were used in this study, a summary of the descriptive and inferential statistics that were utilized following data collection, how Spearman’s rho and multiple linear regression tests were conducted to test the study’s hypotheses and presented an alternative for hypotheses testing should the data have failed to meet the criteria for the chosen tests.

**Reliability and Validity**

Carter (2018) maintains that reliability refers to the consistency of the data collection method, while validity focuses on the accuracy of the conclusions that can be drawn from the data. Likewise, Creswell and Creswell (2017) describe reliability as measuring an instrument’s internal consistency and stability over time and define validity as the degree to which an instrument measures the intended behavior, thus allowing the researcher to make inferences from the tool. Both reliability and validity are crucial aspects of a study’s credibility and maintaining the study’s significance and findings (Creswell & Poth, 2018). This section will discuss concerns related to reliability and validity and how these concerns were addressed to ensure reliability and validity in the study.

**Reliability**

Reliability addresses the internal consistency of a study, describing whether the results are repeatable under the same conditions (Creswell & Poth, 2018). Leedy and Ormrod (2020) contended that the reliability of survey instruments represents the expectation that the instrument will yield consistent results. As such, measuring reliability in a research study is an integral step towards being able to generalize the study’s findings to the total population of interest (Creswell & Creswell, 2017). Morgan et al. (2013) noted that Cronbach’s alpha is the most commonly used measurement of internal reliability, measuring the degree of correlation between each item on a
summated Likert-type scale. Green and Salkind (2021) proposed that the value of Cronbach’s alpha should be greater than .70 to support an instrument’s internal reliability. However, Pallant (2020) recommended caution with very high Cronbach’s alpha scores, noting that a score greater than .95 likely means that there are redundancies within the instrument and more items than are really necessary.

As discussed in the instruments section above, other researchers have successfully used each survey instrument of this study to evaluate the influence of the applicable variable on turnover intention. Additionally, the instrument section above provides the Cronbach’s alpha scores for each of the selected survey instruments that were used in this study. The Cronbach’s alpha scores for the instruments range from .81 to .91, which provides strong evidence for internal consistency reliability for each of the survey instruments. By using survey instruments that demonstrate internal consistency and have been utilized by previous researchers, reliability in the present study was ensured.

**Validity**

Ensuring a study’s reliability is necessary but not sufficient to ensure a study’s validity (Leedy et al., 2019). Morgan et al. (2013) noted that an instrument may produce consistent data, thus providing evidence for reliability, but the data may not be valid because the data fails to accurately measure the intended concept. Pallant (2020) contended that evidence for validity is often difficult to obtain and argued that instruments should be reviewed by experts for clarity and fit with the constructs they aim to measure. Green and Salkind (2021) suggested that a survey instrument with high validity measures what it intends to and produces actual results that are demonstrated in repeated research studies.
Drost (2011) argued that there are four types of validity that are of primary concern: a) statistical conclusion validity, b) internal validity, c) construct validity, and d) external validity. Statistical conclusion validity refers to inferences about whether it is reasonable to assume a relationship exists between the variables being tested given a specified alpha level (Drost, 2011). Threats to statistical conclusion validity include low statistical power, violation of assumptions, and poor reliability (Drost, 2011). The current study addressed the threats to this type of validity by following the recommendations made by Drost (2011), which include ensuring that appropriate statistical tests are applied, as described in the hypotheses testing section above, using adequate sampling procedures as described in the sampling section above, and performing reliable measurement procedures, as described in the reliability section above.

Internal validity speaks to the validity of the research itself and establishes a causal relationship between variables when independent variables are expected to impact a dependent variable in an experimental study (Holston-Okae & Mushi, 2018). Threats to internal validity arise from experimental procedures and treatments that may influence a researcher’s ability to make correct inferences from the results of a study (Bryant, 2017). This study was a non-experimental correlational study and, as such, the results of the study did not establish causation. Furthermore, to mitigate any threats that could compromise the internal validity of the study, I imported the data directly from SurveyMonkey® into SPSS-28 and validated the information entered was in alignment with the predefined conventions and acceptable limits, as recommended by Ude (2015) to diminish internal validity threats.

Construct validity is the extent to which a concept, idea, or behavior has been translated into a functioning and operating reality (Drost, 2011). Construct validity involves the degree to which inferences can be made from the observations made in a research study (Holston-Okae,
To establish construct validity a researcher must provide evidence that the data supports the theoretical structure (Pallant, 2020). By using survey instruments that have demonstrated validity in previous research surrounding turnover intention, the current study ensured construct validity.

External validity refers to the extent to which the results of a study can be generalized beyond the sample population (Drost, 2011). Bryant (2017) argued that by including a broad range of predictor variables, along with the inclusion of a broad demographic sample that is accurately representative of the target population, a researcher can ensure the external validity of their study. By using SurveyMonkey® to collect participant data and limiting my interactions with participants, sample bias was reduced, and the external validity of the study was ensured.

**Summary of Reliability and Validity**

Reliability is the measuring of an instrument’s internal consistency and stability over time, while validity refers to the degree to which an instrument measures the intended behavior (Creswell & Creswell, 2017). Both reliability and validity are vital to establishing the significance of a study’s findings (Creswell & Poth, 2018). Each of the survey instruments that was used in this study has demonstrated reliability and validity in prior research studies. Moreover, the current study has mitigated threats to reliability and validity by using the measures described above. This section addressed concerns related to reliability and validity and discussed how the concerns have been addressed to ensure reliability and validity in the present study.

**Summary of Section 2 and Transition**

Organizations across all industries have to manage employee turnover (Eckardt et al., 2014; Reukauf, 2018). Nearly two decades ago, Seavey (2004) noted that front-line employee turnover is especially costly for long-term care facilities, where the negative effects of turnover
impact resident care and a firm’s profitability. Now, twenty year later and amidst a global pandemic, employee turnover in long-term care is worse than ever before and can result in not just diminished quality of care delivery, but increased resident death (Baughman et al., 2022; Brady et al., 2022). Kittles (2021) suggested that long-term care leaders require more information regarding the underlying factors behind CNA turnover intention in order to develop retention strategies that mitigate turnover and its corresponding harmful effects. This sentiment is echoed by White et al. (2021), who go on to add that the experiences of nursing home staff during the COVID-19 pandemic have resulted in increased turnover intention that requires additional research as well. Kelly (2019) argued that any quantitative research regarding CNA turnover intention should utilize reliable and valid instruments and have a well-developed plan for data collection and analysis to ensure the research contributes to the retention efforts of long-term care leaders. Consequently, Section 2 of this study began with a restatement of the purpose of the study, which was to examine the impact of employee compensation, engagement, job satisfaction, motivation, perceived work stress during the COVID-19 pandemic, and work environment on CNA turnover intention in the long-term care industry. Following this, a discussion of the role of the researcher was provided, along with an assessment of the planned research design and method that were appropriate for this study. This section also included an evaluation of the study’s population and planned sampling techniques. Additionally, this section contained a review of the data collection, organization, and analysis procedures that were utilized in this study. The section concluded with a deliberation on how reliability and validity have been ensured in the present study.

Section 3 presents an exhaustive assessment of the findings of this study. This next section will include an overview of the study, the presentation of the findings, and a review of
the applications to professional practice. The study results and the relationships identified between the predictor variables and turnover intention are explained during the presentation of the findings. Lastly, recommendations for further study and reflections on personal and professional growth will be addressed.
**Section 3: Application to Professional Practice and Implications for Change**

Section 3 begins with a concise overview of the study, followed by a presentation of the findings, which includes a description of the response rate, a synopsis of the data screening process and demographic data collected, a review of the analyses conducted, conclusions, and evidence related to the study’s research questions and hypotheses. Subsequently, applications to professional practice are discussed and recommendations for further research are provided. Lastly, Section 3 concludes with a reflection on the researcher’s personal and professional growth and an evaluation of how the business functions explored in this study relate to and integrate with a Christian worldview.

**Overview of the Study**

This study was conducted to examine the relationships between employee compensation, engagement, job satisfaction, motivation, perceived work stress during the COVID-19 pandemic, work environment and the turnover intention of CNAs working in the long-term care industry. The research originated as a means to explore the specific factors that influence low employee retention rates and correlate to turnover intention in nursing homes in central Texas. Six research questions were devised, and a quantitative, correlational study was employed to test their associated hypotheses.

The central research inquiry for this study was: What is the relationship between employee compensation, engagement, job satisfaction, motivation, perceived work stress during COVID-19, work environment, and employee turnover intention of CNAs working in the nursing home industry? Applying Herzberg’s motivation-hygiene theory as a theoretical framework, the research study was designed to answer the six research questions that were derived from this essential question, one for each predictor variable. Participants were invited to
join the study through a variety of methods and completed a survey consisting of the various instruments discussed in Section 2. Data were then extracted from SurveyMonkey®, loaded into IBM SPSS version 28, and transformed for the comprehensive statistical analysis. The data were analyzed using various descriptive and inferential statistical techniques to test the study’s hypotheses. The findings show a statistically significant relationship between employee compensation, engagement, job satisfaction, motivation, perceived work stress during the COVID-19 pandemic, work environment and CNA turnover intention.

**Presentation of the Findings**

This quantitative correlational study utilized several established survey instruments to evaluate the impact of employee compensation, engagement, job satisfaction, motivation, perceived work stress during the COVID-19 pandemic, and work environment on the turnover intention of certified nursing assistants. The presentation of the findings section discusses the survey response rate, the details and characteristics of the collected data, and assesses the appropriateness of the data through statistical analyses. Comprehensive analyses of the study data and hypotheses testing were performed using IBM SPSS version 28 Premium for Windows. The interpretation of the study findings is supported by graphs and tables where appropriate. Lastly, the research findings are discussed relative to the research questions, theoretical framework, existing literature, and the research problem.

**Description of Response Rate**

To answer the research questions outlined in Section 1, data was collected from CNAs working in central Texas long-term care facilities regarding their perspectives on the potential relationships between the various predictor variables and the criterion variable. Using the survey instruments outlined in Section 2, an online survey was administered via SurveyMonkey®. The
survey was made available to potential participants over a period of approximately six weeks and
distributed via email, posts on social media, and by open invitation. Of the 471 responses to the
survey, 11 were disqualified for either not working in a central Texas long-term care facility or
for not having two years of work experience in the field. An additional 68 respondents did not
answer all of the questions of the survey or exited the instrument’s platform before completing
the survey. The post-screening total resulted in a remaining 392 responses, which were fully
completed and used as the data for the current study. This number satisfied the minimum sample
size of 384 participants suggested by Creative Research Systems for a statistical test with a 95%
confidence level.

Each of the 392 respondents agreed to participate and provide answers for the survey
process, having engaged with survey instrument and acknowledged the informed consent
material. Participants were asked to self-report demographic data. Data screening questions were
used to eliminate any participants who failed to meet the study inclusion criteria outlined in
Section 2. Lastly, SurveyMonkey® allows for the researcher to include a force response option,
which was utilized in this study to alert respondents if they did not answer a question. The force
response option was used to increase the probability of survey completion.

Data Screening

Data screening is the process of ensuring a researcher’s data is clean and ready to use
before conducting any further statistical analyses (Huebner et al., 2016). Data must be screened
to ensure the data is valid, reliable, and useable in any research study (Huebner et al., 2016).
Data cleaning helps to identify and correct errors, while data screening examines data properties
that may affect the interpretation of the results (Huebner et al., 2020). As stated earlier,
participant data was screened in order to eliminate potential issues resulting from incomplete or
inconsistent data. The screening process resulted in the removal of data from 79 participants as a result of either missing survey data or failure to qualify for participation in the current study based upon self-reported information.

Aside from cleansing the data through the identification and removal of missing or incomplete data, data screening also involves preparing the data for further analysis (Huebner et al., 2020). Reverse scoring is a key component of data screening, where data is recoded so that the numerical scoring scale runs in the opposite direction (Huebner et al., 2016). Reversing scores when necessary allows for responses to be combined into a single meaningful total score that can be utilized in additional analysis. Section 2 outlined which instruments required reverse scoring after data collection. The data screening process of reverse scoring these items took place in SPSS-28 by recoding the appropriate variable into a different variable and transforming the old values into new, reversed values accordingly. Although Bryant (2017) and Holston-Okae (2017) employed Excel spreadsheets to manually reverse score items for their studies, spreadsheets are prone to errors. In fact, 88% of all spreadsheets contain at least one error, almost invariably as the result of user-related error (IBM Business Analytics, 2018). As such, all data manipulation has taken place using SPSS-28, utilizing methods that ensure data integrity (IBM Business Analytics, 2018; Morgan et al., 2013).

Following the reverse scoring process, the responses for each of the items per survey instrument were combined into a single composite variable (using the previously created reverse scored variables where appropriate). This allowed for the data to be reduced into composite variables, thus making it more manageable when assessing the differences and relationships in the data (Huebner et al., 2020). Thus, individual participant scores were tallied together into
eight composite variables (one per survey instrument), where variables could then be further analyzed.

**Demographic Data**

A key objective of randomized sampling is to achieve a sample that is representative of the demographic features that apply to the broader population of interest (Miller, 2021). Participant’s characteristics were requested as a part of the survey. Demographic information related to gender, age, and ethnicity was collected. The Texas Department of State Health Services (TDSHS) only collects CNA demographic data related to geographical location, age, and gender (Health Professions Resource Center, 2021). The demographic data collected in this study mirrored that collected by the TDSHS, while also including data related to ethnicity and race. This information has been displayed below in Tables 4 through 6.

Table 4. Distribution of Demographic Variable: Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Relative Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>36</td>
<td>9.2%</td>
</tr>
<tr>
<td>Female</td>
<td>347</td>
<td>88.5%</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>2.3%</td>
</tr>
<tr>
<td>Total</td>
<td>392</td>
<td></td>
</tr>
</tbody>
</table>

Table 4 shows that the majority of the survey participants identify as female. The most recent demographic data for CNAs employed in Texas was collected in 2020, when 91.8% of CNAs were female and 8.2% were male (Health Professions Resource Center, 2021). At 88.5% female, the gender demographic findings are representative of the overall population gender distribution data for full-time CNAs employed in Texas. Additionally, national figures show that more than 9 in 10 nursing assistants are women, so the current study is also representative of the national population (PHI, 2021).
Table 5. Distribution of Demographic Variable: Age

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Relative Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-29 years old</td>
<td>117</td>
<td>29.8%</td>
</tr>
<tr>
<td>30-49 years old</td>
<td>178</td>
<td>45.4%</td>
</tr>
<tr>
<td>50-64 years old</td>
<td>96</td>
<td>24.5%</td>
</tr>
<tr>
<td>65 years and older</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Total</td>
<td>392</td>
<td></td>
</tr>
</tbody>
</table>

Table 5 shows that 75.2% of the study participants are under the age of 50. National demographics for CNAs indicate that 82% of CNAs are under the age of 54, with a median age of 38 (PHI, 2021). As such, the current study is representative of the national age figures for the CNA population as a whole. Moreover, demographic data for Texas CNAs shows that 78% of CNAs are under the age of 50, with 32.6% of the Texas CNA workforce being 30 years of age or younger (Health Professions Resource Center, 2021). Given that 75.2% of the participants in the current study are under the age of 50, and 29.8% are under the age of 30, the age demographic findings are representative of both the national and the Texas age demographic figures for CNAs.

