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Assessing the Influence of Core Transformational Leadership Style on Job Satisfaction and Organizational Citizenship Behavior in a Rural Healthcare Facility

Bruce Daryl Mitchell
Walden University

Walden University

College of Management and Human Potential

This is to certify that the doctoral study by

Bruce D. Mitchell

has been found to be complete and satisfactory in all respects,
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the review committee have been made.

Review Committee
Dr. Laurie Latvis, Committee Chairperson, Health Sciences Faculty
Dr. Kristin Wiginton, Committee Member, Health Sciences Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
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Abstract

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MA/MS, Purdue University, 2020

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Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

The successful application of core transformational leadership (CTL) in healthcare may enhance the quality of patient care and foster a positive and optimistic workforce. As such, CTL may be linked with job satisfaction (JS) and organizational citizenship behavior (OCB). There was a knowledge gap in understanding CTL's relation to JS and OCB. In this quantitative study, the influence of the predictor variable CTL on the dependent variables JS and OCB was examined. Maslow's hierarchy of needs provided a theoretical lens for the investigation. The secondary data set included data from 221 participants: 37 physicians, 111 nurses, and 73 other workforce members whose jobs did not involve direct patient contact within a rural healthcare facility. Participants assessed leadership members' performance using the Multifactor Leadership Questionnaire (MLQ) with items measured on a 7-point Likert scale. The two dependent variables were analyzed separately. The predictor variable CTL was significant in its relationship with JS ($p < .001$); thus, rejecting the null hypothesis that there was a significant relationship between CTL and JS. The predictor variable CTL was not significantly associated with OCB ($p=0.914$); thus, accepting the null hypothesis that there was no relationship between CTL and OCB. Maslow's theory highlights the critical importance for healthcare managers to recognize and address the psychological and economic needs of their workforce. By prioritizing these vital aspects, they can significantly boost healthcare performance and foster a more effective and motivated team. Leaders should be aware of their behavior when promoting CTL, providing benefits for the group. This is crucial for ensuring all employees are aligned with the organization's vision and strategic goals.

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Dedication

This study is dedicated to my father, the late Reginald Owen White; my mothers, Alma and Joyce; my cherished aunts, Vivian Conway and Lola Woodson; my cousin, Gennifer George; and my brother, Michael Kevin Staton, whose unwavering inspiration has guided me throughout my life. I also thank Earl Kenneth Claitt, a lifelong friend. I would also like to give a special thanks to Samuel Jimenez. Sammy has provided support that made things more manageable.

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Section 1: Foundation of the Study and Literature Review

Core transformational leadership (CTL) style describes leadership behavior with two distinct, independent elements: organizational objectives and interpersonal relationships (Alshaar, 2022). CTL is a leadership style applied by supervisors, managers, and administrators in all industries (Nurjanah et al., 2020). It enhances human resources by determining standards of trust, appreciation, trustworthiness, and admiration for leaders. It also inspires the workforce to accomplish their responsibilities beyond organizational expectations. Successful application concerning CTL could be perceived as a leadership strategy, strengthening the surrounding community, enhancing the quality of patient care, and a positive and optimistic workforce (Jha, 2014). As such, CTL may be linked with job satisfaction (JS) and organizational citizenship behavior (OCB).

Background

JS is an emotional state regarding workforce members' employment or job assessment. Workforce members model their opinions concerning their employment by considering their feelings, ideas, and behaviors. Akehurst et al. (2022) and Spector (1985) stated that if employees find growth and gratification (i.e., the realization of Maslow's hierarchy of needs framework in their employment and are satisfied with their jobs, the attrition levels within any organization will decrease and sustain structural organizational operations and decrease costs. JS also describes how pleased the workforce members are working for an organization. It integrates identifiable JS characteristics regarding compensation, benefits, advancement, working conditions, organizational procedures, interpersonal relationships, professional advancement, and leadership (Hilton et al.,

2021). JS is driven by the cooperation or hindrance of an employee's job opportunities and accomplishments within the workforce on teams within the organization (Dubey et al., 2023).

Numerous observations within the workforce explain the connection between the organization and its labor force. One of the most important concepts is OCB. Cho and Kao's (2022) research supports that the workplace climate can drastically affect the workforce and the organization's accomplishments. Some examples include the mindsets of the workforce, JS, benefits, and the quality of service. Weller et al. (2020) and Judge et al. (2020) stated that safety and customer satisfaction are improved through OCB. Additionally, in an experimental analysis of Likert (1967), OCB was recognized as an essential basis for investigating and clarifying organizational phenomena between the workforce and the organization (Gaji´c et al., 2021).

Researchers have yet to incorporate all healthcare workforce members into their studies. Other than the analysis by Udin (2023), there were no studies found that included CTL and how its influences are associated with employee JS and OCB within rural public healthcare facilities. To address this gap in the literature, this study addressed the relationship between the independent or predictor variable of CTL and the two dependent or outcome variables of JS and OCB of physicians, nurses, and other workforce members whose jobs do not include direct patient contact within a rural healthcare facility. This study also examined and revealed the influence of CTL on enhancing the understanding of all healthcare workforce members to improve CTL.

This quantitative study is potentially significant because it adds to the literature on the workforce and it furthers understanding of CTL as it relates to JS and OCB. It also illustrates the importance of practical applications of CTL in the workforce that may enhance JS and OCB. Furthermore, this research examined CTL's influence, if any, on all healthcare workforce members. This research may inform professional management strategies that, if implemented, may promote workforce trust within healthcare organizations, as well as social change and the wellness of the surrounding rural community.

Problem Statement

This quantitative study sought to provide a better understanding regarding the aspects of CTL that influence JS and OCB among the workforce in a rural healthcare facility. Understanding CTL could positively affect workforce innovations, organizational culture, workforce retention, patient and employee safety, and the wellness of surrounding rural communities regarding healthcare. This study identified the characteristics of CTL style and its influence on JS and OCB of professional and nonprofessional workforce members whose jobs do not include direct patient contact within a rural healthcare facility. This study also analyzed CTL behavior and how this leadership style may enhance JS to increase OCB. Additionally, this study examined Maslow's hierarchy of needs theory as it applies to CTL strategies and the healthcare workforce (Udin, 2023).

Purpose of the Study

To address the identified problem, this study analyzed CTL, its current concepts, and how this leadership style can improve JS and OCB within the focal rural healthcare facility. This study demonstrated the relationship between core transformational leaders, physicians, nurses, and other workforce members whose jobs do not include direct patient contact (Udin, 2023). This study may increase the understanding of CTL. This could positively affect organizational culture, increase workforce retention, enhance patient and employee safety, and ultimately improve healthcare facility operations within a rural community. The information provided by the analysis may increase the workforce's understanding of CTL, JS, and OCB. This study also addressed the research problem that there needs to be a better understanding within the workforce regarding the aspects of CTL that influence JS and OCB in a rural healthcare facility.

Research Questions and Hypotheses

Aside from Udin (2023), researchers have not incorporated all healthcare workforce members in their studies, according to my review of the literature. This gap extends to research on CTL and its relationship with employee JS and OCB within rural healthcare facilities. CTL's impact on JS and OCB, if any, remains little understood. Therefore, this study's main research questions (RQs) and hypotheses were as follows:

RQ1: Is there a relationship between CTL and JS for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility?

$H_0$1: There is no relationship between CTL and JS for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility.

H_a1: There is a relationship between CTL and JS for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility.

RQ2: Is there a relationship between CTL and OCB for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility?

$H_0$2: There is no relationship between CTL styles and OCB for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility.

H_a2: There is a relationship between CTL styles and OCB of physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility.