Table 6. Distribution of Demographic Variable: Ethnicity

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Frequency</th>
<th>Relative Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>White or Caucasian</td>
<td>103</td>
<td>26.3%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>138</td>
<td>35.2%</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>116</td>
<td>29.6%</td>
</tr>
<tr>
<td>Asian or Asian American</td>
<td>29</td>
<td>7.4%</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>5</td>
<td>1.3%</td>
</tr>
<tr>
<td>Another Race</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Total</td>
<td>392</td>
<td></td>
</tr>
</tbody>
</table>

Table 6 provides information regarding the ethnicity of the CNA study participants. Although the Texas government does not collect data specific to the ethnicity of the CNAs
employed in the state, they do collect demographic data regarding ethnicity for the population as a whole (Texas Comptroller of Public Accounts, 2020). Within the central Texas region, 57.2% of the population is White, 22.8% is Hispanic, 14.7% is Black, and 5.5% falls into the ‘other’ category (Texas Comptroller of Public Accounts, 2020). Nationally, 42% of CNAs are White, 38% are Black or African American, 13% are Hispanic or Latino, 5% are Asian or Pacific Islander, and 2% fall into the ‘other’ category (PHI, 2021). The demographic data of the current study demonstrates that the study is representative for the ethnicities of Black or African American, Asian or Asian American, and ‘other’, with regards to the national figures for CNAs. However, people identifying as White are represented significantly more in the national demographic figures for CNAs and people identifying as Hispanic or Latino are represented significantly less. The difference in representation may be a result of the larger Hispanic population in central Texas than is typical in the national demographic data (Texas Comptroller of Public Accounts, 2020).

**Demographic Summary.** The data collected for gender, age, and ethnicity were used to ensure that the study findings were representative of the CNA population in central Texas and to compare to the nationwide demographic data for CNAs in the United States. Results illustrate that the majority of the study participants are female minorities under the age of 50. Participants identifying as White were somewhat underrepresented in the study compared to both nationwide demographic statistics for CNAs and general population demographic data for central Texas. Furthermore, participants identifying as Hispanic or Latino were slightly overrepresented compared to nationwide demographic statistics for CNAs, although this may be a result of the greater Hispanic population in central Texas. Overall findings indicate a representative sample and strengthen the applicability of the findings.
Descriptive Statistics

Data analysis was completed using IBM SPSS-28 software. SPSS-28 was used to conduct the various descriptive and inferential statistics tests performed, including the calculations of means, median, standard deviations, variance, and tests for normality. Standard deviation is a measure that represents the deviation of each score from the mean of all scores (Miller, 2021). Testing for normality involves reviewing the skewness and kurtosis of the data distribution. If one tail of a frequency distribution is longer than the other, and if the mean and median are discordant, the curve is skewed (Morgan et al., 2013). Skewness is a key factor since many inferential statistical analyses assume a normal data distribution, with the acceptable standard for large sample sizes (n>300) being a threshold of ±2.58 (Kelly, 2019; Miller, 2021). Kurtosis refers to the dispersion of the data points and represents how the data differ from a standard bell curve distribution (Morgan et al., 2013).

Additionally, multiple regression and tests for correlation occurred to test the six hypotheses of the current study. Table 7 includes a summary of the descriptive statistics pertaining to the variables in the present study, which are discussed in greater detail in the subsections that follow. The ensuing subsections contain comprehensive discussions of the descriptive and inferential statistics, including the findings of the calculations and tests performed on the data.
Table 7. Descriptive Results Summary

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>392</td>
<td>392</td>
<td>392</td>
<td>392</td>
<td>392</td>
<td>392</td>
<td>392</td>
</tr>
<tr>
<td>Mean</td>
<td>12.00</td>
<td>59.08</td>
<td>138.47</td>
<td>54.33</td>
<td>35.36</td>
<td>32.63</td>
<td>38.52</td>
</tr>
<tr>
<td>Median</td>
<td>11</td>
<td>58</td>
<td>140</td>
<td>55</td>
<td>34</td>
<td>33</td>
<td>38</td>
</tr>
<tr>
<td>Std. Dev</td>
<td>2.84</td>
<td>12.95</td>
<td>26.28</td>
<td>6.51</td>
<td>11.12</td>
<td>5.60</td>
<td>7.73</td>
</tr>
<tr>
<td>Variance</td>
<td>8.07</td>
<td>167.61</td>
<td>690.72</td>
<td>42.39</td>
<td>123.69</td>
<td>31.31</td>
<td>59.80</td>
</tr>
<tr>
<td>Skewness</td>
<td>1.05</td>
<td>0.40</td>
<td>-0.31</td>
<td>-0.18</td>
<td>0.48</td>
<td>-0.62</td>
<td>0.41</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>1.08</td>
<td>-0.19</td>
<td>-0.27</td>
<td>0.14</td>
<td>0.21</td>
<td>0.62</td>
<td>0.34</td>
</tr>
<tr>
<td>Range</td>
<td>17</td>
<td>68</td>
<td>142</td>
<td>38</td>
<td>62</td>
<td>33</td>
<td>46</td>
</tr>
<tr>
<td>Minimum</td>
<td>7</td>
<td>28</td>
<td>60</td>
<td>34</td>
<td>11</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Maximum</td>
<td>24</td>
<td>96</td>
<td>202</td>
<td>72</td>
<td>73</td>
<td>45</td>
<td>66</td>
</tr>
</tbody>
</table>

**Employee Compensation.** The 392 participants answered 5 questions pertaining to their compensation. Table 8 is a summary of the results that were derived from the analysis of participant responses to the questions regarding compensation. Individual participant scores consisted of a summation of the distinct scores for each question, with no reverse coding required, resulting in an additive answer range between 5 and 25 for the compensation portion of the survey. The mean ($M = 12.00$, $SD = 2.84$) was lower than the neutral (midpoint) of 15, indicating that the respondents collectively expressed more negative views concerning their compensation than neutral or positive views. Skewness and kurtosis were both positive, indicating that the data were right-skewed and leptokurtic. Compared to a normal distribution, the right tail was substantially longer with more extreme outliers having been produced.

Figure 4 displays the frequency histogram of compensation subscale scores to determine normality graphically. From the frequency histogram in Figure 4, the compensation data were non-normal and distributed with skewness to the right. The histogram displays a significant grouping of scores to the left with tapering to the right. A Quantile-quantile (Q-Q) plot is a visual means of assessing whether two sets of data came from a population with a normal distribution (Kelly, 2019). Q-Q plots allow for a simple visual determination of whether the assumption of
normality is feasible. If both sets of quantiles came from the same distribution, the data points will fall along a 45-degree angle. From the normal Q-Q plot in Figure 5, the compensation data were not normally distributed as the data points stray from the diagonal line and substantiates the data were non-normal.

Table 8. Compensation Descriptive Results

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>392</td>
</tr>
<tr>
<td>Mean</td>
<td>12.00</td>
</tr>
<tr>
<td>Median</td>
<td>11.00</td>
</tr>
<tr>
<td>Std. Dev</td>
<td>2.84</td>
</tr>
<tr>
<td>Variance</td>
<td>8.07</td>
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<tr>
<td>Skewness</td>
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<tr>
<td>Kurtosis</td>
<td>1.08</td>
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<tr>
<td>Range</td>
<td>17</td>
</tr>
<tr>
<td>Minimum</td>
<td>7</td>
</tr>
<tr>
<td>Maximum</td>
<td>24</td>
</tr>
</tbody>
</table>

Figure 4. Histogram: Compensation
Employee Engagement. The 392 participants answered 17 questions pertaining to their work engagement. Table 9 is a summary of the results that were derived from the analysis of participant responses to the questions regarding their views about their engagement with their organization. Individual participant scores consisted of a summation of the distinct scores for each question, with no reverse coding required, resulting in an additive answer range between 0 and 102 for the engagement portion of the survey. The mean \( M = 59.08, SD = 12.95 \) was higher than the neutral (midpoint) of 51, indicating that the respondents collectively expressed more satisfactory views concerning their perceptions of work engagement than neutral or negative views. Skewness was positive while kurtosis was negative, indicating that the data were slightly right-skewed and platykurtic. Compared to a normal distribution, the right tail was slightly longer with fewer extreme outliers having been produced.
Figure 6 displays the frequency histogram of engagement subscale scores to determine normality graphically. From the frequency histogram in Figure 6, the engagement data were relatively normal and distributed with minimal skewness. The histogram displays a significant grouping of scores in the center with tapering to the left and right. From the normal Q-Q plot in Figure 7, the engagement data were normally distributed as the data points do not significantly stray from the diagonal line and substantiates that the data were distributed normally.

Table 9. Engagement Descriptive Results

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>392</td>
</tr>
<tr>
<td>Mean</td>
<td>59.08</td>
</tr>
<tr>
<td>Median</td>
<td>58.00</td>
</tr>
<tr>
<td>Std. Dev</td>
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<td>Variance</td>
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<tr>
<td>Skewness</td>
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</tr>
<tr>
<td>Kurtosis</td>
<td>-0.19</td>
</tr>
<tr>
<td>Range</td>
<td>68</td>
</tr>
<tr>
<td>Minimum</td>
<td>28</td>
</tr>
<tr>
<td>Maximum</td>
<td>96</td>
</tr>
</tbody>
</table>

![Figure 6. Histogram: Engagement](image-url)
Employee Job Satisfaction. The 392 participants answered 36 questions pertaining to their job satisfaction. Table 10 is a summary of the results that were derived from the analysis of participant responses to the questions regarding their views about their job satisfaction with their organization. Individual participant scores consisted of a summation of the distinct scores for each question, after reverse coding when required, resulting in an additive answer range between 36 and 216 for the job satisfaction portion of the survey. The mean ($M = 138.47$, $SD = 26.28$) was higher than the neutral (midpoint) of 108, indicating that the respondents collectively expressed more satisfactory views concerning their perceptions of job satisfaction than neutral or negative views. Skewness and kurtosis were both negative, indicating that the data were slightly left-skewed and platykurtic. Compared to a normal distribution, the left tail was slightly longer with fewer extreme outliers having been produced.
Figure 8 displays the frequency histogram of job satisfaction subscale scores to determine normality graphically. From the frequency histogram in Figure 8, the job satisfaction data were relatively normal and distributed with minimal skewness. The histogram displays a significant grouping of scores in the center with tapering to the left and right. From the normal Q-Q plot in Figure 9, the job satisfaction data were normally distributed as the data points do not significantly stray from the diagonal line and substantiates that the data were distributed normally.

Table 10. Job Satisfaction Descriptive Results

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>392</td>
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<tr>
<td>Mean</td>
<td>138.47</td>
</tr>
<tr>
<td>Median</td>
<td>140</td>
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<tr>
<td>Std. Dev</td>
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<tr>
<td>Variance</td>
<td>690.72</td>
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<td>Skewness</td>
<td>-0.31</td>
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<tr>
<td>Kurtosis</td>
<td>-0.27</td>
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<tr>
<td>Range</td>
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<tr>
<td>Minimum</td>
<td>60</td>
</tr>
<tr>
<td>Maximum</td>
<td>202</td>
</tr>
</tbody>
</table>

Figure 8. Histogram: Job Satisfaction
Employee Motivation. The 392 participants answered 18 questions pertaining to their motivation in the workplace. Table 11 is a summary of the results that were derived from the analysis of participant responses to the questions regarding their views about their employee motivation within their organization. Individual participant scores consisted of a summation of the distinct scores for each question, after reverse coding when required, resulting in an additive answer range between 18 and 90 for the motivation portion of the survey. The mean ($M = 54.33$, $SD = 6.51$) was roughly the equivalent of the neutral (midpoint) of 54, indicating that the respondents collectively expressed more neutral views concerning their perceptions of employee motivation than positive or negative views. Skewness was negative while kurtosis was positive, indicating that the data were slightly left-skewed and leptokurtic. Compared to a normal distribution, the left tail was slightly longer and with more outliers having been produced.
Figure 10 displays the frequency histogram of motivation subscale scores to determine normality graphically. From the frequency histogram in Figure 10, the motivation data were relatively normal and distributed with minimal skewness. The histogram displays a significant grouping of scores in the center with tapering to the left and right. From the normal Q-Q plot in Figure 11, the motivation data were normally distributed as the data points do not significantly stray from the diagonal line and substantiates that the data were distributed normally.

Table 11. Motivation Descriptive Results

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>392</td>
</tr>
<tr>
<td>Mean</td>
<td>54.33</td>
</tr>
<tr>
<td>Median</td>
<td>55</td>
</tr>
<tr>
<td>Std. Dev</td>
<td>6.51</td>
</tr>
<tr>
<td>Variance</td>
<td>42.39</td>
</tr>
<tr>
<td>Skewness</td>
<td>-0.18</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>0.14</td>
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<tr>
<td>Range</td>
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<tr>
<td>Minimum</td>
<td>34</td>
</tr>
<tr>
<td>Maximum</td>
<td>72</td>
</tr>
</tbody>
</table>

Figure 10. Histogram: Motivation
Figure 11. Q-Q Plot: Motivation

**Employee Perceived Work Stress During the COVID-19 Pandemic.** The 392 participants answered 8 questions pertaining to their perceived level of threat from COVID-19 and 32 questions pertaining to their perceived work stress during the COVID-19 pandemic. Table 12 is a summary of the results that were derived from the analysis of participant responses to the questions regarding COVID-19 from both survey instruments. Individual participant scores consisted of a summation of the distinct scores for each question, after reverse coding when required, resulting in an additive answer range between 0 and 80 for the perceived level of threat portion of the survey and between 0 and 96 for the perceived level of stress portion of the survey. Data were collected regarding participant’s perceived level of threat from COVID-19 to assess whether an individual’s greater perceived level of threat from the virus resulted in their greater perceived work stress during the pandemic. A Spearman’s rank-order correlation was applied to assess the relationship between the respondent’s perceived level of threat from
COVID-19 and their perceived work stress during the COVID-19 pandemic. There was a statistically significant, strong positive correlation between the perceived threat of the virus and the perceived work stress during the pandemic ($r(390) = .53, p= <.001$). Consequently, the findings show that CNAs who perceive COVID-19 to be a greater threat also have greater perceived work stress.

The mean of the perceived work stress during the COVID-19 pandemic variable ($M = 35.36$, $SD = 11.12$) was lower than the neutral (midpoint) of 48, indicating that the respondents collectively expressed more positive views concerning their perceived work stress during the COVID-19 pandemic than neutral or negative views. Skewness and kurtosis were both positive, indicating that the data were right-skewed and leptokurtic. Compared to a normal distribution, the right tail was slightly longer with more outliers having been produced.

Figure 12 displays the frequency histogram of perceived work stress during the COVID-19 pandemic subscale scores to determine normality graphically and Figure 13 displays the frequency histogram of perceived level of threat from COVID-19 subscale scores. From the frequency histograms in Figure 12 and Figure 13 the data related to the COVID-19 survey instruments were relatively normal and distributed with minimal skewness. The histograms display a significant grouping of scores in their centers with tapering to the left and right. From the normal Q-Q plots in Figure 14 and Figure 15, the COVID-19 related data were normally distributed as the data points do not significantly stray from the relevant diagonal line and substantiates that the corresponding data were distributed normally.
Table 12. Perceived Work Stress During the COVID-19 Pandemic Descriptive Results

<table>
<thead>
<tr>
<th>Measure</th>
<th>Perceived Work Stress During the COVID-19 Pandemic</th>
<th>Illness Perception</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>392</td>
<td>392</td>
</tr>
<tr>
<td>Mean</td>
<td>35.36</td>
<td>38.24</td>
</tr>
<tr>
<td>Median</td>
<td>34</td>
<td>38.00</td>
</tr>
<tr>
<td>Std. Dev</td>
<td>11.12</td>
<td>6.70</td>
</tr>
<tr>
<td>Variance</td>
<td>123.69</td>
<td>44.95</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.48</td>
<td>-0.15</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>0.21</td>
<td>1.36</td>
</tr>
<tr>
<td>Range</td>
<td>62</td>
<td>56</td>
</tr>
<tr>
<td>Minimum</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Maximum</td>
<td>73</td>
<td>65</td>
</tr>
</tbody>
</table>

Figure 12. Histogram: Perceived Work Stress During COVID-19 Pandemic
Figure 13. Histogram: Illness Perception

Figure 14. Q-Q Plot: Perceived Work Stress During COVID-19 Pandemic
The 392 participants answered 10 questions pertaining to their work environment. Table 13 is a summary of the results that were derived from the analysis of participant responses to the questions regarding their views about their work environments. Individual participant scores consisted of a summation of the distinct scores for each question, after reverse coding when required, resulting in an additive answer range between 10 and 50 for the work environment portion of the survey. The mean ($M = 32.63$, $SD = 5.60$) was higher than the neutral (midpoint) of 30, indicating that the respondents collectively expressed more satisfactory views concerning their perceptions of their work environment than neutral or negative views. Skewness was negative while kurtosis was positive, indicating that the data were slightly left-skewed and leptokurtic. Compared to a normal distribution, the left tail was slightly longer and with more outliers having been produced.
Figure 16 displays the frequency histogram of work environment subscale scores to determine normality graphically. From the frequency histogram in Figure 16, the work environment data were relatively normal and distributed with minimal skewness. The histogram displays a significant grouping of scores in the center with tapering to the left and right. From the normal Q-Q plot in Figure 17, the work environment data were normally distributed as the data points do not significantly stray from the diagonal line and substantiates that the data were distributed normally.

Table 13. Work Environment Descriptive Results

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>392</td>
</tr>
<tr>
<td>Mean</td>
<td>32.63</td>
</tr>
<tr>
<td>Median</td>
<td>33.00</td>
</tr>
<tr>
<td>Std. Dev</td>
<td>5.60</td>
</tr>
<tr>
<td>Variance</td>
<td>31.31</td>
</tr>
<tr>
<td>Skewness</td>
<td>-0.62</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>0.62</td>
</tr>
<tr>
<td>Range</td>
<td>33</td>
</tr>
<tr>
<td>Minimum</td>
<td>12</td>
</tr>
<tr>
<td>Maximum</td>
<td>45</td>
</tr>
</tbody>
</table>

Figure 16. Histogram: Work Environment
Figure 17. Q-Q Plot: Work Environment

**Employee Turnover Intention.** The 392 participants answered 15 questions that reflected their turnover intention. Table 14 is a summary of the results that were derived from the analysis of participant responses to the questions regarding their intention to leave their workplace. Individual participant scores consisted of a summation of the distinct scores for each question, after reverse coding when required, resulting in an additive answer range between 15 and 75 for the turnover intention portion of the survey. The mean ($M = 38.52$, $SD = 7.73$) was lower than the neutral (midpoint) of 45, indicating that the respondents collectively expressed less turnover intention than neutral views of the elements that represented employee turnover intention. Skewness and kurtosis were both positive, indicating that the data were right-skewed and leptokurtic. Compared to a normal distribution, the right tail was slightly longer with more outliers having been produced.
Figure 18 displays the frequency histogram of turnover intention subscale scores to determine normality graphically. From the frequency histogram in Figure 18, the turnover intention data were relatively normal and distributed with minimal skewness. The histogram displays a significant grouping of scores in the center with tapering to the left and right. From the normal Q-Q plot in Figure 19, the turnover intention data were normally distributed as the data points do not significantly stray from the diagonal line and substantiates that the data were distributed normally.

Table 14. Turnover Intention Descriptive Results

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>392</td>
</tr>
<tr>
<td>Mean</td>
<td>38.52</td>
</tr>
<tr>
<td>Median</td>
<td>38.00</td>
</tr>
<tr>
<td>Std. Dev</td>
<td>7.73</td>
</tr>
<tr>
<td>Variance</td>
<td>59.80</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.41</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>0.34</td>
</tr>
<tr>
<td>Range</td>
<td>46</td>
</tr>
<tr>
<td>Minimum</td>
<td>20</td>
</tr>
<tr>
<td>Maximum</td>
<td>66</td>
</tr>
</tbody>
</table>

Figure 18. Histogram: Turnover Intention
Hypotheses Testing

Inferential statistical techniques were used to investigate the research questions through the testing of each of the six hypotheses propositioned and outlined in Sections 1 and 2. Inferential statistics enable the researcher to analyze and draw conclusions from the data that can be extended to the broader population of interest in the study (Miller, 2021). The hypothesis testing and analysis began by assessing the strength of the correlations between the study’s predictor variables and the criterion variable. Each of the study’s six hypotheses was tested using a Spearman’s rho test, which is the most appropriate test for determining the strength of relationships among ordinal variables when performing a statistical test between Likert-type variables (Morgan et al., 2013). Additionally, a multiple linear regression analysis was conducted to estimate the relationship between the single dependent variable the multiple independent variables of the study (Miller, 2021).

Figure 19. Q-Q Plot: Turnover Intention
The decision to reject or fail to reject the null hypotheses was evaluated against a 95% confidence level, meaning there is a 5% probability of incorrectly rejecting a null hypothesis when it is actually true and therefore committing a Type I error. The probability of committing a type II error was calculated by subtracting the power from one (1-β). The probability of a type II error occurring for each of the study’s variables was found to be 0%, based on the sample size, effect size, and p-value.

**Spearman Rank Correlation.** The Spearman rank-order correlation coefficient, commonly referred to as Spearman’s rho, is a non-parametric test that is utilized to measure the degree of association between two variables and is most appropriately used when the data is ordinal or non-normally distributed (Waters, 2021). When assessing the strength of associations using Spearman’s rho, the closer the correlation coefficient is to zero, the weaker the relationship is between the ranks; conversely, the closer the correlation coefficient is to +/- 1, the stronger the association (Kelly, 2019). Spearman’s rho was used to assess the relationship between employee turnover intention and compensation, work engagement, job satisfaction, motivation, perceived work stress during COVID-19, and work environment. Table 15 includes a summary of the Spearman’s correlation tests that were applied to each of the variables in relation to turnover intention ($N = 392$, $df = 390$). The results of the Spearman rank-order correlation coefficient revealed statistically significant correlations between turnover intention and all predictor variables of the current study.

There is a statistically significant negative correlation between compensation and turnover intention, $r(390) = .42$, $p < .001$. There is also a statistically significant negative correlation between work engagement and turnover intention, $r(390) = .32$, $p < .001$. Likewise, a statistically significant negative correlation between job satisfaction and turnover intention,
A statistically significant negative correlation also exists between motivation and turnover intention, \( r(390) = -0.46, p < 0.001 \). Correlation tests of the perceived work stress during COVID-19 variable showed a statistically significant negative correlation with turnover intention, \( r(390) = -0.24, p < 0.001 \). Finally, there is a statistically significant negative correlation between work environment and turnover intention, \( r(390) = -0.74, p < 0.001 \).

Based on the results of these tests, all predictor variables of this study are inversely related to the criterion variable of turnover intention. The variables in descending order from strongest negative correlation to weakest are job satisfaction, work environment, motivation, compensation, work engagement, and perceived work stress during COVID-19.

Table 15. Correlations with Employee Turnover Intention

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation Coefficient</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation</td>
<td>-0.42</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Work Engagement</td>
<td>-0.32</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>-0.74</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Motivation</td>
<td>-0.46</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Perceived Work Stress During COVID-19</td>
<td>-0.24</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Work Environment</td>
<td>-0.74</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

**Multiple Linear Regression Data Assumptions.** Multiple linear regression analyses were conducted using SPSS-28 with the objective of using the various predictor variables of this study, whose values are known, to predict the outcome of the study’s criterion variable.

However, multiple linear regression is sensitive to the quality of data (Pallant, 2020). As such, this form of data analysis necessitates researchers manage several assumptions about the data (Bryant, 2017). The assumptions of multiple linear regression include: (a) multicollinearity, (b) independence, (c) homoscedasticity, (d) normality, and (e) linearity (Pallant, 2020).
**Multicollinearity**. Multicollinearity occurs when there is a correlation between two or more independent variables in a multiple regression analysis (Gokmen & Dagalp, 2022). Intercorrelation among explanatory variables can seriously affect estimates of regression parameters, resulting in implausible magnitudes and unreliable estimation results (Awwad et al., 2022). A simple way to check multicollinearity to evaluate the variance inflation factor (VIF) values (Awwad et al., 2022). If the VIF values are below 10.00 then there is no evidence of multicollinearity (Awwad et al., 2022). Table 17 below includes the VIF values for each of the predictor variables in this study, with each being under 4.0. As such, no evidence of multicollinearity exists in the present study.

**Independence**. A second assumption of multiple linear regression is that the observations are independent (Kelly, 2019). A simple method for determining if this assumption is met is to perform a Durbin-Watson test, which assesses whether or not the residuals exhibit autocorrelation (Kim, 2022). Miller (2021) noted that Durbin-Watson values fall between 0 and 4 and suggested that an acceptable range is between 1.5 to 2.5. Table 16 presents the results of the Durbin-Watson analysis. The assumption of independence of residuals was accepted based on the Durbin-Watson statistic of 1.87.

<table>
<thead>
<tr>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.814</td>
<td>0.662</td>
<td>0.657</td>
<td>4.531</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.867</td>
</tr>
</tbody>
</table>

**Homoscedasticity**. Homoscedasticity refers to whether residuals are equally distributed or whether they are grouped together at some values and spread far apart at others (Holston-Okae & Mushi, 2018). An increasing dispersion of the residuals with higher and lower values of the predicted values is generally indicative of this assumption (Bryant, 2017). Outliers and omitting
variables from the dataset are typical causes of violating this assumption, which in turn could result in a bias in standard errors and incorrect inferences (Ude, 2015). Schuetzenmeister et al. (2012) suggested using a scatterplot of standardized predicted values by standardized residuals as an acceptable method for determining homoscedasticity. If the resulting plot does not have an obvious pattern, meaning the points are relatively equally distributed above and below the X axis and to the left and right of zero on the Y axis, then the assumption of homoscedasticity has been met (Schuetzenmeister, 2012). Figure 20 displays the scatterplot of regression standardized residuals and confirms that the assumption of homoscedasticity was met.

![Scatterplot of the standardized residuals](image)

**Figure 20.** Scatterplot of the standardized residuals

*Normality.* Making valid inferences from your regression requires that the residuals of the regression follow a normal distribution (Schuetzenmeister, 2012). Residuals are the differences between the observed value of the dependent variables and the predicted value (Schuetzenmeister, 2012). A normal predicted-probability (P-P) plot can be used to visually
determine if the residuals are normally distributed by assessing if they conform to the diagonal normality line indicated in the plot (Holston-Okae & Mushi, 2018). Additionally, Miller (2021) recommends using a histogram of the distribution of standardized residuals of the multiple linear regression analysis to determine if there is a symmetrical distribution of the residuals. Figure 21 displays the results of the normal P-P plot of regression standardized residuals and confirms the assumption of normality has been met in the present study. The histogram in Figure 22 further confirms that the assumption of normality has been met.

Figure 21. Normal P-P plot of the regression standardized residuals
Ude (2015) noted that there must be a linear relationship between the dependent variable and each of the independent variables, meaning the predictor variables in the regression analysis should have a straight-line relationship with the criterion variable. Violations of linearity assumptions commonly result in biased estimates of the regression coefficient or inaccurate predictions of the criterion variable (Bryant, 2018). As is the case in the present study, if the residuals are normally distributed and homoscedastic, linearity is also confirmed (Ude, 2015).

**Alternative Testing.** In Section 2 a Bayesian analysis was proposed as an alternative testing method for the hypotheses of the present study, in the event that the data collected failed to meet the criteria for the Spearman’s rho and multiple linear regression tests. However, as outlined in the discussion above, the collected data met the criteria for both the Spearman’s rho
and multiple linear regression analyses. Consequently, there was no need to utilize alternative testing methods.

**Multiple Linear Regression Data Analysis.** With the assumptions of multiple linear regression having been met, simultaneous multiple regression was conducted to investigate the best prediction of turnover intention. Table 17 includes the results of the multiple linear regression tests. Table 18 indicates the combination of variables to predict CNA turnover intention from compensation, work engagement, job satisfaction, motivation, perceived work stress during COVID-19, and work environment was statistically significant $F(6,385) = 125.65$, $p < .001$. The beta coefficients are presented in Table 17. Note that job satisfaction and work environment significantly predict turnover intention when all six variables are included. Table 16 shows the regression model had an adjusted $R^2$ of .657. This indicates that 66% of the variance in turnover intention can be predicted from the combination of the predictor variables (Morgan et al., 2013).

The multiple regression equation can be expressed as $Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6$. In the equation, $Y$ represents the expected value of the criterion variable, $a$ is a starting-point constant equivalent to the intercept in a simple two-variable regression, $b_1$ to $b_6$ are the estimated regression coefficients, and $X_1$ to $X_6$ represent the distinct predictor variables (Bryant, 2017). This equation represents the value at which the criterion variable changes when the predictor variables change (Kelly, 2019). In the present analysis, $TI = 74.201 + (.246)(C) + (.031)(ENG) + (.097)(JS) + (.052)(M) + (.007)(PWS) + (-.727)(ENV)$, where TI is turnover intention, C is compensation, ENG is engagement, JS is job satisfaction, M is motivation, PWS is perceived work stress during COVID-19, and ENV is environment. Table 17 includes the results of the multiple linear regression tests.
Table 17. Multiple Regression Model Weights

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation</td>
<td>-0.25</td>
<td>-0.09</td>
<td>-2.46</td>
<td>0.01</td>
<td>0.65</td>
<td>1.54</td>
</tr>
<tr>
<td>Work Engagement</td>
<td>0.03</td>
<td>0.05</td>
<td>1.47</td>
<td>0.14</td>
<td>0.71</td>
<td>1.41</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>-0.10</td>
<td>-0.33</td>
<td>-6.10</td>
<td>&lt;.001</td>
<td>0.30</td>
<td>3.33</td>
</tr>
<tr>
<td>Motivation</td>
<td>0.05</td>
<td>0.04</td>
<td>1.08</td>
<td>0.28</td>
<td>0.54</td>
<td>1.86</td>
</tr>
<tr>
<td>Perceived Work Stress During COVID-19</td>
<td>-0.01</td>
<td>-0.01</td>
<td>-0.29</td>
<td>0.77</td>
<td>0.85</td>
<td>1.18</td>
</tr>
<tr>
<td>Work Environment</td>
<td>-0.73</td>
<td>-0.53</td>
<td>-10.59</td>
<td>&lt;.001</td>
<td>0.36</td>
<td>2.81</td>
</tr>
</tbody>
</table>

* Dependent variable: Turnover Intention

Table 18. Multiple Regression Summary

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>$F$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>15477.68</td>
<td>6</td>
<td>2579.61</td>
<td>125.65</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Residual</td>
<td>7904.11</td>
<td>385</td>
<td>20.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>23381.79</td>
<td>391</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Hypothesis 1.** Hypotheses $H_{01}$ and $H_{a1}$ evaluated the degree of the relationship between employee compensation and CNA turnover intention in the long-term care facility industry. The Compensation Scale developed by Mensah (2014) was utilized to determine employees’ perception of compensation, which is one of the predictor variables of this study. To investigate the association between compensation and turnover, the following hypotheses were explored:

$H_{01}$: There is no statistically significant relationship between employee compensation and CNA turnover intention in the nursing home industry.