Theoretical Framework

Maslow's (1943) hierarchy of needs is a motivational theory in psychology that contains a five-tier model of human needs, frequently described as hierarchical levels within a pyramid. The foundation of this pyramid, as seen in Figure 1, illustrates the five critical human needs: physiological, safety, belongingness and love, esteem, and self-actualization.

Figure 1

Maslow's Hierarchy of Needs

Note. This model is from (McLeod, 2007)

This study directly relates to Maslow's theory because it involved examination of the elements of CTL, JS, and OCB. By applying Maslow's hierarchy of needs theory, this study was able to highlight the inherent human needs of administrative core transformational leaders, physicians, nurses, and other workforce members whose jobs do not include direct patient contact in a rural public healthcare facility. This study also described the motivational theory related to the essential human physiological desires, safety needs within a healthcare environment, feelings of belonging within the workforce, professional reverence, and the fulfillment of self-actualization required for enhanced human needs in patient care.

This study theoretically connects physiological, safety, belonging and love, esteem needs, and the need for self-actualization. It also considered how the workforce

could depend on these basic human needs and how these needs are connected to the influence of CTL through JS and OCB in response to the Multifactor Leadership Questionnaire (MLQ). The independent or predictor variable in this study was CTL. The two dependent or outcome variables were JS and OCB.

Nature of the Study

Numerous theories and paradigms have been cultivated to investigate the influences that motivate workforce members (Ngudieh, 2023). Maslow's hierarchy of needs theory suggests that healthcare leaders should understand the basic human needs that could significantly affect JS and OCB (Ngudieh, 2023). Several researchers who have used Maslow's hierarchy of needs framework have determined that satisfying essential human needs significantly motivates the workforce to abandon or continue their jobs (Demil, 2021). The findings of my quantitative investigation core transformational leaders could use this concept to help them recognize where their employees exist within the hierarchy of needs pyramid that could reflect the fundamental aspects of the independent or predictor variable CTL and the two dependent or outcome variables of JS and OCB.

According to Maslow's hierarchy of needs theory, humans cannot obtain their higher-level needs until their lower-level needs are satisfied (Storey, 2016). Unfulfilled needs can overwhelm thoughts and the mind, impeding attaining higher needs. For example, if individuals focus on but cannot obtain their fundamental physiological and safety needs, they cannot pursue higher needs such as love, self-esteem, and self-actualization (Storey, 2016). This quantitative study examined the effects of CTL styles

on JS and OCB of physicians, nurses, and other workforce members whose roles do not include direct patient contact at a rural healthcare facility.

Literature Search Strategy

To find theoretical and empirical studies for the literature review, this study strategically utilized the search terms c*ore transformational leadership*, *job satisfaction*, *organizational citizenship behavior*, *Maslow's hierarchy of needs theory*, *MLQ*, and *7-point Likert scale*. This study used various databases and search engines. The first was Google Scholar, which offered an exhaustive, comprehensive search for scholarly literature from various disciplines. The second was Mendeley/Elsevier, one of the leaders in data and analytics for global researchers and health ecosystems. The National Library of Medicine, the third resource, has the most extensive collection of medical research in the world. It is part of the National Institutes of Health. Fourth, ProQuest Central has some of the most comprehensive, categorized, and relevant multidisciplinary research databases. Most theoretical and empirical literature used in this study was published over the last 5 years. The articles in this literature review assisted in answering the RQs of this study.

Literature Review Related to Key Variables and Concepts

The sources for this literature review include several theoretical and empirical articles relevant to the study, focusing on three key constructs: CTL, JS, and OCB. Although researchers have explored the influence of CTL on the workforce, significant gaps in the literature highlight the need for a deeper understanding of CTL among personnel leaders, physicians, nurses, and other healthcare workforce members.

Core Transformational Leadership

There is limited understanding of the effect of CTL on advanced work behavior facilitated by organizational knowledge concerning social exchange theory (Udin et al., 2022). However, transformational leaders have developed a persuasive view of the organization's present and future course of action in competitive markets (Udin, 2020). CTL generates a determined vision, believes in it, articulates it, and expresses it explicitly to the employees. Udin (2020) concluded that CTL encompasses mainly four behaviors: idealized influence, inspirational motivation, intellectual stimulation, and individual consideration.

In another study, Udin (2023) found evidence that CTL is significantly associated with employee performance and organizational culture. Udin clearly established that CTL has a significant impact on employee performance, with OCB playing both a mediating and moderating role in the relationship between CTL and workforce members. CTL stimulates transparency and accountability in healthcare organizations (Handayani et al., 2022). CTL, sometimes called "future-oriented strategies," is regarded as proficient in strengthening employee confidence and organizational advancement. Healthcare management should determine and overcome countless organizational situations and chaos with ascertained-substantiated strategies (Dharmasasmita et al., 2020; Udin et al., 2022).

CTL may influence JS and OCB through knowledge-based JS and OCB. Workforce members with a higher knowledge-based understanding of JS and OCB should be satisfied with their jobs, have pride and pleasure in their work, be engaged and

interested in their responsibilities, and gain wisdom through their work (Udin, 2023). Further studies could influence organizational management practices by identifying how CTL increases OCB through positive leadership. When individuals identify their leaders as transformational, they may perform and participate in volunteering for additional job responsibilities, create a positive, constructive work environment, become allies with the establishment, and be compliant with their jobs and obligations (Udin, 2023).

Udin (2023) found that applying CTL methods can directly affect passion for knowledge-based employment and OCB, possibly contributing to organizational effectiveness. This could stimulate research and practitioners to consider and analyze their social science and management strategies. The data set applied in this study could also influence organizational management practices, especially in healthcare, by identifying how CTL might improve OCB through JS (Udin, 2023).

CTL could directly affect JS, which, in turn, may positively encourage and enhance OCB adding to organizational effectiveness (Udin, 2023). Strategies of CTL have been proven to drive significant changes in organizations by increasing employee commitment to the continuous search and creation of knowledge, creating persuasive visions of the future to increase workforce inspiration and overall performance at all levels of the organization (Udin, 2023). Additional studies can explain how CTL affects OCB through JS in the healthcare sector. Future research is recommended to apply CTL methods in other settings, such as hospitality, tourism, and the healthcare sector (Udin, 2023).

CTL can enable workforce members to achieve their goals but also show this process of influence and specific contributions to an organization's performance (Steinmann et al., 2018). Many meta-analytic studies confirmed that CTL significantly influences the JS of subordinates and creates motivation, increases performance, and proactive behavior at work (Steinmann et al., 2018). CTL has shown that successful organizational changes in current and sometimes volatile work environments and competitive market conditions demand organizations to quickly adapt to new challenges (Steinmann et al., 2018).

Similarly, when the organization's administration can manage its human resources trustworthiness, employees can optimally perform their work (Steinmann et al., 2018). Core transformational leaders make significant contributions by creating and encouraging a positive workplace environment and providing support (Raelin, 2003). An organization must be able to plan for essential jobs because each leader has various skills (Steinmann et al., 2018). CTL enables leaders to encourage their subordinates to be transparent with their communication methods and develop viewpoints through intellectual stimulation and emotional intelligence. Through inspiration and charisma, leaders can be seen as individuals who can help their subordinates individually (Bass & Bass, 1985).

CTL is the act of the integration of a common goal through meaningful exchanges between a leader and followers (Bass et al.,1987). CTL encourages followers to improve their job performance and achieve goals through self-actualization (Maslow's theory) that can be used for advancement at job levels or alternative work throughout interpersonal exchanges between the leader and the follower (Bass et al., 1987). A transformational

leader emphasizes personal growth for the long-term benefit of the organization (Bass & Avolio 1990).

Job Satisfaction

There are many methods of measuring JS, and literature supports two main methods. The Job Description Index (JDI) has been widely used to measure JS when dealing with weaknesses in the workforce. JDI focuses on individual factors and overall JS (Alshaar, 2022). JS may be directly related to administrators' behavior, and workforce members who think negatively about their leaders are less motivated to work and are dissatisfied with their jobs (Alshaar, 2022). If administrators are approachable and open to exchanging information, the employees' JS could increase and are more likely to receive positive feedback. Core transformational leaders can positively affect employees JS (Alshaar, 2022). Various studies have been conducted to establish levels of JS with varying leadership styles among workforce members within all departments in private, public, and healthcare systems (Alshaar, 2022).

CTL plays a vital role in JS by delivering effective and efficient leadership techniques that result in positive outcomes for professionals, patients, and healthcare organizations (Specchia et al., 2021). Therefore, it is necessary to detect and fill the current gaps in leadership expertise to affect a healthcare professional’s JS positively and subsequently enhance healthcare quality (Specchia et al., 2021). Understanding the different aspects of CTL allows leaders to recognize how CTL impacts employees and, secondly, how it allows organizational achievement by determining when a particular leadership style benefits or diminishes organizational goals (Specchia et al., 2021).

According to Newstorm (2011), JS is identified as a set of benefits or feelings of benefit and psychological emotions (Maslow's theory) that workforce members demonstrate in their work performance. JS is an emotion that reflects likes and dislikes associated with an employee's work. Nurjanah et al. (2020), define JS as an effective emotional response to miscellaneous aspects of the workforce. JS exhibits workforce members' emotions considering whether a job satisfies them (Nurjanah et al., 2020). Therefore, it can be determined that JS could be workforce members' experience of whether they feel content with their jobs and the healthcare organization's success (Muntazeri & Indrayanto, 2018).

CTL is likely to reveal an increase in JS regarding goal setting, work allocation, operational feedback, and empowerment of workforce members, which enhances retention rates and commitment of employees (Nanjundeswaraswamy, 2023). Workforce members dissatisfied with their work are less committed and may consider quitting the organization to obtain better job opportunities (Nanjundeswaraswamy, 2023). CTL may positively influence workforce behavior, while other leadership styles may not effectively influence the behavior of workforce members (Nanjundeswaraswamy, 2023).

Organizational Citizenship Behavior

There are five dimensions of OCB: conscientiousness, sportsmanship, consideration, integrity, and humanity (Wulandari, 2019). Conscientiousness is the flexible behavior of workforce members that exceeds the minimum responsibility and requirements in the healthcare organization (Wulandari, 2019). Sportsmanship describes the compliance of workforce members to tolerate fewer standard conditions without

complaining. Courtesy is discretionary behavior that avoids work-related problems with workforce members (Wulandari, 2019). Employees who display integrity, participate in team assignments, and are concerned about the organization. Finally, humanity is the discretionary behavior of assisting other workforce members in organizationally related responsibilities or problems (Wulandari, 2019).

The role of OCB could be recognized as the influence of work-based passion and empowerment regarding job performance. OCB refers to behaviors beyond employees' job descriptions that can reduce stress and increase morale. Employees who display OCB are more likely to speak positively about the organization to community members, increasing the healthcare organization's reputation (Husniati & Pangestuti, 2018). JS and OCB might have meaningful influence on the relationships within the workforce (Savithri & Maharayazhmozhi, 2019). Likewise, the relationship between JS and OCB could be considered harmonious (Basu et al., 2017; Kissi et al., 2019).

OCB is a valuable method of assertiveness for all healthcare workforce members needing to accomplish the goals of the organization, empowered by core transformational leaders who are quick to respond in dealing with occurrences of organizational change and understand the needs of his/her subordinates, possibly related to the fundamental components of JS within the department, to create respectable interpersonal communication among workforce members (Herfina et al., 2022). More importantly, the qualities of OCB could also be effective if several leaders exhibit qualities that reflect CTL and promote the advancement of the organization. Workforce members who display OCB through JS may positively influence the extra departmental workforce members

(Herfina et al., 2022). Simply stated, the strengthening of OCB can be supported by increasing JS (Herfina et al., 2022).

OCB can be illustrated as enthusiasm for a propensity that the workforce is prepared to intelligently spend their time and energy (Amalia & von Korflesch, 2021). OCB, through JS, increases passion and desires in the workforce, supporting Marlow's hierarchy theory that triggers an individual to climb higher within Maslow's pyramid to do things above their expectations. OCB can be acknowledged implicitly or expressly by formal incentives of a healthcare organization empowering workforce members' attitudes toward OCB and expressing JS, productivity, and morale within the department (Amalia & von Korflesch, 2021).

Additionally, OCB increases self-esteem, awareness of job responsibilities, recognition of administrative procedures, employee collegiality, breakthroughs in policy initiatives, and positive advancement of the organization (Amalia & von Korflesch, 2021). Effective leadership should produce positive relationships, resulting in workforce empowerment through OCB. OCB will also be significant if workforce members seek higher empowerment roles. Employee empowerment could be aligned with OCB's five dimensions of selflessness, sportsmanship, emotional sensitivity, social morality, and politeness (Amalia & von Korflesch, 2021).

OCB is crucial to enhanced workforce performance and issues regarding organizational accomplishments and goals (He et al., 2019). OCB can also reflect the accomplishments of the workforce and an employee's unrestricted efforts and obligations to enhance healthcare patient satisfaction. Task performance related to OCB could also

describe the quality of employee performance that may be recognized by the human resource management department through positive employee evaluation (He et al., 2019). By using certain strategies, leaders can enhance communication within healthcare organizations and improve the workforce's JS and OCB (Tian et al., 2020). OCB could substantially affect employees' JS. Evidence shows that workforce members display OCB when healthcare organizations succeed, creating optimistic moods within the workforce (Nohe & Hertel, 2017).

Maslow's Hierarchy of Needs

Abraham Maslow's (1943) hierarchy of needs theory and assessment can be applied to the needs of the healthcare workforce supporting community development (Aruma & Hanachor, 2017). Maslow, a renowned researcher in the study of human needs and motivation, identified the hierarchy of needs theory with a proposal that people are motivated by five levels of needs: (a) physiological, (b) safety, (c) love and belonging, (d) esteem and prestige, and (e) self-actualization needs. Two additional levels of needs—(e) understanding and (f) aesthetic needs—were later included in Maslow's hierarchy of needs (see Aruma & Hanachor, 2017) but were not used in this study.

Maslow's hierarchy of needs theory focuses on people's motivation based on five levels of needs in the human environment (Aruma & Hanachor, 2017). Maslow's hierarchy of needs theory emphasizes that specific basic needs must be met before others can be considered in the human environment (Aruma & Hanachor, 2017). This theory delves into the fundamental human drive to fulfill needs and enhance living conditions within communities. By understanding and addressing these needs, environments and

one's overall quality of life can be improved. Social groupings, associations, affiliations, and belongings based on love are needed to enhance harmonious human coexistence in various social settings (Aruma & Hanachor, 2017). This provides individuals with the courage and confidence to engage in community development, which may enhance their living conditions (Aruma & Hanachor, 2017). This study enhances the understanding of Maslow's hierarchy of needs theory, illustrating its practical application in real-life scenarios and highlighting the critical assessment of needs in community development (Aruma & Hanachor, 2017). Human needs may be seen as insatiable in the personal and professional realm (Aruma & Hanachor, 2017).