$H_{a1}$: There is a statistically significant relationship between employee compensation and CNA turnover intention in the nursing home industry.

The results of the correlation test between employee compensation and employee turnover intention, performed on the data collected from 392 employees in the long-term care facility industry, indicated that a statistically significant relationship exists between the two
variables. The value of Spearman’s correlation coefficient ($r$) is -0.42 and the two-tailed value of $p$ is <.001. According to Morgan et al. (2013), the association between the two variables would be considered statistically significant. The negative correlation coefficient indicates that there is a negative relationship between employee compensation and employee turnover. Furthermore, when all predictor variables were considered simultaneously in the multiple linear regression analysis, the $R^2$ value signified that 66% of the variance in employee turnover intention can be predicted from the combination of the study’s predictor variables, including employee compensation. Consequently, a less satisfactory view of the respondents’ compensation correlated to a greater turnover intention. Based on the results derived from both the correlation and regression analyses performed, there is justification to reject the null hypothesis. There is statistically significant inverse relationship between employee compensation and CNA employee turnover intention in the nursing home industry.

**Hypothesis 2.** Hypotheses $H_{02}$ and $H_{a2}$ evaluated the degree of the relationship between employee engagement and CNA turnover intention in the long-term care facility industry. The Utrecht Work Engagement Scale developed by Schaufeli et al. (2002) was utilized to determine employees’ perception of engagement, which is one of the predictor variables of this study. To investigate the association between engagement and turnover, the following hypotheses were explored:

$H_{02}$: There is no statistically significant relationship between employee engagement and CNA turnover intention in the nursing home industry.

$H_{a2}$: There is a statistically significant relationship between employee engagement and CNA turnover intention in the nursing home industry.
The results of the correlation test between employee engagement and employee turnover intention, performed on the data collected from 392 employees in the long-term care facility industry, indicated that a statistically significant relationship exists between the two variables. The value of Spearman’s correlation coefficient \((r)\) is -.32 and the two-tailed value of \(p\) is \(<.001\). According to Morgan et al. (2013), the association between the two variables would be considered statistically significant. The negative correlation coefficient indicates that there is a negative relationship between employee engagement and employee turnover. Furthermore, when all predictor variables were considered simultaneously in the multiple linear regression analysis, the \(R^2\) value signified that 66% of the variance in employee turnover intention can be predicted from the combination of the study’s predictor variables, including employee engagement. Consequently, a less satisfactory view of the respondents’ engagement correlated to a greater turnover intention. Based on the results derived from both the correlation and regression analyses performed, there is justification to reject the null hypothesis. There is statistically significant inverse relationship between employee engagement and CNA employee turnover intention in the nursing home industry.

**Hypothesis 3.** Hypotheses \(H_{03}\) and \(H_{a3}\) evaluated the degree of the relationship between employee job satisfaction and CNA turnover intention in the long-term care facility industry. The Job Satisfaction Scale developed by Spector (1985) was utilized to determine employees’ perception of job satisfaction, which is one of the predictor variables of this study. To investigate the association between job satisfaction and turnover, the following hypotheses were explored:

\(H_{03}\): There is no statistically significant relationship between employee job satisfaction and CNA turnover intention in the nursing home industry.
There is a statistically significant relationship between employee job satisfaction and CNA turnover intention in the nursing home industry.

The results of the correlation test between employee job satisfaction and employee turnover intention, performed on the data collected from 392 employees in the long-term care facility industry, indicated that a statistically significant relationship exists between the two variables. The value of Spearman’s correlation coefficient \( r \) is -.74 and the two-tailed value of \( p \) is <.001. According to Morgan et al. (2013), the association between the two variables would be considered statistically significant. The negative correlation coefficient indicates that there is a negative relationship between employee job satisfaction and employee turnover. Furthermore, when all predictor variables were considered simultaneously in the multiple linear regression analysis, the \( R^2 \) value signified that 66% of the variance in employee turnover intention can be predicted from the combination of the study’s predictor variables, including employee job satisfaction. Consequently, a less satisfactory view of the respondents’ job satisfaction correlated to a greater turnover intention. Based on the results derived from both the correlation and regression analyses performed, there is justification to reject the null hypothesis. There is statistically significant inverse relationship between employee job satisfaction and CNA employee turnover intention in the nursing home industry.

Hypothesis 4. Hypotheses \( H_{04} \) and \( H_{a4} \) evaluated the degree of the relationship between employee motivation and CNA turnover intention in the long-term care facility industry. The Work Extrinsic and Intrinsic Motivation Scale developed by Tremblay et al. (2009) was utilized to determine employees’ perception of motivation, which is one of the predictor variables of this study. To investigate the association between motivation and turnover, the following hypotheses were explored:
H_04: There is no statistically significant relationship between employee motivation and CNA turnover intention in the nursing home industry.

H_a4: There is a statistically significant relationship between employee motivation and CNA turnover intention in the nursing home industry.

The results of the correlation test between employee motivation and employee turnover intention, performed on the data collected from 392 employees in the long-term care facility industry, indicated that a statistically significant relationship exists between the two variables. The value of Spearman’s correlation coefficient (r) is -.46 and the two-tailed value of p is <.001. According to Morgan et al. (2013), the association between the two variables would be considered statistically significant. The negative correlation coefficient indicates that there is a negative relationship between employee motivation and employee turnover. Furthermore, when all predictor variables were considered simultaneously in the multiple linear regression analysis, the R^2 value signified that 66% of the variance in employee turnover intention can be predicted from the combination of the study’s predictor variables, including employee motivation. Consequently, a less satisfactory view of the respondents’ motivation correlated to a greater turnover intention. Based on the results derived from both the correlation and regression analyses performed, there is justification to reject the null hypothesis. There is statistically significant inverse relationship between employee motivation and CNA employee turnover intention in the nursing home industry.

Hypothesis 5. Hypotheses H_05 and H_a5 evaluated the degree of the relationship between employee perceived work stress during COVID-19 and CNA turnover intention in the long-term care facility industry. The Stress of Caring for Highly Infectious Disease Patients Scale developed by Chuang and Lou (2005) was utilized to determine employees’ perception of
perceived work stress during COVID-19, which is one of the predictor variables of this study. To investigate the association between perceived work stress during COVID-19 and turnover, the following hypotheses were explored:

\( H_{05} \): There is no statistically significant relationship between employee perceived work stress during COVID-19 and CNA turnover intention in the nursing home industry.

\( H_{a5} \): There is a statistically significant relationship between employee perceived work stress during COVID-19 and CNA turnover intention in the nursing home industry.

The results of the correlation test between employee perceived work stress during COVID-19 and employee turnover intention, performed on the data collected from 392 employees in the long-term care facility industry, indicated that a statistically significant relationship exists between the two variables. The value of Spearman’s correlation coefficient (\( r \)) is -.24 and the two-tailed value of \( p \) is <.001. According to Morgan et al. (2013), the association between the two variables would be considered statistically significant. The negative correlation coefficient indicates that there is a negative relationship between employee perceived work stress during COVID-19 and employee turnover. Furthermore, when all predictor variables were considered simultaneously in the multiple linear regression analysis, the \( R^2 \) value signified that 66% of the variance in employee turnover intention can be predicted from the combination of the study’s predictor variables, including employee perceived work stress during COVID-19. Consequently, a greater perceived work stress during COVID-19 correlated to a respondent’s reduced turnover intention. Based on the results derived from both the correlation and regression analyses performed, there is justification to reject the null hypothesis. There is statistically significant inverse relationship between employee perceived work stress during COVID-19 and CNA employee turnover intention in the nursing home industry.
**Hypothesis 6.** Hypotheses $H_{06}$ and $H_{a6}$ evaluated the degree of the relationship between employee work environment and CNA turnover intention in the long-term care facility industry. The Work Environment Scale developed by Røssberg et al. (2004) was utilized to determine employees’ perception of work environment, which is one of the predictor variables of this study. To investigate the association between work environment and turnover, the following hypotheses were explored:

$H_{06}$: There is no statistically significant relationship between employee work environment and CNA turnover intention in the nursing home industry.

$H_{a6}$: There is a statistically significant relationship between employee work environment and CNA turnover intention in the nursing home industry.

The results of the correlation test between employee work environment and employee turnover intention, performed on the data collected from 392 employees in the long-term care facility industry, indicated that a statistically significant relationship exists between the two variables. The value of Spearman’s correlation coefficient ($r$) is -.74 and the two-tailed value of $p$ is <.001. According to Morgan et al. (2013), the association between the two variables would be considered statistically significant. The negative correlation coefficient indicates that there is a negative relationship between employee work environment and employee turnover. Furthermore, when all predictor variables were considered simultaneously in the multiple linear regression analysis, the $R^2$ value signified that 66% of the variance in employee turnover intention can be predicted from the combination of the study’s predictor variables, including employee work environment. Consequently, a less satisfactory view of the respondents’ work environment correlated to a greater turnover intention. Based on the results derived from both the correlation and regression analyses performed, there is justification to reject the null hypothesis.
There is statistically significant inverse relationship between employee work environment and CNA employee turnover intention in the nursing home industry.

**Relationship of Findings**

**Relationship to the Research Questions.** The central research inquiry for this study was: What is the relationship between employee compensation, engagement, job satisfaction, motivation, perceived work stress during COVID-19, work environment, and employee turnover intention of CNAs working in the nursing home industry? From this fundamental research inquiry, six independent research questions were developed for this study, one for each predictor variable. Each of the six research questions had a corresponding null and alternative hypothesis, proposing that there was or was not a statistically significant relationship between turnover intention and the appropriate predictor variable for each question. The results from this research demonstrated that there was a statistically significant relationship between each of predictor variables and the criterion variable of the study, thus answering each of the research questions.

**Relationship to the Theoretical Framework.** A theoretical framework provides a means to identifying the problem to be addressed by a research study and outlines the approach that will be applied to address the issue (Miller, 2021). Using Herzberg’s (1959) theory as a foundation to investigate the variables, the predictor variables were examined for their impact on the actors of the study, who in turn were either influenced or impacted by the study’s criterion variable of turnover intention. The motivation-hygiene theory is a practical method to exploring the influences of various factors that can impact job satisfaction (Thant & Chang, 2021). The findings of this research are consistent with Herzberg’s (1959) theory, which designates that compensation, motivation, and job satisfaction are influential factors of employee job satisfaction; perceptions of low compensation, motivation, and job satisfaction often lead to high
employment turnover. Additionally, Herzberg’s (1959) theory purported that employees who feel engaged in their workplace and who occupy positions within satisfying work environments, such as those that empower their employees or provide safe surroundings during a pandemic, are more willing to stay with their organizations. The statistically significant findings of the present study support the theoretical framework of the study, which provided a foundational structure and alignment to the study.

**Relationship to Literature.** The following subsections include discussions on how the findings of this study relate to the existing literature with a focus on both similarities and differences.

**Employee Compensation.** The results of the correlation test between employee compensation and employee turnover intention revealed a statistically significant negative relationship between the two variables. This finding is consistent with previous research indicating that salary has an impact on a CNA’s intention to leave their place of employment (Homisak, 2019). Prior research using Herzberg’s motivation-hygiene theory as a theoretical framework to investigate the impact of compensation on the turnover intentions of CNA employees have also concluded that there is a statistically significant negative correlation between the two (Bryant, 2018; Kelly, 2019; Kittles, 2021). Additionally, Holston-Okae and Mushi (2018) found compensation to be highly correlated with turnover intention in their correlational study, using the motivation-hygiene theory as a foundation, investigating turnover intention in the hospitality industry. Consequently, the findings of this study on the correlation between compensation and turnover intention mirror those findings of the studies discussed in the review of the academic literature in Section 1.
**Employee Engagement.** The results of the correlation test between employee engagement and employee turnover intention revealed a statistically significant negative relationship between the two variables. This finding is consistent with previous research indicating that engagement has an impact on a CNA’s intention to leave their place of employment (Blanco-Donoso et al., 2022). Prior research using Herzberg’s motivation-hygiene theory as a theoretical framework to investigate the impact of engagement on the turnover intentions of CNA employees have also concluded that there is a statistically significant negative correlation between the two (Bryant, 2018; Kelly, 2019; Kittles, 2021). Additionally, Holston-Okae and Mushi (2018) found engagement to be highly correlated with turnover intention in their correlational study, using the motivation-hygiene theory as a foundation, investigating turnover intention in the hospitality industry. Consequently, the findings of this study on the correlation between engagement and turnover intention mirror those findings of the studies discussed in the review of the academic literature in Section 1.

**Employee Job Satisfaction.** The results of the correlation test between employee job satisfaction and employee turnover intention revealed a statistically significant negative relationship between the two variables. This finding is consistent with previous research indicating that job satisfaction has an impact on a CNA’s intention to leave their place of employment (Patterson, 2018). Prior research using Herzberg’s motivation-hygiene theory as a theoretical framework to investigate the impact of job satisfaction on the turnover intentions of CNA employees have also concluded that there is a statistically significant negative correlation between the two (Bryant, 2018; Kelly, 2019; Kittles, 2021). Additionally, Holston-Okae and Mushi (2018) found job satisfaction to be highly correlated with turnover intention in their correlational study, using the motivation-hygiene theory as a foundation, investigating turnover
intention in the hospitality industry. Consequently, the findings of this study on the correlation between job satisfaction and turnover intention mirror those findings of the studies discussed in the review of the academic literature in Section 1.

**Employee Motivation.** The results of the correlation test between employee motivation and employee turnover intention revealed a statistically significant negative relationship between the two variables. This finding is consistent with previous research indicating that motivation has an impact on a CNA's intention to leave their place of employment (Gyllensten et al., 2019). However, prior research using Herzberg’s motivation-hygiene theory as a theoretical framework to investigate the impact of motivation on turnover intention has revealed mixed results. Both Bryant (2018) and Holston-Okae and Mushi (2018) conducted correlational studies, utilizing Herzberg’s theory as a foundation, to explore the relationship between motivation and turnover intention and neither found there to be a statistically significant relationship between the two variables. Conversely, Kittles (2021) investigated the association between high turnover rates among nursing assistants and employee motivation and concluded that there was a statistically significant relationship between the two. As such, the findings of the current study are discordant with the findings of Bryant (2018) and Holston-Okae and Mushi (2018) but are harmonious with the findings of Kittles (2021). Consequently, the findings of this study on the correlation between motivation and turnover intention contribute to the body of knowledge on the subject and echo some of the findings discussed in the review of the academic literature in Section 1.

**Employee Perceived Work Stress During the COVID-19 Pandemic.** The results of the correlation test between employee perceived work stress during the COVID-19 pandemic and employee turnover intention revealed a statistically significant negative relationship between the two variables. In a study examining the association of perceived discrimination related to
COVID-19 with psychological distress among healthcare workers in the Caribbean region of Colombia, Campo-Arias et al. (2021) found that CNAs report more perceived discrimination than other healthcare workers and that perceived discrimination was related to increased stress, depressive symptoms, and suicide risk among CNAs (Campo-Arias et al., 2021). Indeed, previous research demonstrated that the increase in perceived stress related to COVID-19 initially led to increased turnover intention amongst CNAs (Alatawiet al., 2020; Kuo et al., 2020; Pérez-Fuentes et al., 2020). However, the results of the present study found that there was an inverse relationship between the two variables; when perceived work stress related to the pandemic increased, turnover intention decreased. As such, the findings of the current study are discordant with prior research investigating the impact of perceived work stress related to COVID-19 and turnover intention.

There are several factors that may explain why the current findings differ from similar studies found in the academic literature reviewed in Section 1. Firstly, the pandemic began 2.5 years ago, and since then vaccines have become widely available, PPE shortages have largely been resolved, and support efforts for healthcare workers have been institutionalized in many places (Franzosa et al., 2022). The increased sense of safety and support, as people have adapted to life under a pandemic may have resulted in reduced stress related to the virus. Secondly, in May 2022, when the current study was being conducted, an Axios/Ipsos poll found that one in three American believed the COVID-19 pandemic was over (Jackson et al., 2022). This finding was largely driven by partisanship: 59% of Republicans, 27% of independents, and just 10% of Democrats said the pandemic was over (Jackson et al., 2022). Additionally, a University of Texas poll in 2021 found that Texans, in general, were less worried about the COVID-19 pandemic (Ramsey, 2021). Given that Texas is a Republican stronghold, it could be theorized
that CNAs working in Texas are less concerned about the pandemic than those working elsewhere in the country. Such a theory would be supported by the current findings, given that the mean of perceived work stress during COVID-19 (35.36) was significantly less than the neutral point of 48, indicating that CNAs did not report significant stress due to the pandemic specifically.

Lastly, the negative correlation between perceived work stress during the COVID-19 pandemic and turnover intention could be the result of a duty to care and work perseverance. Varasteh et al. (2022) found that many healthcare workers choose to stay in their profession, and even volunteer to work in the COVID wards, despite the fear of infection, because of their sense of commitment and work conscience. Consequently, this might explain why those CNAs who report having more perceived work stress during the pandemic also report having less turnover intention. CNAs who report feeling more work stress due to the pandemic may be more engaged and have a greater sense of commitment or duty to care. Conversely, CNAs who report less perceived work stress due to the pandemic may have mentally checked out from their workplace and therefore report greater turnover intention (Franzosa et al., 2022). Thus, the findings of this study on the correlation between employee perceived work stress during the COVID-19 pandemic and turnover intention differ from those findings of the studies discussed in the review of the academic literature in Section 1; though this may be a result of the geographic location of the current study’s participants, the point during the pandemic at which the present study was conducted, or a combination of both.

**Employee Work Environment.** The results of the correlation test between employee work environment and employee turnover intention revealed a statistically significant negative relationship between the two variables. This finding is consistent with previous research
indicating that work environment has an impact on a CNA’s intention to leave their place of employment (Sousa-Ribeiro et al., 2022). Prior research using Herzberg’s motivation-hygiene theory as a theoretical framework to investigate the impact of work environment on the turnover intentions of CNA employees have also concluded that there is a statistically significant negative correlation between the two (Bryant, 2018; Kelly, 2019; Kittles, 2021). Additionally, Holston-Okae and Mushi (2018) found work environment to be highly correlated with turnover intention in their correlational study, using the motivation-hygiene theory as a foundation, investigating turnover intention in the hospitality industry. Consequently, the findings of this study on the correlation between work environment and turnover intention mirror those findings of the studies discussed in the review of the academic literature in Section 1.

Relationship to the Problem. The problem addressed by this study was the potential failure of leaders to develop successful retention strategies within the long-term care facility industry in central Texas, potentially resulting in increased operational costs related to replacing CNA staff. To address this problem, a research study was designed to investigate the factors that influence CNA turnover intention so that long-term care facility leaders would be armed with the requisite knowledge needed to develop targeted retention strategies for this vital workforce. Turnover in health facilities reduces the effectiveness of delivering care and increases national costs by over $4 billion annually (Han et al., 2019). In nursing homes, direct care staff, such as CNAs, have turnover rates of 129% (Brown, 2020; Loomer et al., 2021) with an estimated replacement cost for each individual CNA between $1,750 and $5,000 (Eaton et al., 2019). CNA turnover directly impacts quality of resident care as well, with one study of 980 California nursing homes finding that a 10% increase in CNA staff turnover results in a 19.3% rise in deficiency citations, thus indicating that an increase in turnover leads to inferior quality of care.
(Antwi & Bowblis, 2018). Bryant (2018) noted that long-term care facility leaders have inadequate information on the factors contributing to CNA turnover, and suggested that employee compensation, engagement, job satisfaction, motivation, and work environment may be correlated with CNA turnover in nursing homes.

The results of this study contribute to the body of knowledge surrounding CNA turnover intention and further the work began by Bryant (2018), Kelly (2019), and Kittles (2021). Additionally, the data from this research provides long-term care leaders with information regarding the impact of stress related to working during the COVID-19 pandemic and how that stress influences turnover intention. Long-term care leaders can utilize the data from these research findings in conjunction with the retention strategies outlined in Section 1 to reduce turnover and help minimize the impact of impending CNA staff shortages affecting quality of care delivery and increasing facility operational costs.

**Summary of the findings**

This quantitative correlational research study sought to identify and investigate the relationship between employee compensation, engagement, job satisfaction, motivation, perceived work stress during COVID-19, work environment, and the employee turnover intention of CNAs working in the nursing home industry. The research revolved around six hypotheses tested through multiple linear regression and correlation statistics. The descriptive analyses in this study allowed for the aggregation of the participants’ responses. The inferential analyses enabled ways of recognizing the relationships between the predictor variables and the criterion variable, which then lead to generalizations about how the findings of this study relate to the larger population of interest. Table 19 includes a summary of the findings of this study. In accordance with the statistical tests performed, all six null hypotheses of the present study were
rejected. Based on the data collected from the long-term care facility employees in this study \((N = 392)\), there was a statistically significant relationship between each of the predictor variables and the criterion variable. Multiple regression analysis confirmed that when all predictor variables were considered simultaneously in the analysis, 66% of the variance in employee turnover intention could be predicted, which explains more variance in turnover intention than would be expected by chance.

Table 19. Summary of Findings

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Decision</th>
<th>Alternative Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesis 1</td>
<td>Reject the null hypothesis</td>
<td>There is a statistically significant relationship between employee compensation and CNA intention in the nursing home industry.</td>
</tr>
<tr>
<td>Hypothesis 2</td>
<td>Reject the null hypothesis</td>
<td>There is a statistically significant relationship between employee engagement and CNA intention in the nursing home industry.</td>
</tr>
<tr>
<td>Hypothesis 3</td>
<td>Reject the null hypothesis</td>
<td>There is a statistically significant relationship between employee job satisfaction and CNA intention in the nursing home industry.</td>
</tr>
<tr>
<td>Hypothesis 4</td>
<td>Reject the null hypothesis</td>
<td>There is a statistically significant relationship between employee motivation and CNA intention in the nursing home industry.</td>
</tr>
<tr>
<td>Hypothesis 5</td>
<td>Reject the null hypothesis</td>
<td>There is a statistically significant relationship between employee perceived work stress during COVID-19 and CNA intention in the nursing home industry.</td>
</tr>
<tr>
<td>Hypothesis 6</td>
<td>Reject the null hypothesis</td>
<td>There is a statistically significant relationship between employee work environment and CNA intention in the nursing home industry.</td>
</tr>
</tbody>
</table>
Application to Professional Practice

The purpose of this quantitative correlational research study was to provide an understanding of the factors that influence employee turnover intention. The goal of this research was to determine the potential relationship between employee compensation, engagement, job satisfaction, motivation, perceived work stress during the COVID-19 pandemic, work environment, and turnover intention in central Texas CNAs. The conclusions drawn from these findings could assist long-term care facility leaders by equipping them with the knowledge and data required to develop and deploy successful employee retention strategies. Additionally, the findings of this research are applicable to the broader healthcare industry in general, given that CNAs are employed in numerous healthcare environments. This section presents the application of this study to general business practices and considers the potential application strategies of these findings.

Improving General Business Practice

The findings of this study provide management with ways of evaluating and analyzing each factor that impacts turnover intention based on the magnitude of the relationship. Through a review of the findings of this study, long-term care leaders can provide recommendations to improve the circumstances within their organizations. Prior literature discussed the statistically significant correlation between CNA turnover intention and CNA compensation, engagement, job satisfaction, and work environment, but failed to identify the significance of perceived work stress during a pandemic and employee motivation on CNA turnover intention. This study has discovered that increasing CNA motivation is also vital to reducing their intent to leave. Carnahan (2013) found that CNAs find their job rewarding, but increased workload, perceived lack of support by management, and limited room for advancement has decreased job motivation...
and promoted job dissatisfaction amongst these employees. When job dissatisfaction results in turnover intention, then long-term care facilities become overburdened which not only results in a dip in the quality of care, but a further increased workload for the remaining staff. Institutions that employ engaged and motivated healthcare workers have improved patient safety and satisfaction scores, reduced medical errors, lower malpractice claims, and overall improved quality of patient care (Berridge et al., 2018; Carnahan, 2013).

Outlining the five core job characteristics, Mello (2019) discussed the value of an employee’s skillset, the importance of identifying tasks to be completed, and the importance of employee autonomy. The author then went on to discuss what needs workers must have met by their employer, such as workplace safety, work/life balance, and representation, all of which are in alignment with the results of this study. Long-term care leaders should be focused on serving the needs of both the employee and the organization (Mello, 2019). The results of this study highlight the importance of providing employees with a safe work environment that encourages autonomy and fosters employee engagement and motivation. Traditional views of human resources focus on tasks such as staffing, training, evaluation and compensation, thus focusing on the needs of the organization but failing to consider human capital development (Richard & Johnson, 2001). Conversely, the results of the present study shift the focus to the human element by identifying the factors that have a statistically significant negative correlation with turnover intention. Understanding these correlations will allow long-term care facility leaders to better direct their human resource management efforts to retain CNAs by promoting organizational efforts such as team-based job designs, flexible personnel, employee empowerment, and incentive compensation (Salehi, 2013).
Noelker et al. (2006) found that personal stressors such as family, financial, and health concerns, have the greatest impact on CNA satisfaction with supervision. Their study argued that long-term care management should implement Employee Assistance Programs and training for supervisors in team building exercises, communication, and motivational skill development in order to promote more positive relationships with CNAs (Noelker et al., 2006). Furthermore, Noelker et al. (2006) posited that job satisfaction and effective management are of the highest priority areas for long-term care facilities because of their significant impact on retaining CNA staff and providing quality care to patients. The results of the present study, conducted nearly two decades after Noelker et al.’s (2006) study, support their findings and demonstrate how impactful negative employee perceptions of job satisfaction, work environment, engagement, and motivation are on an employee’s turnover intention.

Managers must adapt their leadership styles to draw out the best performances from their employees to achieve organizational goals (Waters, 2021). Long-term care organizations should continually reevaluate their operational processes and augment them to better serve their stakeholders and maintain their competitive advantage (Waters, 2021). The results of this study can be used to retain CNAs and reduce organizational costs, thus positively influencing patient care. This study’s findings are pertinent to improving the general business practices of long-term care facilities by arming healthcare leaders with the requisite knowledge needed to better comprehend the factors influencing CNA turnover intention.

**Potential Application Strategies**

The statistically significant negative relationships between turnover intention and employee compensation, engagement, job satisfaction, motivation, perceived work stress during the COVID-19 pandemic, and work environment indicate that substantial changes in the
management of long-term care facilities are needed. Long-term care organizational administrators can use the results of this study to develop effective measures to mitigate the negative impacts of turnover by addressing the factors represented by the predictor variables of this study. Emphasis should be placed on developing servant leaders who can foster a positive work environment and increase employee engagement and motivation. Other potentially constructive measures include implementing executive coaching practices and offering alternative methods of compensation.

Based upon her conversations with 75 nursing leaders currently practicing in various aspects of the healthcare system, O’Brien (2011) contended that a true leader, in any organization, must be a servant to those they lead. Kumar (2010) echoed this belief, holding up Jesus Christ as the ideal servant leader and asserting that nurse leaders in healthcare should adapt a biblical worldview and emulate the characteristics of courage, discipline, and love, as Jesus showed mankind. As healthcare leaders, nurses can implement a servant leadership model that embraces their Christian faith, emulates Jesus, the perfect servant leader, while maintaining their professionalism (Dameron, 2016). This research study found a statistically significant relationship exists between employee turnover intention and both engagement and work environment. Long-term care leaders could seek to address the negative outcomes that result from this correlation by nurturing the development of servant nursing leaders who inspire their CNA colleagues and increase their sense of engagement and their perceptions of their work environment, thus reducing their turnover intention.

Despite little training in leadership or management, healthcare physicians are consistently stepping out of practice and into administration (Berridge et al., 2018). Unsurprisingly, Neitlich (2018) points out that many of these practitioners turned administrators have blind spots that
hinder their performance as managers, which often frustrates their colleagues, including CNAs, and hurts productivity. Accordingly, executive coaching is a tool that can be used to help healthcare leaders become aware of their individual strengths and weaknesses, better understand how they interact with others, and make changes that will allow them to improve their ability to work with others in a way that promotes efficiency and increases productivity (Neitlich, 2018). Hunt (2017) believes that executive coaches should be patient and mature, show empathy in their dealings with others, tolerate and learn from mistakes, show a need for less control, and avoid trying to ‘fix’ people. These values are not only vital for the coaches but can serve as examples for the coachees to emulate, thus promoting a culture of change in the healthcare industry that is desperately needed (Woods, 2016). Hompe (2019) noted that nurse manager executive coaching can help them to become competent leaders who foster cultures of innovation and collaboration, thus increasing engagement and job satisfaction amongst their CNA staff. The results of the current study show that there is a statistically significant correlation between turnover intention and both job satisfaction and engagement. As such, the findings of this study support the application of strategies that can improve motivation and job satisfaction, such as executive coaching techniques.

The finding of a statistically negative correlation between compensation and turnover intention indicates that CNAs are dissatisfied with their current levels of compensation. One potential application strategy related to this finding would be for long-term care leaders to offer alternative methods of compensation to CNAs. While funding may prohibit organizations from offering higher salaries, organizations can look to offer CNAs additional training or certification, institute new specialization or skills training, and look to partner with local non-profits who may be able to assist with developing tuition reimbursement programs.
The findings of this study indicated a negative correlation between perceived work stress related to working during the COVID-19 pandemic and employee turnover intention. Participants also collectively reported lower than neutral scores with regards to stress related to the pandemic, indicating they weren’t overly concerned about the pandemic at this stage. Accordingly, long-term care leaders should focus their efforts on developing application strategies related to addressing the other predictor variables of this study, such as those outlined above.