Maslow's hierarchy of needs theory is fundamentally part of human nature, with notable characteristics that can be desired and achieved in the personal and professional environment. People's desire to improve their living conditions represents a challenge to community development in contemporary society (Aruma & Hanachor, 2017). Realizing human needs at the community level may emphasize knowledge of Maslow's hierarchy of needs theory (Aruma & Hanachor, 2017). As previously stated, in Maslow's hierarchy of needs theory, humans cannot obtain their higher-level needs until their lower-level needs are satisfied. Unfulfilled needs can demolish thoughts, impeding the attainment of higher needs. Until individuals attain their fundamental physiological and safety needs, they cannot pursue higher needs such as love, self-esteem, and self-actualization (Aruma & Hanachor, 2017).

Maslow's hierarchy of needs theory displays the first level or foundation of the pyramid, the Physiological Needs category, which contains the requirements for survival.

These life-sustaining essentials include air, water, food, shelter, sleep, clothing, and the need to reproduce (Maslow, 1943). The second level of Maslow's hierarchy, safety needs, includes personal security, employment, resources, health, and property. Individuals yearn for independence and stability in life. The essential security and safety needs are financial security, health, wellness, and insurance for protection against accidents and injuries (Aruma & Hanachor, 2017). These essential requirements for a successful life are the basic needs in Maslow's hierarchy.

The third level in Maslow's hierarchy of needs theory, love and belonging, includes friendship, intimacy, family, and a sense of connection. Satisfying these needs can be found in some of the emotional relationships obtained through recreational and group activities and professional events. Maslow's hierarchy of needs theory describes esteem as the fourth pyramid level, which incorporates respect, self-esteem, status, recognition, strength, and freedom. This stage of Maslow's hierarchy of needs theory accentuates the value of acquiring respect and appreciation from others (Aruma & Hanachor, 2017).

Individuals yearn to accomplish their jobs and have their professional accomplishments recognized. Esteem also encompasses personal value, where individuals feel valued and contribute to their surrounding communities and society. (Aruma & Hanachor, 2017). Maslow suggested that individuals who succeed with good self-esteem and achieve recognition from others are inclined to feel confident in their capabilities, satisfying their esteemed needs. At the highest level of Maslow's hierarchy of needs theory, individuals who achieve self-actualization are self-aware, concentrate on

personal growth, and are less concerned with external beliefs to achieve their highest potential (Aruma & Hanachor, 2017).

Multifactor Leadership Questionnaire

According to Angle and Swenson Lepper (2020), the MLQ is the primary process for distinguishing ineffective leaders from highly effective ones. Typically, results specify that women score higher than men in transformational leadership, though men score higher than women in transactional leadership. The MLQ has illustrated no systematic variances based on the ethnicity/race of the response group or object leader (Angle & Swenson Lepper, 2020). The MLQ identifies a participant's motivation levels and how they compare to a leader's leadership style. Most leaders use more than one leadership style, so qualities from all styles should be used in certain situations within the workplace environment (Angle & Swenson Lepper, 2020). Leadership and leadership styles have a strong influence on employee motivation.

Leadership can be measured using the MLQ and the leadership styles questionnaire. In these questionnaires, participants select how closely statements about leadership and different leadership features apply to them based on a 7-point Likert scale. Results showed that participants' leadership styles pertain mostly to their features and qualities (Angle & Swenson Lepper, 2020). Leadership and leadership styles can strongly influence employee motivation. Leadership can be defined as how well individuals may encourage others to complete the group's goals (Bhatti et al., 2012).

Seven-Point Likert Scale

The 7-point Likert scale is an ordered scale from which respondents choose one option that best aligns with their view (Bhandari & Nikolopoulou, 2023). It is often used to measure respondents' attitudes by asking how much they agree or disagree with a question or statement. A typical scale includes the options of *strongly disagree*, *disagree*, *partially disagree*, *neither agree nor disagree*, *partly agree*, *agree*, and *strongly agree*. The 7-point Likert scale may positively meet administrative needs when an attitude, belief, or behavior item exists. For example, administrators would not use a 7-point Likert scale to assess attributes such as age, ethnicity, and income but may utilize a 7-point Likert scale to assess someone's attitude about a particular topic (Losby & Wetmore, 2012). The 7-point Likert scale is commonly used in public health evaluation. For example, it can be used to evaluate a partnership, conduct a needs assessment about the most pressing policies in a community, or assess the public's knowledge and awareness of a public health campaign (Losby & Wetmore, 2012). Similarly, the 7-point Likert scale is a valuable and important tool used in survey research (Losby & Wetmore, 2012).

Motivation can be defined as an individual's incentive to satisfy their needs and what is expected of them (Ryan & Deci, 2000). When someone completes a task because it is desirable, they are motivated to satisfy their personal needs. Completing a task because of an outside force motivates one to do what is expected of them. This can be how CTL affects motivation, and the 7-point Likert scale can help measure departmental and organizational motivation (Losby & Wetmore, 2012). The 7-point Likert scale is

highly effective for analyzing unobservable individual characteristics or characteristics with no decisive quantitative measurement. Instead, represented measurements are applied to an individual's thoughts, temperament, or views that generate variations in behavior (Bhandari & Nikolopoulou, 2023).

Definitions

Several key terms are integral to this study. These terms are used in this study, previous scholarly literature, and government publications. Many of the terms have multiple definitions, and the true definition of each is still being explored. Below, the key terms for the study are presented alphabetically and defined for reference to understand the context in which the terms are used in this study.

Communication: The exchange of information to change others' epistemological contexts (Thornhill-Miller et al., 2023).

Core transformational leadership (CTL): A management style characterized by a leader who can motivate followers to achieve more significant common goals and influence, direct, and inspire individual behavior to contribute positively in the workplace (Udin, 2023). CTL was the independent variable for the study.

Job satisfaction (JS): Refers to the level of contentment employees have with their job, including satisfaction with their daily tasks, team members, managers, organizational policies, and the job's impact on their personal lives. (Zhu, 2013). JS was a dependent variable in this study.

Knowledge-based: Workforce members apply their theoretical and analytical knowledge, gained from formal training, to develop and create products and services.

They engage in problem-solving and strategic planning while collaborating with teams to meet market needs and organizational goals. (Robertson et al., 2023).

Organizational advancement: The process of adapting inputs into outputs to attain specific results. In substance, organizational advancement regards the interplay between minimal and optimal economic cost, optimal costs, output (efficiency), productivity, and attained outcomes or effectiveness (El Zein, 2024).

Organizational citizenship behavior (OCB): All the positive and productive employee actions and behaviors not included in a formal job description (Ocampo et al., 2018). OCB was a dependent variable in this study.

Social science: Disciplines studying human society, behaviors, and social relationships include sociology, psychology, anthropology, and political science. They examine interactions and societal structures to understand individual and group dynamics. (Imbens, 2024).

Strategic leadership: The provision of support and means to people and systems to achieve an organization's vision while enabling an adaptive and progressive culture necessary to gain an advantage in the competitive environment (Clark et al., 2010).

Workforce mindset: Employees' ability to embrace technological advancements; generational paradigm shifts; global and domestic business transformations; diversity, equity, inclusion; and employee well-being trends to effect positive organizational change (Shaw, 2024).