**Summary of Application to Professional Practice**

The findings of this research study have contributed to the existing body of knowledge associated with the factors that influence turnover intention amongst CNAs working in the long-term care facility industry. The results of the study determined that employee compensation, engagement, job satisfaction, motivation, perceived work stress during the COVID-19 pandemic, and work environment all have statistically significant negative relationships with turnover intention. Turnover impacts the quality of care delivered and affects organizations financially. The results of the study revealed that it is fundamental that organizations take preventative actions and devise retention strategies that reduce turnover intention and enable long-term care facilities to meet the ever-growing demand for their services.

**Recommendations for Further Study**

The review of the academic literature revealed a lack of research that specifically addresses the retention strategies aimed at increasing the organizational commitment of CNAs and reducing their turnover intention. Furthermore, little research has been conducted regarding the full impact of the COVID-19 pandemic on CNA turnover intention. The results of this study indicate a negative correlation between work stress related to the COVID-19 pandemic and
healthcare employee turnover intention. These findings are discordant with the current academic literature. As such, future researchers could investigate the extent to which work stress related to the pandemic has dwindled over time or varies depending on the geographic location of the healthcare employee.

Further research can also continue to contribute to the existing body of knowledge surrounding the extent to which the predictor variables of this study contribute to CNA turnover individually. The findings of the present study determined that employee motivation is significantly correlated to CNA turnover intention. While little research has directly focused on CNA motivation, Bryant (2017) found that motivation was not significantly correlated to turnover intention, but Kittles (2021) did find it to be significantly correlated to turnover. Given the mixed results and small amount of research conducted on the subject thus far, opportunities exist to further explore the influence of motivation on CNA turnover intentions.

Although the present study involved quantitative research, future researchers could employ qualitative research methods to explore the reasons why CNAs choose to remain in low paying jobs despite being dissatisfied with their compensation. Such a qualitative study could investigate the impact intrinsic motivators have on retention or examine the influence of extrinsic factors, such as team engagement, on a CNA's turnover intention. Moreover, future researchers could examine each of the predictors of the present study using a qualitative research method to elaborate on the impact of CNA turnover intention by humanizing this vital workforce in a way that a quantitative study cannot.

Additionally, further research could be conducted to examine the differences in the relationships between the factors motivating CNA turnover intention based on their age, gender, and ethnicity. Incorporating additional demographic characteristics, such as the years of
experience or level of education, could also benefit long-term care facility leaders in developing more targeted retention strategies. Finally, future research could repeat the current study, but with a focus on another healthcare employee grouping, such as registered nurses or physician aids, so that comparisons can be done between the differences in the concerns between types of healthcare employees with the same demographic characteristics.

Reflections

My interest in understanding CNA turnover in the long-term care industry stemmed from my childhood memories of my mother working as a CNA, while also taking care of me as a single mother and going to school to become the nurse that she has been for over twenty years. Her perseverance in a difficult field while also juggling raising a young child and going to school has been an inspiration to me all my life. My recollections of my mother’s struggles at work, coupled with her passion to help people and drive to better herself, lead to my own pursuit of both a career in healthcare and the Doctor of Business Administration degree. The stories my mother would tell me of being a CNA and how the position was often undervalued by others, inspired me to undertake this research study. In turn, conducting this study has provided me with personal and professional growth, as well as enhanced my biblical perspective.

Personal & Professional Growth

The initial thought of taking on the task of a quantitative research study was both thrilling and frightening. The transition from being a student to a doctoral candidate, from a consumer of research to a producer of it, was new and exciting. Yet the fear of the unknown was also prevalent, and I was unsure of how I would be able to tackle such a challenge. Conducting this research project has provided me with a personal growth experience that I do not feel would have been attainable elsewhere. While I always dreamed of pursuing a doctoral degree, I always had a
nagging doubt that I would not be able to finish it. Now that the study has been finished, I realize I am capable of anything I set my mind to. As far as personal growth goes, the experience of conducting this study and finishing the doctoral degree in general has been unlike anything else I have ever done.

Having served in various leadership roles over the past decade with for-profit organizations, I have had to address the detrimental impacts of high turnover, but it was an enlightening experience to generate findings that supported the intuitive beliefs that had been developed through practice. With regards to professional growth, conducting this research study has enabled me to view work processes through more of an analytical lens and see the areas of opportunity that exist for change agents to make a difference. Moreover, it was my employer who first suggested I pursue the doctoral degree and my company has been generous enough to pay my tuition during the course of the degree. The knowledge obtained during this program and the experience of becoming a producer of research has made me a better leader in my workplace. The fact that my employer has supported me throughout this journey confirms that they believe so as well.

All but one of the outcomes of this research study were intuitively expected when the research began. From my professional experience, I anticipated that compensation, engagement, job satisfaction, motivation, perceived stress related to working during the COVID-19 pandemic, and work environment would all be highly correlated with turnover intention. While the findings of this study did confirm each factor is significantly correlated with turnover intention, I had expected that more perceived work stress related to COVID-19 would lead to greater turnover intention. The results of this research found the opposite, those participants who reported greater stress specifically related to the pandemic also reported lower turnover intention. Possible
explanations for this finding were discussed in the presentation of the results section, but this finding was relevant to both my personal and professional growth. Entering the study, I had certain assumptions of what the end results would be. To have those assumptions challenged by the data forced me to consider new perspectives and positions. Having expectations of what an end goal, be it personal or professional, might look like is fine, so long as one keeps an open mind when those expectations are challenged and responds accordingly. The fact that the data was wholly congruent with my initial assumptions has fostered personal and professional growth and will serve to help me accept future challenges in life, whatever they might be.

**Biblical Perspective**

An integrative process is one that brings two or more things together so that each informs and interconnects with the other. Faith integration, therefore, is the discovery and reflection of the correlation between Christian faith and various academic disciplines, professional programs, and lived experiences (Dulaney et al., 2015). In Romans 12, Paul the Apostle models the integration of faith and learning by linking the theology of God’s mercy, developed in Romans 1-11, with a mindset of transformation. Paul states: “Do not conform to the pattern of this world, but be transformed by the renewing of your mind. Then you will be able to test and approve what God’s will is—his good, pleasing and perfect will” (Romans 12:2, New International Version). As Paul demonstrates, integrating faith and learning results in a psychological transformation that not only impacts the way a person absorbs knowledge, but the way research is conducted, and work performed.

Pearcey (2008) encourages readers to strive to view society through a distinctly Christian lens. In doing so, we must seek to be honest and ethical and behave in a way that is in alignment with our faith. Many authors have noted that everything we do as Christians is a reflection of
God's work in us, and a way to worship and glorify Him (Keller & Alsdorf, 2016; Sayers, 1949; Sherman & Hendricks, 1987; Tozer, 1993; Warren, 2002). One of the fundamental principles of both the Old and New Testament is serving others. Through service to others and caring for our neighbors, we are reflecting God’s work in us. Leviticus establishes the importance of taking responsibility for our neighbor and hired workers (Leviticus 19:13, New International Version). Paul goes on to instruct us that we must contribute to the needs of those who are weak among us (Romans 15:1, New International Version), furthering the command to love one another (John 15:12, New International Version).

This research study focused on the employee turnover of CNAs in long-term care facilities. CNAs are the primary care givers in the long-term care industry, thus having a direct impact on the quality of care and patient health outcomes (Antwi & Bowblis, 2018; Thomas et al., 2013). Because they are the primary care givers, CNAs exhibit the Christian responsibility to serve and provide for our neighbors in their everyday work life. Any factors that increase CNA employee turnover, therefore, are contradictory to the realization of this Christian principle. Consequently, my research aimed to address these factors so as to arm long-term care business leaders with the requisite knowledge needed to reduce turnover and increase employee retention. In doing so, my research may assist leaders in ensuring the success of their organizations so that they can continue to better serve their communities.

To ensure that I succeeded in serving others through my research, I conducted it through a Christian lens, constantly evaluating my positions and personal biases so that the research was conducted honestly, ethically, and objectively (Keller & Alsdorf, 2016). Coryn defines research as a truth-seeking activity, conducted by individuals with a high level of proficiency or expertise, which contributes to knowledge (2006). Research is characterized by reflective thinking, a
thorough review of the literature on the topic being discussed, and adherence to formalized procedures and protocols. By virtue of the fact that God has given mankind the ability to think, learn, and act, we can clearly discern that God endorses research, which requires critical thinking, learning, and acting (Davis, 2007). With God’s endorsement of research in general, we as researchers must strive to consider assumptions, analyze implications, and compare/contrast concepts.

In any research study, Christian researchers should be motivated by the value of excellence. Excellence is achieved when the researcher exerts every effort to utilize the most appropriate and accurate resources to conduct a research study (Davis, 2007). Ecclesiastes 9:10 directs us to do all things to the best of our ability, while Corinthians 10:31 instructs us to do all things for the glory of God (New International Version). Consequently, the Christian researcher pursues excellence in the design and execution of the study. By exerting my best efforts when I conducted this study, my findings may enable LTC leaders to enact changes and implement strategies that will enable them to reduce CNA turnover intention and increase employee retention. If so, there will undoubtedly be a positive impact on patient health outcomes which not only serves local communities but serves as an example of the glory of God.

Summary of Reflections

The doctoral journey has been an unrivaled experience that has fulfilled a childhood dream. My mother was the first in our family to go to college, and I was the first to complete a bachelor’s degree and the first to receive their masters. To go from being a young child watching my mother strive to make ends meet while working as a CNA, to now conducting my own research into CNA turnover has been such an enlightening experience. It has been a pleasure to investigate factors that influence turnover intention knowing that the research may help improve
the lives of those who are struggling like my mother once did. Conducting this research study provided numerous opportunities to evaluate the turnover intention of healthcare professionals through both a business lens and a Christian worldview. These evaluations have led to both personal and professional growth, as well as to aid me in bettering informing my own biblical perspective.

**Summary of Section 3**

Section 3 provided a discussion of the study findings, an evaluation of the study’s application to professional practice, and the researcher’s reflections. The section began with a concise overview of the study followed by a presentation of the findings, which included a description of the response rate and data screening process, an analysis of the data, and an examination of the findings in relation to the research questions, theoretical framework, academic literature, and the research problem. Next, this section surveyed applications to the professional practice and provided recommendations for further study. The section closed with reflections on the researcher’s personal and professional growth, and a discussion on how the study’s findings relate to and integrate with a Christian worldview.

**Summary and Study Conclusions**

Employee turnover is problematic for organizational leaders in all industries due to the high costs in replacement, hiring, training, and the loss of institutional knowledge they incur (Akinyemi et al., 2022; Kurnat-Thoma et al., 2017; Reukauf, 2018; Shanks, 2020). In the long-term care industry, facilities are significantly impacted by high CNA turnover rates (Caspar et al., 2020). CNAs are the primary caregivers in long-term care facilities, providing roughly 80% of the daily direct care (Loomer et al., 2021). Consequently, numerous costs are associated with their turnover, including employee replacement costs, loss of productivity, reduced quality of
care, reduction in staff and patient morale, increased work stress, and resident dissatisfaction (Gandhi et al., 2021; Gracieux, 2021; Kittles, 2021). The purpose of this quantitative correlation study was to examine the relationships between the criterion variable of turnover intention and six identified predictor variables: employee compensation, engagement, job satisfaction, motivation, perceived work stress during the COVID-19 pandemic, and work environment. The study utilized a Likert-type scale to determine if there were statistically significant relationships between the predictor variables and the criterion variable.

The results of the 392 completed surveys for CNAs working in central Texas long-term care facilities served as the statistical basis for this study. Descriptive and inferential statistics, including multiple linear regression and Spearman’s rho, were applied to test the six hypotheses of this study. Findings from this study indicate statistically significant relationships between turnover intention and employee compensation, engagement, job satisfaction, motivation, perceived work stress during the COVID-19 pandemic, and work environment. The results of this study were consistent with prior research conducted on turnover intention in other industries, with the exception of perceived work stress during the COVID-19 pandemic. Previous research has concluded that greater the perceived work stress related to COVID-19 resulted in greater turnover intention. However, this discordant finding may be related to the geographic location of the study’s participants or the point during the pandemic at which the study was conducted.

Herzberg’s motivation-hygiene theory represented the theoretical framework for this study and supported the rejection of all six null hypotheses tested. The findings from this study may encourage long-term care facility leaders to enact appropriate measures aimed at reducing employee turnover by addressing the factors reviewed in this research. The results of this study advance the body of knowledge concerning the factors that influence turnover intention. The
conclusions drawn from the results help to close the gap in the existing body of literature regarding CNA turnover intentions. Future researchers can further explore ways to reduce turnover intention amongst CNAs by using the relationships found in this study as a starting point. If the findings of this study contribute in any way to decreasing the turnover intentions of this vital healthcare staff, this research endeavor will have been a success and contributed to God’s plan for us to help one another.
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https://doi.org/10.1080/03610918.2011.582560


https://doi.org/10.1016/j.wneu.2022.01.006


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Appendix A: Request and Permission to use Work Environment Scale

From: Jan Ivar Røssberg  
Sent: Tuesday, July 27, 2021 3:59 AM  
To: Gregory, Michael Leroy  
Subject: [External] Re: Request for permission to use the Work Environment Scale (WES)

Dear Gregory,

You are welcome to use the WES-10 in your project.
Good luck with your project.

Best,
Jan Ivar

From: Gregory, Michael Leroy  
Sent: 26 July 2021 15:11  
To: Jan Ivar Røssberg  
Subject: Request for permission to use the Work Environment Scale (WES)

Hello Dr. Rossberg and Dr. Friis,

I am a doctoral student at Liberty University pursuing a Doctor of Business Administration in Healthcare Management degree. My dissertation is tentatively named: “CNA Turnover in the Long-Term Care Facility Industry.” I am writing to request your permission to use and reproduce in my study the entirety (or a variation) of the instrument from the following study: “Work environment and job satisfaction. A psychometric evaluation of the Working Environment Scale-10”. I am requesting to use and reproduce this instrument under the following conditions: I will use this survey only for my research study and will not sell or use it with any compensated management or curriculum development activities. I will send a copy of my doctoral research study that utilizes this instrument promptly to your attention upon final approval.

If you find these terms and conditions acceptable, please indicate so by emailing a written approval by replying to this email and giving the written consent of the use of your research instrument.

Many thanks,
Michael Gregory, MBA, PMP, PMI-PBA  
Doctoral Student, Doctor of Business Administration  
Liberty University

*Disclaimer: The above emails are presented in their original forms from the senders*
Appendix B: Work Environment Scale

Consider the statements below in relation to your view of the work environment within your organization. Select the corresponding number that matches the extent to which you feel that you perceive each of the following statements:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all</td>
<td>To a small extent</td>
<td>To some extent</td>
<td>To a large extent</td>
<td>To a very large extent</td>
</tr>
</tbody>
</table>

1. Does what you do on the job give you a chance to see how good your abilities really are? (self-realization)
2. Does what you do on the job help you to have more confidence in yourself? (self-realization)
3. To what extent do you feel nervous or tense on the job? (nervousness)
4. To what extent do you find that you can use yourself, your knowledge and experience in the work here on the job? (self-realization)
5. To what extent do you find that the patient treatment is complicated by conflicts among the staff members? (conflict)
6. To what extent do you find that it can be difficult to reconcile loyalty towards your team with loyalty towards your own profession? (conflict)

   1  2  3  4  5
   Very often  Often  Occasionally  Rarely  Never

7. How often does it happen that you are worried about going to work? (nervousness)

8. To what extent do you feel that you get the support you need, when you are faced with difficult job problems? (self-realization)

9. How often does it happen that you have a feeling that you should have been at several places at the same time? (workload)

   1  2  3  4  5
   Far too few  Too few  Sufficient  Too many  Far too many

10. What do you think about the numbers of tasks imposed on you? (workload)

Appendix C: Permission to use the Utrecht Work Engagement Scale

© Schaufeli & Bakker (2003). The Utrecht Work Engagement Scale is free for use for non-commercial scientific research. Commercial and/or non-scientific use is prohibited unless previous written permission is granted by the authors.
Appendix D: Utrecht Work Engagement Scale

Consider the statements below in relation to your view of how you feel at work. Select the corresponding number that matches the extent to which you feel that you perceive each of the following statements:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>A few times</td>
<td>Once a</td>
<td>A few times</td>
<td>Once a</td>
<td>A few times</td>
<td>Every day</td>
</tr>
<tr>
<td></td>
<td>a year or</td>
<td>month or</td>
<td>a month</td>
<td>week</td>
<td>times a week</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. At my work, I feel bursting with energy (vigor)
2. I find the work that I do full of meaning and purpose (dedication)
3. Time flies when I'm working (absorption)
4. At my job, I feel strong and vigorous (vigor)
5. I am enthusiastic about my job (dedication)
6. When I am working, I forget everything else around me (absorption)
7. My job inspires me (dedication)
8. When I get up in the morning, I feel like going to work (vigor)
9. I feel happy when I am working intensely (absorption)
10. I am proud of the work that I do (dedication)
11. I am immersed in my work (absorption)
12. I can continue working for very long periods at a time (vigor)
13. To me, my job is challenging (dedication)
14. I get carried away when I’m working (absorption)
15. At my job, I am very resilient, mentally (vigor)

16. It is difficult to detach myself from my job (absorption)

17. At my work I always persevere, even when things do not go well (vigor)

Appendix E: Request and Permission to use Work Extrinsic and Intrinsic Motivation Scale

From: Luc Pelletier  
Sent: Monday, July 26, 2021 8:42 AM  
To: Gregory, Michael Leroy  
Subject: [External] Re: Request to use WEIMS

Dear Michael,

You have my permission to use the WEIMS.
Best of luck with your research.

Luc G. Pelletier, Ph.D.

From: Gregory, Michael Leroy  
Sent: 26 July 2021 09:25  
To: Luc Pelletier  
Subject: Request to use WEIMS

Hello Dr. Luc Pelletier,

I am a doctoral student at Liberty University pursuing a Doctor of Business Administration in Healthcare Management degree. My dissertation is tentatively named: “CNA Turnover in the Long-Term Care Facility Industry.” I am writing to request your permission to use and reproduce in my study the entirety (or a variation) of the instrument from the following study: “Work Extrinsic and Intrinsic Motivation Scale: It’s Value for Organizational Psychology Research”. I am requesting to use and reproduce this instrument under the following conditions: I will use this survey only for my research study and will not sell or use it with any compensated management or curriculum development activities. I will send a copy of my doctoral research study that utilizes this instrument promptly to your attention upon final approval.

If you find these terms and conditions acceptable, please indicate so by emailing a written approval by replying to this email and giving the written consent of the use of your research instrument.

Many thanks,
Michael Gregory, MBA, PMP, PMI-PBA  
Doctoral Student, Doctor of Business Administration  
Liberty University

*Disclaimer: The above emails are presented in their original forms from the senders*
Appendix F: Work Extrinsic and Intrinsic Motivation Scale

Consider the statements below in relation to your view of employee motivation within your organization. Select the corresponding number that matches to what extent each of the following items corresponds to the reasons why you are presently involved in your work:

1. Because this is the type of work I chose to do to attain a certain lifestyle. (identified regulation)
2. For the income it provides me. (external regulation)
3. I ask myself this question, I don’t seem to be able to manage the important tasks related to this work. (amotivation)
4. Because I derive much pleasure from learning new things. (intrinsic motivation)
5. Because it has become a fundamental part of who I am. (integrated regulation)
6. Because I want to succeed at this job, if not I would be very ashamed of myself. (introjected regulation)
7. Because I chose this type of work to attain my career goals. (identified regulation)
8. For the satisfaction I experience from taking on interesting challenges. (intrinsic motivation)
9. Because it allows me to earn money. (external regulation)
10. Because it is part of the way in which I have chosen to live my life. (integrated regulation)
11. Because I want to be very good at this work, otherwise I would be very disappointed. (introjected regulation)
12. I don’t know why we are provided with unrealistic working conditions. (amotivation)

13. Because I want to be a “winner” in life. (introjected regulation)

14. Because it is the type of work I have chosen to attain certain important objectives. (identified regulation)

15. For the satisfaction I experience when I am successful at doing difficult tasks. (intrinsic motivation)

16. Because this type of work provides me with security. (external regulation)

17. I don’t know, too much is expected of us. (amotivation)

18. Because this job is a part of my life. (integrated regulation)

Note. Adapted from “Work Extrinsic and Intrinsic Motivation Scale: It’s Value for Organizational Psychology Research.” By M. A. Tremblay, C. M. Blanchard, S. Taylor, L. G. Pelletier, & M. Villeneuve, Canadian Journal of Behavioral Sciences, 41, 226. Copyright 2009 by Canadian Journal of Behavioral Sciences; reprinted with permission (see Appendix E).
Appendix G: Request and Permission to use Job Satisfaction Scale

From: Paul Spector  
Sent: Monday, July 26, 2021 8:58 AM  
To: Gregory, Michael Leroy  
Subject: [External] RE: Request to use JSS instrument

Dear Michael:

You have my permission to use the original JSS in your research. You can find copies of the scale in the original English and several other languages, as well as details about the scale's development and norms, in the Paul’s No Cost Assessments section of my website: https://paulspector.com. I allow free use for noncommercial research and teaching purposes in return for sharing of results. This includes student theses and dissertations, as well as other student research projects. Copies of the scale can be reproduced in a thesis or dissertation as long as the copyright notice is included, "Copyright Paul E. Spector 1994, All rights reserved." Results can be shared by providing an e-copy of a published or unpublished research report (e.g., a dissertation). You also have permission to translate the JSS into another language under the same conditions in addition to sharing a copy of the translation with me. Be sure to include the copyright statement, as well as credit the person who did the translation with the year.

The JSS-2 is an improved commercial version for which there is a fee.

For additional assessment resources including an archive of measures developed by others, check out the assessment section of my website for organizational measures https://paulspector.com/assessments/ and my companion site for general and mental health measures: https://www.stevenericspector.com/mental-health-assessment-archive/

Thank you for your interest in the JSS, and good luck with your research.

Best,
Paul Spector, PhD

From: Gregory, Michael Leroy  
Sent: Monday, July 26, 2021 9:35 AM  
To: Paul Spector  
Subject: Request to use JSS instrument

Hello Dr. Spector,

I am a doctoral student at Liberty University pursuing a Doctor of Business Administration in Healthcare Management degree. My dissertation is tentatively named: “CNA Turnover in the Long-Term Care Facility Industry.” I am writing to request your permission to use and reproduce in my study the entirety (or a variation) of the instrument from the following study: “Measurement of Human service Staff Satisfaction: Development of the Job satisfaction Survey”. I am requesting to use and reproduce this instrument under the following conditions: I will use this survey only for my research study and will not sell or use it with any compensated
management or curriculum development activities. I will send a copy of my doctoral research study that utilizes this instrument promptly to your attention upon final approval.

If you find these terms and conditions acceptable, please indicate so by emailing a written approval by replying to this email and giving the written consent of the use of your research instrument.

Many thanks,
Michael Gregory, MBA, PMP, PMI-PBA
Doctoral Student, Doctor of Business Administration
Liberty University

*Disclaimer: The above emails are presented in their original forms from the senders
Appendix H: Job Satisfaction Scale

Consider the statements below in relation to your view of job satisfaction within your organization. Select the corresponding number that matches the extent to which you feel that you perceive each of the following statements:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagree very much</td>
<td>Disagree moderately</td>
<td>Disagree slightly</td>
<td>Agree slightly</td>
<td>Agree moderately</td>
<td>Agree very much</td>
</tr>
</tbody>
</table>

1. I feel I am being paid a fair amount for the work I do.
2. There is really too little chance for promotion on my job.
3. My supervisor is quite competent in doing his/her job.
4. I am not satisfied with the benefits I receive.
5. When I do a good job, I receive the recognition for it that I should receive.
6. Many of our rules and procedures make doing a good job difficult.
7. I like the people I work with.
8. I sometimes feel my job is meaningless.
9. Communications seems good within this organization.
10. Raises are too few and far between.
11. Those who do well on the job stand a fair chance of being promoted.
12. My supervisor is unfair to me.
13. The benefits we receive are as good as most other organizations offer.
14. I do not feel that the work I do is appreciated.
15. My efforts to do a good job are seldom blocked by red tape.
16. I find I have to work harder at my job because of the incompetence of people I work with.
17. I like doing the things I do at work.
18. The goals of this organization are not clear to me.
19. I feel unappreciated by the organization when I think about what they pay me.
20. People get ahead as fast here as they do in other places.
21. My supervisor shows too little interest in the feelings of subordinates.
22. The benefit package we have is equitable.
23. There are few rewards for those who work here.
24. I have too much to do at work.
25. I enjoy my coworkers.
26. I often feel that I do not know what is going on with the organization.
27. I feel a sense of pride in doing my job.
28. I feel satisfied with my chances for salary increases.
29. There are benefits we do not have which we should have.
30. I like my supervisor.
31. I have too much paperwork.
32. I don't feel my efforts are rewarded the way they should be.
33. I am satisfied with my chances for promotion.
34. There is too much bickering and fighting at work.
35. My job is enjoyable.
36. Work assignments are not fully explained.

Appendix I: Request and Permission to use Compensation Scale

From: Rebecca Dei Mensah  
Sent: Wednesday, July 28, 2021 7:32 PM  
To: Gregory, Michael Leroy  
Subject: [External] Re: Request to use Compensation Scale instrument

Dear Michael

Thanks for your email. Yes I grant you permission to use my instrument for your work. I hope you will abide by all the terms you have stated.

I wish you all the best in your PhD work.

Best regards  
Becky

From: Gregory, Michael Leroy  
Sent: Monday, July 26, 2021 8:53 AM  
To: Rebecca Dei Mensah  
Subject: Request to use Compensation Scale instrument

Hello Dr. Rebecca Dei Mensah,

I am a doctoral student at Liberty University pursuing a Doctor of Business Administration in Healthcare Management degree. My dissertation is tentatively named: “CNA Turnover in the Long-Term Care Facility Industry.” I am writing to request your permission to use and reproduce in my study the entirety (or a variation) of the instrument from the following study: “Effects of Human Resources Management Practices on Retention of Employees in The Banking Industry in Accra, Ghana”. I am requesting to use and reproduce this instrument under the following conditions: I will use this survey only for my research study and will not sell or use it with any compensated management or curriculum development activities. I will send a copy of my doctoral research study that utilizes this instrument promptly to your attention upon final approval.

If you find these terms and conditions acceptable, please indicate so by emailing a written approval by replying to this email and giving the written consent of the use of your research instrument.

Many thanks,
Michael Gregory, MBA, PMP, PMI-PBA  
Doctoral Student, Doctor of Business Administration  
Liberty University

*Disclaimer: The above emails are presented in their original forms from the senders
Appendix J: Compensation Scale

Consider the statements below in relation to your view of compensation within your organization. Select the corresponding number that matches the extent to which you feel that you perceive each of the following statements:

<p>| | | | | |</p>
<table>
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<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither agree nor disagree</td>
<td>Agree</td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

1. I earn more than others who occupy similar positions in other health care facilities.
2. The non-monetary benefits, such as paid time off and health insurance, which I receive here are better than those I could get at other health care facilities.
3. People who are hardworking and results-oriented are praised and rewarded in the organization.
4. The salary and benefits I receive in this organization are appropriate for my responsibilities.
5. Compensation is satisfactorily reviewed from time to time.
Appendix K: Request and Permission to the Brief Illness Perception Questionnaire

From: Elizabeth Broadbent  
Sent: Wednesday, July 28, 2021 7:32 PM  
To: Gregory, Michael Leroy

Dear Michael
Yes you may use the Brief IPQ for your study. Please cite the Brief IPQ paper attached in any publications from your work.
Kind regards
Liz

From: Gregory, Michael Leroy  
Sent: Tuesday, August 3, 2021 10:27 AM  
To: Elizabeth Broadbent  
Subject: Request to use BIP-Q scale

Hello Dr. Broadbent,

I am a doctoral student at Liberty University pursuing a Doctor of Business Administration in Healthcare Management degree. My dissertation is tentatively named: “CNA Turnover in the Long-Term Care Facility Industry.” I am writing to request your permission to use and reproduce in my study the entirety (or a variation) of the instrument from the following study: “The brief illness perception questionnaire”. I am requesting to use and reproduce this instrument under the following conditions: I will use this survey only for my research study and will not sell or use it with any compensated management or curriculum development activities. I will send a copy of my doctoral research study that utilizes this instrument promptly to your attention upon final approval.

If you find these terms and conditions acceptable, please indicate so by emailing a written approval by replying to this email and giving the written consent of the use of your research instrument.

Many thanks,
Michael Gregory, MBA, PMP, PMI-PBA  
Doctoral Student, Doctor of Business Administration  
Liberty University
Appendix L: The Brief Illness Perception Scale

Consider the statements below in relation to your view of illness perception within your organization. Select the corresponding number that matches the extent to which you feel that you perceive each of the following statements:

<table>
<thead>
<tr>
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<th>1</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>No</td>
<td>Severely affects</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>affect</td>
<td>affects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>at all</td>
<td>my life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</table>

1. How much does COVID-19 affect your life?

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A very short time</td>
<td>Forever</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</table>

2. How long do you think COVID-19 will continue?

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Absolutely no control</td>
<td>Extreme amount of control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. How much control do you feel you have over protecting yourself from becoming infected by COVID-19?

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>Extremely helpful</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. How much do you think existing treatments help patients with COVID-19?

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>No symptoms at all</td>
<td>Many severe symptoms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. How much do you believe most infected patients experience symptoms from COVID-19?

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all concerned</td>
<td>Extremely concerned</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6. How concerned are you about COVID-19?

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don’t understand at all</td>
<td>Understand very clearly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. How well do you feel you understand COVID-19?