Assumptions

The research identifies, clarifies, and analyzes CTL and how this leadership style can improve JS and OCB within a rural healthcare facility. It also demonstrates the relationship between administrative transformational leaders, physicians, nurses, and other workforce members without direct patient contact in a rural healthcare facility. This study presumed that CTL would demonstrate a significant relationship between JS and OCB. This study intended to provide a more comprehensive understanding of CTL and its effect on the workforce (Udin, 2023). The study examined the effects of CTL styles on JS and OCB of physicians, nurses, and other workforce members without direct patient contact at a rural healthcare facility. It eliminated the workforce members at the administrative level. The study's results include an understanding of CTL and its effects on JS and OCB by examining the responses of 221 physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility. The regression model implemented in this study is designed explicitly for smaller sample sizes, ensuring its applicability and generalizability (Patton et al., 2015).

Scope and Delimitations

This study encompassed only one rural healthcare facility. Many other private and governmental hospitals may reveal different outcomes due to their environments (Udin, 2023). Limitations consist of participant responses that may vary and others that may not have been captured in the existing data set. Additionally, the statistical analyses include multiple variables from different measures (Udin, 2023). These challenges may be overcome through the application of CTL activities.

Limitations

Any research attempt inevitably carries limitations and delimitations regarding its fundamental theories, design, probable replication, deficiencies in data collection, questionnaire design, inadequate subgroups, data analysis, and other factors (Shaw, 2024). The first limitation of this study is that it only encompassed and focused on one rural healthcare facility. Many private and governmental hospitals may reveal different outcomes due to the differences in their environment. A second limitation is that participant responses may vary and may not have been captured in the existing data set. Thirdly, this study failed to create a systematic limitation scoring index for authors, editors, reviewers, and readers, and recognizing their cumulative results could result in a better understanding of the research content and legitimacy (Shaw, 2024). Lastly, researcher and selection bias may affect the analyses and assumptions (Theofanidis & Fountouki 2018).

Significance

This study is significant because it addressed the knowledge gap between the workforce and the comprehension and understanding of CTL related to JS and OCB. It also illustrates the importance of practical applications of CTL in the workforce that may enhance JS and OCB. This research also strived to strengthen professional management strategies, workforce trust, and social change within healthcare organizations and strengthen the wellness of the surrounding rural community. The results of this study correspond with Maslow's hierarchy of needs theory and demonstrate that workforce members need income to satisfy and meet the requirements of the first level of Maslow's

hierarchy of needs theory, the physiological needs, through procurement of life-sustaining essentials: air, water, food, shelter, sleep, clothing, and the need to reproduce (Maslow, 1943).

The implications for positive social change regarding CTL strategies in rural healthcare facilities include integrity, dependability, empathy, and intersectionality (Loughhead et al., 2023). These factors could enhance understanding within rural communities and social sectors concerning the importance of well-being and the value of care offered. Finally, these factors can also establish distinctive insights to guide community involvement and trustworthiness of the healthcare workforce (Loughhead et al., 2023).

Summary and Conclusions

Almost 2 decades have passed since Khanin (2007) examined the theory of CTL. Since then, the fast-paced development of healthcare technology has necessitated a better understanding of CTL and its influence on JS and OCB of the entire healthcare workforce, especially those employed by healthcare facilities located in rural areas (Dubey, 2023). Healthcare facilities cannot operate efficiently without a strong workforce with highly skilled and motivated employees. The vitality of healthcare facilities depends on these workforce members, and members of all levels of management must investigate new methods and strategies that increase JS and decrease turnover rates. JS and OCB within the healthcare workforce are critical because they affect the performance of workforce members and lead to higher degrees of patient care and safety; they also

increase the ability of the workforce to understand the mission and vision of the healthcare organization and reduce operational costs of care (Alshaar, 2022).

Section 2: Research Design and Data Collection

Introduction

This study examined the influence of CTL on JS and OCB of professionals and other workforce members whose jobs do not include direct patient contact within a rural healthcare facility. This study comprised three constructs: (a) CTL, (b) JS, and (c) OCB. This section includes discussion of the research design and rationale, methodology, threats to validity, and ethical procedures, along with a summary.

Research Design and Rationale

This study examined the effects of CTL styles on JS and OCB of physicians, nurses, and other workforce members whose jobs do not include direct patient contact at a rural healthcare facility. The analysis relied on a simple linear regression method to evaluate the significance of the relationships between the independent variable, CTL, and the outcomes of interest, specifically JS and OCB. By applying this statistical approach, this study provided clear insights into how variations in CTL could influence these key organizational metrics. This design was essential for testing the hypotheses and drawing meaningful conclusions from the data collected in the rural healthcare organization.

The research design incorporated a power analysis to test for effect size, simple scatterplots, probability–probability (P–P) plots, descriptive statistics, correlations, model summary, and Durbin-Watson testing for independence of errors, analysis of variance (ANOVA), coefficients, standardized residuals statistics, histograms testing for normal distribution of data, normality, plot testing, and standardized residuals testing. Analyzing the data collected through the MLQ provided valuable insights into the significance of

the independent variable, CTL. This research not only illuminated the critical impact of CTL on key outcomes like JS and OCB but also addressed the RQs, underscoring the importance of understanding these relationships in enhancing organizational effectiveness.

Linear regression analysis was applied, including descriptive statistics, model summary (Durbin-Watson) tables, scatterplots of assumptions, histograms, normal P–P plots, residual statistics, and independence of observations to test for normality. ANOVA was used to test for significance, and a table of coefficients was used to summarize the independent or predictor variable of CTL within a rural healthcare facility and its effect on the two independent or outcome variables of JS and OCB. The predictor or independent variable, CTL, can be analyzed through two outcomes or dependent variables, JS and OCB.

This study used a modified version of an MLQ featuring a 7-point Likert scale, providing a general average score of the subscales within the applied data set. The 7-point Likert scale correlated with the MLQ was as follows: 1 (*strongly disagree*), 2 (*disagree*), 3 (*somewhat disagree*), 4 (*neither agree nor disagree*), 5 (*somewhat agree*), 6 (*agree*), and 7 (*strongly agree*). The 15 questions answered by the workforce members were measured by a modified version of the MLQ that provides a general average score of all subscales within the applied data set. Data from modifying the MLQ was loaded into SPSS Version 29 software. This study anticipated a range of responses that included various opinions regarding each independent and dependent variable, which were presented through closed-ended questions (Bhandari & Nikolopoulou, 2023).

Methodology

The research design for this quantitative study incorporated a simple linear regression analysis to test for significance. This methodology investigated the relationships between the independent variable, CTL, and the dependent variables, JS and OCB. This study explored how changes in CTL potentially affect these critical organizational metrics. This study sought to provide valuable insights based on data collected from a rural healthcare organization.