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all affected emotionally</td>
<td>Extremely affected emotionally</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. How much does COVID-19 affect you emotionally (e.g., does it make you angry, scared, upset, or depressed?)?
Appendix M: Request and Permission to use Stress of Caring for Highly Infectious Disease Patients Scale

From: 莊寶玉
Sent: Thursday, August 5, 2021 4:23 AM
To: Gregory, Michael Leroy
Subject: [External] FW: Request permission to use Stress Scale

Dear Michael Gregory:

It is our pleasure that the tool "Stress Scale of Caring for Highly Infectious Disease Patients among Health Care Workers Based on SARS"is emphasized and will be applied widely. We are pleased that you would translate to your language, however, the original scale is in Chinese. The questionnaire is embedded in the article. Please make sure the reliability and validity of English edition.

Yours sincerely
Pao-Yu (Karen) Chuang,
Supervisor, Department of Nursing,
Deputy director, center of Quality Management
National Taiwan University Hospital

From: Gregory, Michael Leroy
Sent: Friday, July 30, 2021 9:55 PM
To: Meei-Fang Lou
Subject: Request permission to use Stress Scale

Hello Dr. Meei-Fang Lou,

I am a doctoral student at Liberty University pursuing a Doctor of Business Administration in Healthcare Management degree. My dissertation is tentatively named: “CNA Turnover in the Long-Term Care Facility Industry.” I am writing to request your permission to use and reproduce in my study the entirety (or a variation) of the instrument from the following study: “Psychometric evaluation of the stress scale of caring for highly infectious disease patients among health care workers - Based on SARS”. I am requesting to use and reproduce this instrument under the following conditions: I will use this survey only for my research study and will not sell or use it with any compensated management or curriculum development activities. I will send a copy of my doctoral research study that utilizes this instrument promptly to your attention upon final approval. If you find these terms and conditions acceptable, please indicate so by emailing a written approval by replying to this email and giving the written consent of the use of your research instrument.

Many thanks,
Michael Gregory, MBA, PMP, PMI-PBA
Doctoral Student, Doctor of Business Administration
Liberty University
*Disclaimer: The above emails are presented in their original forms from the senders
### Appendix N: Stress of Caring for Highly Infectious Disease Patients Scale

Consider the statements below in relation to your view of caring for highly infectious disease patients within your organization. Select the corresponding number that matches the extent to which you feel stress related to each of the following statements:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No stress at all</td>
<td>About the same</td>
<td>Slightly more severe than usual</td>
<td>More severe stress than usual</td>
</tr>
<tr>
<td></td>
<td>stress as usual</td>
<td>stress as usual</td>
<td>stress than usual</td>
<td>than usual</td>
</tr>
</tbody>
</table>

1. Caring for patients experiencing suspected COVID-19 symptoms, such as a cold, increased body temperature, and diarrhea (fear of social isolation).
2. Fear of being quarantined (fear of social isolation).
3. Restriction on socializing and activities (fear of social isolation).
4. Fear of passing on COVID-19 to relatives and friends (fear of social isolation).
5. Fear of being separated from my family and not being able to see my children and family (fear of social isolation).
6. Inconvenience of taking care of children or family members while feeling sick (fear of social isolation).
7. Discrimination against me or my family by others (fear of social isolation).
8. No suitable place to live after work (fear of social isolation).
9. Not supported by relatives and friends, such as being asked to refuse to care for COVID-19 patients or resign (fear of social isolation).
10. Not daring to talk about work in public places (fear of social isolation).
11. Feeling breathless with an N95 or P100 face mask (discomfort caused by protective equipment).

12. Uncomfortable and inflexible in protective equipment (discomfort caused by protective equipment).

13. Impaired vision when wearing protective masks or face shields (discomfort caused by protective equipment).

14. Communication barriers due to protective equipment (discomfort caused by protective equipment).

15. Inconvenient to use the toilet at work (discomfort caused by protective equipment).

16. Restrictions on eating and drinking at work (discomfort caused by protective equipment).

17. Facial skin irritation and bruises due to wearing face masks (discomfort caused by protective equipment).

18. Rough and cracked hands due to frequent hand washing and disinfectant use (discomfort caused by protective equipment).

19. Fear of being infected (difficulties and anxieties related to infection control).

20. Insufficient knowledge of emerging infectious diseases (difficulties and anxieties related to infection control).

21. Worried about the adequacy and safety of existing protective measures (difficulties and anxieties related to infection control).

22. Failing to quickly adapt to the frequently-changing containment measures and other related information (difficulties and anxieties related to infection control).

23. Technical immaturity of protective measures (difficulties and anxieties related to infection control).
24. Inadequate protective equipment [e.g., masks and protective clothing out of stock]
   (difficulties and anxieties related to infection control).

25. Taking care of patients is the responsibility of healthcare workers and they should not refuse
to do so (difficulties and anxieties related to infection control).

26. Inability to deal with patients' problems immediately as it is time-consuming to wear
   protective equipment (burden of caring for patients).

27. Limited number of staff allowed access to the isolation room and thus inability to obtain
   adequate assistance (burden of caring for patients).

28. Feeling overburdened with work (burden of caring for patients).

29. Fear of patient deterioration or death (burden of caring for patients).

30. Lack of patients' cooperation with medical treatment, such as trying to self-extubate or
   resisting care (burden of caring for patients).

31. Worried about not being able to deal with the psychological/emotional problems of patients
   and their families (burden of caring for patients).

32. Ethical dilemma as humanitarian visitation is banned due to quarantine measures (burden of
caring for patients).
Appendix O: Request and Permission to use Turnover Intention Scale

From: Gert Roodt  
Sent: Wednesday, July 28, 2021 7:03 AM  
To: Gregory, Michael Leroy  
Subject: [External] RE: Request to use TIS-6 instrument

Dear Michael,

You are welcome to use the TIS for your research (please accept this e-mail as the formal permission letter). For this purpose please find the TIS-15 attached for your convenience. This TIS-6 (version 4) consists of the first six items high-lighted in yellow. You may use any one of these two versions. The TIS is based on the Theory of Planned Behaviour.

The only two conditions for using the TIS are that it may not be used for commercial purposes (other than for post graduate research) and second that it should be properly referenced as (Roodt, 2004) as in the article by Bothma & Roodt (2013) in the SA Journal of Human Resource Management (open access).

It is easy to score the TIS-6. Merely add the item scores to get a total score. The midpoint of the scale is 18 (3 x 6). If the total score is below 18 then the it indicates a desire to stay. If the scores are above 18 it indicates a desire to leave the organisation. The minimum a person can get is 6 (6 x 1) and the maximum is 30 (5 x 6). No item scores need to be reflected (reverse scored).

It is recommended that you conduct a CFA on the item scores to assess the dimensionality of the scale. We found that respondents with a matric (grade12) tertiary school qualification tend to understand the items better and consequently an uni-dimensional factor structure is obtained.

If you wish to translate the TIS in a local language, you are welcome to do so. It is recommended that a language expert is used in the translate - back translate method. I wish you all the best with your research!

Best regards

Prof Gert Roodt
Hello Dr. Roodt,

I am a doctoral student at Liberty University pursuing a Doctor of Business Administration in Healthcare Management degree. My dissertation is tentatively named: “CNA Turnover in the Long-Term Care Facility Industry.” I am writing to request your permission to use and reproduce in my study the entirety (or a variation) of the TIS-6 or the TIS-15 instruments. I am requesting to use and reproduce this instrument under the following conditions: I will use this survey only for my research study and will not sell or use it with any compensated management or curriculum development activities. I will send a copy of my doctoral research study that utilizes this instrument promptly to your attention upon final approval.

If you find these terms and conditions acceptable, please indicate so by emailing a written approval by replying to this email and giving the written consent of the use of your research instrument.

Many thanks,
Michael Gregory, MBA, PMP, PMI-PBA
Doctoral Student, Doctor of Business Administration
Liberty University

*Disclaimer: The above emails are presented in their original forms from the senders
Appendix P: Turnover Intention Scale

Consider the statements below in relation to the extent to which you intend to stay at your organization. Select the corresponding number that matches the extent to which you feel that you perceive each of the following statements:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. How often have you considered leaving your job?
2. How often are you frustrated when not given the opportunity at work to achieve your personal work-related goals?
3. How often are your personal values at work compromised?
4. How often do you dream about getting another job that will better suit your personal needs?
5. How often do you think about starting your own business?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>All the time</td>
</tr>
</tbody>
</table>

6. How frequently do you scan the newspapers in search of alternative job opportunities?
7. How frequently are you emotionally agitated when arriving home after work?
8. How frequently do you scan the internet in search of alternative job opportunities?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very satisfying</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. How satisfying is your job in fulfilling your personal needs?

<table>
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<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td>Highly unlikely</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

10. How likely are you to accept another job at the same compensation level should it be offered to you?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>To no extent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. To what extent do responsibilities prevent you from quitting your job?

12. To what extent do the benefits associated with your current job prevent you from quitting your job?

13. To what extent does your current job have a negative effect on your personal well-being?
14. To what extent does the “fear of the unknown”, prevent you from quitting?

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<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Always</td>
<td></td>
<td></td>
<td></td>
<td>Never</td>
</tr>
</tbody>
</table>

15. How often do you look forward to another day at work?
Appendix Q: Demographic Questionnaire

Consider the statements below and please choose the answer that best represents you.

1. What is your gender?
   a. Male
   b. Female
   c. Other

2. What is your age range?
   a. 18-29 years old
   b. 30-49 years old
   c. 50-64 years old
   d. 65 years and older

3. What is your ethnicity?
   a. American Indian or Alaska Native
   b. Asian
   c. Black or African American
   d. Hispanic or Latino
   e. Native Hawaiian or Other Pacific Islander
   f. White

4. Are you a Certified Nursing Assistant?

5. Do you currently work in central Texas?

6. Have you worked in the long-term care industry for at least 2 years?
Appendix R: Participant Consent Form

**Title of the Project:** Certified Nursing Assistant Turnover in the Long-Term Care Facility Industry  
**Principal Investigator:** Michael Gregory, PMP, PMI-PBA, Liberty University Doctoral Candidate

---

**Invitation to be Part of a Research Study**

You are invited to participate in a research study. To participate, you must be 18 years of age or older, and employed as a certified nursing assistant in a central Texas long-term care facility with a minimum of two years’ work experience. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research.

---

**What is the study about and why is it being done?**

The purpose of the study is to provide an understanding of the factors that influence certified nursing assistant (CNAs’) employee turnover intention. The implications for positive social change include reduced CNA turnover, resulting in improved patient outcomes for institutionalized patients in long-term care facilities. Moreover, organizational leaders equipped with a research-based understanding of the factors that drive employee turnover intention will be better able to implement initiatives designed to increase retention, lower business operating costs, and improve the work-life experience of their employees.

---

**What will happen if you take part in this study?**

If you agree to be in this study, I will ask you to do the following things:

1. Complete an anonymous online survey.

The survey will take approximately 20 minutes to complete. Your identity will remain anonymous, with only your answers being recorded.

---

**How could you or others benefit from this study?**

Participants should not expect to receive a direct benefit from taking part in this study.

Benefits to society include helping long-term care leaders identify the factors underlying CNA turnover intention, thus allowing them to develop successful retention strategies that will improve the lives of CNA employees and the quality of care delivered to long-term care residents.

---

**What risks might you experience from being in this study?**

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

---

**How will personal information be protected?**
The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses will be anonymous.
- Participant response data will be stored on a password-locked computer and may be used in future presentations. After three years, all electronic records will be deleted.

### Is study participation voluntary?

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time prior to submitting the survey without affecting those relationships.

### What should you do if you decide to withdraw from the study?

If you choose to withdraw from the study, please exit the survey and close your internet browser.

### Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Michael Gregory. You may ask any questions you have now. If you have questions later, you are encouraged to contact him at [512-710-4801](tel:+15127104801) or [Michael.Leroy.Gregory@gmail.com](mailto:Michael.Leroy.Gregory@gmail.com). You may also contact the researcher’s faculty sponsor, Dr. Rosol, at [gfrosol@liberty.edu](mailto:gfrosol@liberty.edu).

### Whom do you contact if you have questions about your rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at [irb@liberty.edu](mailto:irb@liberty.edu).

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.

### Your Consent

Before agreeing to be part of the research, please be sure that you understand what the study is about. You can print a copy of the document for your records. If you have any questions about the study later, you can contact the researcher using the information provided above.
Appendix S: Recruitment: Social Media Script

ATTENTION CERTIFIED NURSING ASSISTANTS (CNAs): I am conducting research as part of the requirements for a Doctor of Business Administration degree at Liberty University. The purpose of my research is to provide an understanding of the factors that influence CNAs’ employee turnover intention. To participate, you must be 18 years of age or older and employed as a certified nursing assistant in a central Texas long-term care facility with a minimum of two years’ work experience. Participants will be asked to complete an anonymous online survey, which should take about 20 minutes to complete. If you would like to participate and meet the study criteria, please click the link provided at the end of this post. A consent document is provided as the first page of the survey. Please review this page, and if you agree to participate, click the “proceed to survey” button at the end.

To take the survey, click here: https://www.surveymonkey.com/r/TH27KXN
Appendix T: Recruitment: Verbal Script

Hello,

As a graduate student in the School of Business at Liberty University, I am conducting research as part of the requirements for a Doctor of Business Administration degree. The purpose of my research is to provide an understanding of the factors that influence certified nursing assistants’ (CNAs’) employee turnover intention, and if you meet my participant criteria and are interested, I would like to invite you to join my study.

Participants must be 18 years of age or older and employed as certified nursing assistants in a central Texas long-term care facility with a minimum of two years’ work experience. Participants, if willing, will be asked to complete an online survey. It should take approximately 20 minutes to complete the procedure listed. Participation will be completely anonymous, and no personal, identifying information will be collected.

Would you like to participate? [Yes] Great, could I get your email address or phone number so I can send you the link to the survey? [No] I understand. Thank you for your time.

A consent document is provided as the first page of the survey. The consent document contains additional information about my research. After you have read the consent form, please click the button to proceed to the survey. Doing so will indicate that you have read the consent information and would like to take part in the survey.

Thank you for your time. Do you have any questions?
Appendix U: Recruitment: Email Script

To whom it may concern:

As a graduate student in the School of Business at Liberty University, I am conducting research as part of the requirements for a Doctor of Business Administration degree. The purpose of my research is to provide an understanding of the factors that influence certified nursing assistants’ (CAN’s) employee turnover intention, and I am writing to invite eligible participants to join my study.

Participants must be 18 years of age or older and employed as certified nursing assistants in a central Texas long-term care facility with a minimum of two years’ work experience. Participants, if willing, will be asked to complete an online survey. It should take approximately 20 minutes to complete the procedure listed. Participation will be completely anonymous, and no personal, identifying information will be collected.

To participate, please click here: https://www.surveymonkey.com/r/TH27KXN.

A consent document is provided as the first page of the survey. The consent document contains additional information about my research. After you have read the consent form, please click the button to proceed to the survey. Doing so will indicate that you have read the consent information and would like to take part in the survey.

Sincerely,

Michael Gregory
Appendix V: CITI Program Certification

This is to certify that:

Michael Gregory

Has completed the following CITI Program course:

Social & Behavioral Research - Basic/Refresher
(Curriculum Group)
(Course Learner Group)
(Stage)

Under requirements set by:

Liberty University

Completion Date 05-Jan-2022
Expiration Date 05-Jan-2025
Record ID 46517696

Not valid for renewal of certification through CME.