Population

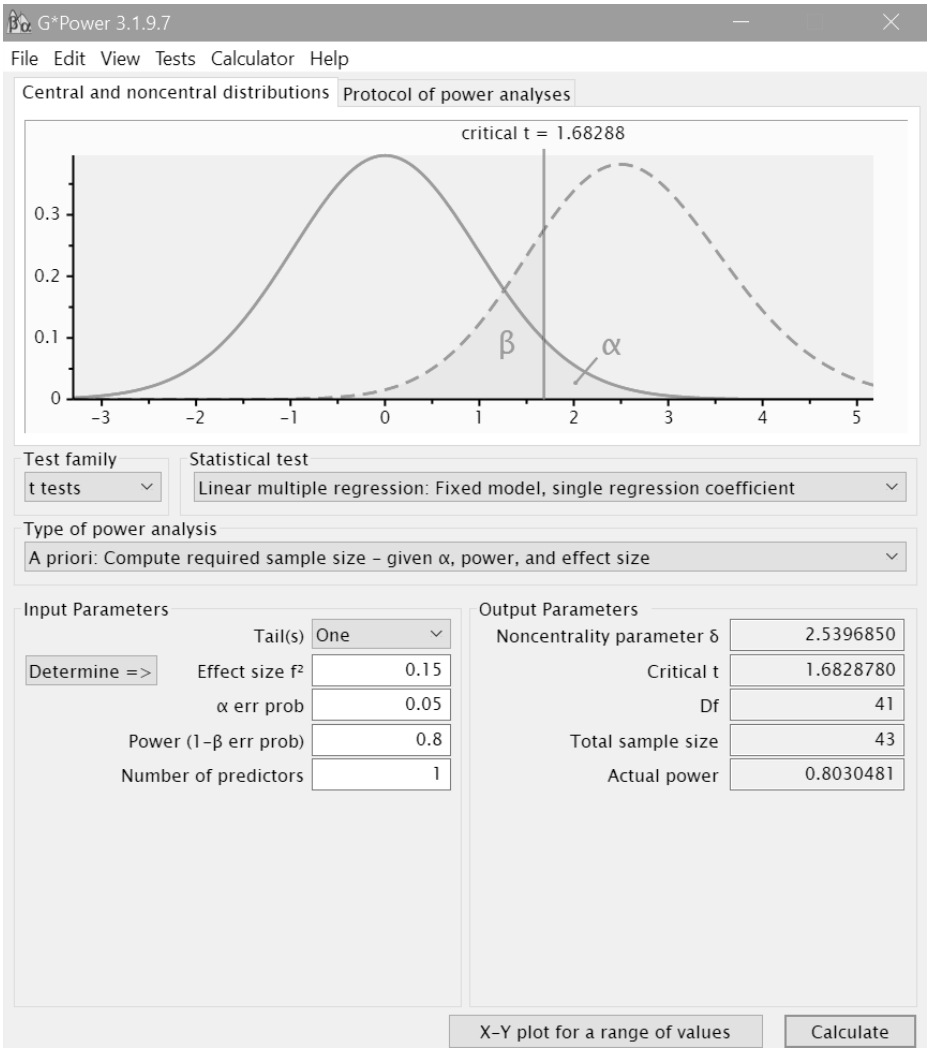
The data set included 221 out of 1,242 participants who responded to the questionnaire distributed for the study by Udin (2023). This number was maintained as Udin (2023) also used a sample of 221 in his analysis. This quantitative study examined the influence of CTL style on JS and OCB among physicians, nurses, and other workforce members.

Sampling and Sampling Procedures

The G*Power analysis (see Figure 2) confirmed the robustness of the study, explaining the significance level of alpha or p-value of 0.5 power or the correct probability of rejecting the null hypothesis of 0.8, the effect size of 0.15, or the relationship between two variables. The sample size or the number of participants needed in the study was calculated at 43 to validate the sample size. The number of observations in the secondary data was 221, surpassing the requirements of the G*Power analysis, further validating the credibility of the findings (Kang, 2021).

Figure 2

*G*Power Analysis*



Instrumentation and Operationalization of Constructs

This study analyzed secondary data from Udin (2023). However, this study included only the CTL, JS, and OCB variables in my analysis. Udin administered a modified MLQ; Data was transferred to a 7-point Likert scale. The data set used in this study was obtained from the Elsevier Mendeley website and is licensed under a Creative

Commons Attribution 4.0 International License, which permits the use, sharing, distribution, and reproduction of any medium or format. This study demonstrated how CTL is measured with four dimensions and interrelationships. Three dimensions and their interrelationships evaluate the predictor or independent variable CTL: CTL is measured by three response items within the questionnaire, CT1, CT2, and CT3 (Udin, 2023).

Workforce members responded to each item in the MLQ distributed in Nguyen et al. (2020) study using a 7-point Likert scale. The 7-point Likert scale survey represents a set of response options that were recorded as numeric values and imported into SPSS Version 29 software. Responses involve a range of opinions relating to each measure in a closed-ended question (Bhandari & Nikolopoulou, 2023). The numeric values and response options were as follows: 1 (*strongly disagree*), 2 (*disagree*), 3 (*somewhat disagree*), 4 (*neither agree nor disagree*), 5 (*somewhat agree*), 6 (*agree*), and 7 (*strongly agree*). Udin's study demonstrated how four dimensions and interrelationships measured CTL

Operationalization

The participants in this study responded to each item in the questionnaire using a 7-point Likert scale. The 7-point Likert scale survey represented a set of response options, and these same responses were recorded as numeric values and imported into SPSS Version 29 software for analysis. Responses involved a range of opinions relating to each variable and a closed-ended question (Bhandari & Nikolopoulou, 2023). JS was deemed an outcome-or-dependent variable associated with eight response items: JS1, JS2, JS3, JS4, JS5, JS6, JS7, and JS8 (Udin, 2023). OCB, also an outcome-or-dependent

variable, was represented by four dimensions of measure: 1) OCB directed toward the organization (OCBO) was measured by four response items within the questionnaire: OCB1, OCB2, OCB3, and OCB4 (Udin, 2023).

Data Analysis Plan

This study sought to determine whether CTL influences OCB through JS. Workforce members who possess a high level of JS can be cheerful, have pride and pleasure, are immersed in their responsibilities, and gain wisdom through their work (Udin, 2023). This study applied a quantitative research approach using a database of 221 from the participants in this study (Udin, 2023). Simple linear regression utilizing SPSS Version 29 software was applied to analyze the data collected from the 221 healthcare professionals. The study was significant; it explained the influence of organizational management practices and whether CTL might increase JS and OCB. It also confirmed that when individuals identify their leaders as core transformational leaders, they perform and participate in volunteering for additional job responsibilities and create a more positive, constructive work environment.

Data reliability assessment was a crucial part of Udin's (2023) study, with composite reliability scores of less than 2.58 for all variables. This was further confirmed through standard factor loading constructs to measure composite reliability and average variance extracted. The results indicate the acceptability of each indicator and all functions with the required standard loading values, providing a firm assurance of the study's validity (Udin, 2023).

Data Cleaning and Screening. Tourangeau et al. (2000) divided the survey response method into four major categories: (a) comprehension of the question, (b) retrieval of relevant information, (c) use of responses to render analyses, and (d) the selection and reporting of an answer. For respondents, the time spent on comprehension and reporting components depends on the characteristics of the questions. Time spent on comprehension depends on the question's length and complexity. Time spent on reporting is affected by how many and what type of response categories are offered (Andreadis, 2009). This study used the above four categories.

Research Questions and Hypotheses. Aside from Udin (2023), other research incorporating all healthcare workforce members in their studies has not been found, including CTL and its relationship with employee JS and OCB. The concept of CTL and how it impacts JS and OCB remains in development. Thus, this phenomenon can lead to further findings. The RQs and hypotheses in this quantitative study were as follows.

RQ1: Is there a relationship between CTL and JS for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility?

$H_0$1: There is no relationship between CTL and JS for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility.

H_a1: There is a relationship between CTL and JS for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility.

RQ2: Is there a relationship between CTL and OCB for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility?

$H_0$2: There is no relationship between CTL styles and OCB for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility.

H_a2: There is a relationship between CTL styles and OCB of physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility.

Data gathered from the 7-point Likert scale results provided a general impression of the sample and determined each question's mode or most common score used in this study. In addition, a histogram was created for each variable to visualize the frequency of each response and confirm normality. Scale data also provided the sum of the scores from each question. They delivered the total score for each participant, establishing a mean score and a standard deviation within the sample of 221 participants (Udin, 2023).

To address the RQs, this study's design incorporated a power analysis to test for effect size, linear regression analysis, a simple scatterplot, descriptive statistics, correlations, model summary, Durbin-Watson testing for independence of errors, ANOVA, coefficients, standardized residuals statistics, histograms testing for normal distribution of data, normality P–P plot testing, and standardized residuals testing.

Linear Regression. Regression analysis is a widely used statistical method for the analysis of various types of data (Schneider et al., 2010). It facilitates identifying and

characterizing relationships between multiple factors, such as the independent variable of CTL and the dependent variables of JS and OCB. It also allows for the identification of predictive significant risk factors and the calculation of risk scores, providing determinants for data accuracy and examination methods to increase subject knowledge (A. Schneider et al., 2010).

Scatterplot of Assumptions. The scatterplot of assumptions was used in this study to test for the normality of the regression line for JS and OCB. The scatterplot also showed that the spread of the data is similar along the regression line. This arrangement of data also establishes homoscedasticity or linearity and validates the proper assumptions, confirming linear regression as the preferred methodology (Research by Design, 2017).

Residual Statistics. Residual statistics display the minimum and maximum values for standardized residuals, which should not exceed -3.29 or +3.29, respectively (RBD, 2017). One benefit of this alternative methodology is that it highlights some challenges in existing approaches while simultaneously suggesting solutions; a prime example is testing for Heteroscedasticity in simultaneous equations. Consequently, it is essential to employ fit statistics that accurately and reliably identify inconsistencies in person-item responses and safeguard measurement integrity. These inconsistencies can undermine the objectivity of individuals and items, leading to skewed results that may compromise the entire assessment process (Karabatsos, 2000).

Independence of Observations. The independence of observations can be checked by examining the independence of errors, which can be found in the model

summary (see Tables 6 & 7) and calculated using the Durban-Watson test. Acceptance of this test is defined as a score of not less than one or greater than three (RBD, 2017). The concept of independence often signifies a lack of dependence. This perspective positions dependence and independence as two extremes on a singular behavioral spectrum, highlighting the importance of understanding the nuanced relationship between the two. Embracing independence is not merely about being free from reliance but empowering oneself to thrive fully (Hartup (1963).

Normality. This study applied statistical normality to confirm that the assumptions in the linear regression model were indicated by the P–P plot of regression, normal distribution displayed in a histogram, and a scatterplot of standardized residuals (RBD, 2017). Employing robust fit statistics to address these discrepancies effectively poses a significant risk to the integrity and objectivity of our measurement of individuals and items. By prioritizing these analytical tools, we can ensure a more accurate and reliable assessment, safeguarding the validity of our findings (Curran-Everett 2017).

Descriptive Statistics. Descriptive statistics effectively present the means of independent and dependent variables, their standard deviations, and the number of cases included in the study (RBD, 2017). A highly effective approach to assessing normality involves bootstrapping the sample mean when conducting a one-sample t-test or analyzing the difference between sample means in a two-sample t-test. It is widely accepted that a sample size of 221 is adequate to ensure that the theoretical distribution of the sample mean resembles a bell-shaped curve, even if the original population is skewed. This powerful statistical strategy allows researchers to derive meaningful

insights from the data, enabling them to confidently reach conclusions while skillfully navigating the complexities of underlying distributions (George & Mallery, 2018).

Model Summary. The model summary (see Tables 6 and 7) displays the square value of the independent and dependent variables R, the multivariate predictor variable, and the r^2 value of bivariate correlation or the coefficient of determination, which measures the proportion of the variability in the outcome variable explained by the predictor variable (RBD, 2017). The significant value in the model summary table indicates a strong relationship, showing that approximately 97% of the variation in yield is explained by the model (Singh, 2015).

Analysis of Variance. The ANOVA displays the value of significance, degrees of freedom, and the F value used in this study (RBD, 2017). ANOVA is an efficient method for analyzing experimental data. Although it is a complex technique with various adaptations suited to specific contexts, ANOVA enables researchers to determine whether significant differences exist between the means of three or more groups. This method is particularly valuable across multiple fields where experimental design is essential (Armstrong et al., 2002).

Coefficients. This study measured the independent and dependent variables using coefficients A and B, which were calculated as unstandardized values. Coefficients are an effective way to enhance insights regarding a sample's reliability. Confidence limits for the population reliability coefficient effectively enhance insights regarding a sample's reliability. By doing so, researchers can understand the range within which true population reliability is likely to exist. (Baumgartner & Chung, 2001).

Threats to Validity

Threats to validity consist of participant responses that may have varied and not been captured in the existing data set. Statistical analyses included a bivariate examination of three different measures. However, this study focused on CTL and how it affected OCB through JS. The threat to validity in this study only encompasses and focuses on one rural hospital. Many other private and governmental hospitals may reveal different outcomes due to the difference in their environment. Yu and Ohlund (2010) stated other threats to validity could include bias (the influence of personal beliefs), instrumentation (sporadic reporting procedures), selection bias (divergence among categories), and threats to internal validity (pretesting effect and sensitivity of participants concerning the subject matter.

Ethical Procedures

The ethics assessment of qualitative health research poses various challenges due to the variation in current ethics review practice and the nature of qualitative methodology (Potthoff et al., 2023). This study used the same strategy that Udin (2023) used in his study. This study did not reveal patient-protected health information or data. The recorded data of participants only described their degree and job responsibilities. Collected data were stored on a password-protected, institutional computerized network during the study and will be kept for 7 years following the finalization of the study. There were no interests or conflicts with the focal healthcare institution and received Walden University Institutional Review Board approval (12-09-24-1043028).

Summary

This study examined whether CTL affects OCB through JS in a rural healthcare facility and whether it directly affects JS and enhances OCB to contribute to organizational success. Multiple levels of testing were performed to conceptually and empirically describe whether CTL affects JS and OCB (Yammarino & Dubinsky, 1994). This section described the research design, methodology, instrumentation, analysis operation, data analysis, data cleaning, threats to validity, and ethical procedures applied.

Leadership processes change over time, and this study may not capture the theory of CTL's extensive range and dynamics (Yammarino & Dubinsky, 1994). This study determined the effects of CTL could increase when workforce members recognize how CTL influences the organization's operation. It examined organizational change through CTL and its influence on JS and OCB (Yammarino & Dubinsky, 1994). Section 3 presents the results of the study. The demographic characteristics of respondents are also described.

Section 3: Presentation of the Results and Findings

Introduction

This quantitative study examined the influence of CTL on JS and OCB of professionals and other workforce members whose jobs do not include direct patient contact within a rural healthcare facility. This study comprised three constructs: (a) CTL, (b) JS, and (c) OCB. The study's independent variable was CTL, and the two dependent variables were JS and OCB. This study used a modified version of an MLQ and a 7-point Likert scale, which provided a general average score of the subscales within the applied data set. The 7-point Likert scale correlated with the MLQ is as follows: 1 (*strongly disagree*), 2 (*disagree*), 3 (*somewhat disagree*), 4 (*neither agree nor disagree*), 5 (*somewhat agree*), 6 (*agree*), and 7 (*strongly agree*). Section 3 includes the demographic characteristics of respondents, scatterplots, P–P plots, and histogram testing for homoscedasticity and normality. It also includes descriptive statistics, unstandardized residuals, unstandardized statistics, unstandardized coefficients for JS OCB, and a summary (RBD, 2017).

Research Questions and Hypotheses

RQ1: Is there a relationship between CTL and JS for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility?

$H_0$1: There is no relationship between CTL and JS for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility.

H_a1: There is a relationship between CTL and JS for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility.

RQ2: Is there a relationship between CTL and OCB for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility?

H_01: There is no relationship between CTL styles and OCB for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility.

H_a1: There is a relationship between CTL) styles and OCB of physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility.

Data Collection of Secondary Data Set

Demographic characteristics of respondent data collected over 6 months included 32% men and 68% women. From the perspective of age, 43.9% were between 41 and 50, 28.5% were over 51 years old, 19% were between 31 and 40 years old, and 8.6% were equal to or less than 30 years old. Regarding educational qualifications, 64.7% had master's degrees, and 35.3% were physicians. Concerning work experience, 42.6% had worked for 11 to 15 years, and 32% had worked for more than 16 years. Finally, the functional structure of respondents shows that 41.2% were nurses, 35.3% were physicians, and 23.5% were other healthcare facility workers without direct patient contact. Table 1 shows the demographic characteristics of the sample.

Table 1

Demographic Characteristics of the Sample

Characteristic	*f*	%
Gender		
Male	70	32
Female	151	68
Qualification		
Masters	143	64.7
Physicians	78	35.3
Age (years)		
≤ 30	19	8.6
31–40	42	19
41–50	97	43.9
≥ 51	63	28.5
Work experience (years)		
3–5	22	10
6–10	34	15.4
11–15	94	42.6
≥ 16	71	32
Functional structure		
Nurses	91	41.2
Physicians	78	35.3
Other healthcare facility workers	52	23.5

Note. The sample was drawn from Udin (2023).

This study focused on CTL and how it influences JS and OCB. The threat to validity in this study only encompasses and focuses on one rural hospital. Many other private and governmental hospitals may reveal different outcomes due to the difference in their environment. Other threats to validity could include bias (the influence of personal beliefs), instrumentation (sporadic reporting procedures), selection bias (divergence among categories), and threats to internal validity, pretesting effect, and sensitivity of participants concerning the subject matter (Yu & Ohlund 2010).

Threats to validity may be found in responses from participants that may have varied and not been captured in the existing data set. Statistical analyses included a bivariate examination of three different measures. However, this study focused on CTL and how it affects OCB through JS. Many other private and governmental hospitals may reveal different outcomes due to the difference in their environment. Other threats to validity could include bias (the influence of personal beliefs), instrumentation (sporadic reporting procedures), selection bias (divergence among categories), and threats to internal validity, pretesting effect, and sensitivity of participants concerning the subject matter (Yu & Ohlund 2010).

The sample used in this study is a subset of 1,242 physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility, the target population to which these results are specified. This study's outcomes are based on simple linear regression. It was essential to remember that the population of 221 participants could still be characteristically different from the target population (Omair, 2014). The data set used in this secondary research was taken from Udin's (2023) study. The data collected by Udin was condensed to 15 items in the MLQ applied in this secondary study. Udin's study consisted of 33 items in the MLQ. This secondary research study may have discrepancies within the data set due to insufficient data, resulting in population bias.

Simple linear regression was applied to investigate the linear relationship between the dependent variables of JS and OCB (y) and (y), respectively, as well as the independent variable of CTL (x). The linear regression model described the dependent

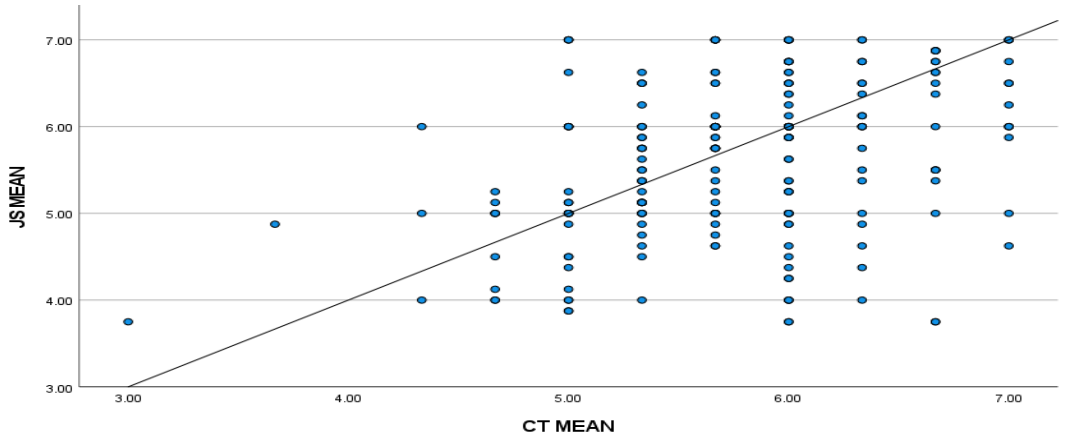
variables with a straight line defined by the equation $y = a + b \times x$, where a is the *y*-intercept of the line and b is its slope. The regression line predicted the value of the dependent variables (Schneider et al., 2010). The sampling data were regarded as nonprobability sampling, which was voluntary (Pawtari, 2013). The selection of the dependent variables, JS and OCB, along with the independent variable of CTL, was directly driven by the necessity of answering the RQs (Heinze et al., 2018).

Results

The scatterplot in Figure 3 displays the regression line for the dependent variable JS. The regression line for JS is a linearly related positive regression line at a 45-degree angle. The scatterplot demonstrates that JS increases as CTL also increases. The arrangement of data within the scatterplot establishes homoscedasticity and linearity (RBD, 2017).

Figure 3

Scatterplot of Job Satisfaction Mean by Core Transformational Leadership Mean



The scatterplot in Figure 4 displays the regression line for the dependent variable OCB. The regression line for OCB is a linearly related positive regression line at a 45-degree angle. The scatterplot demonstrates that as OCB increases, CTL also increases. The arrangement of data within the scatterplot establishes homoscedasticity and linearity (RBD, 2017).

Figure 4

Scatterplot of Organizational Citizenship Behavior Mean by Core Transformational Leadership Mean

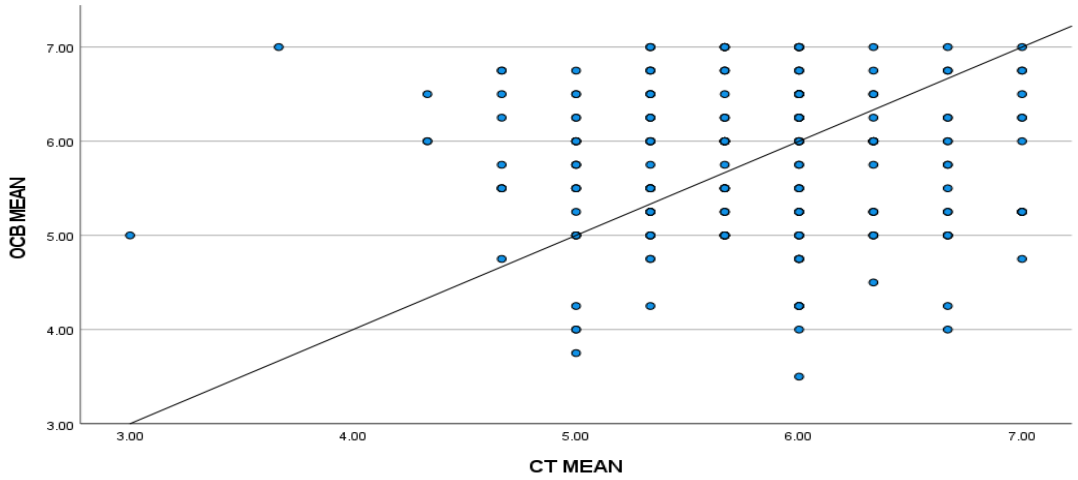


Figure 5 displays the P–P plot of data for JS at a 45-degree angle, confirming the normality of residuals (RBD, 2017).

Figure 5

Probability–Probability Plot for Job Satisfaction

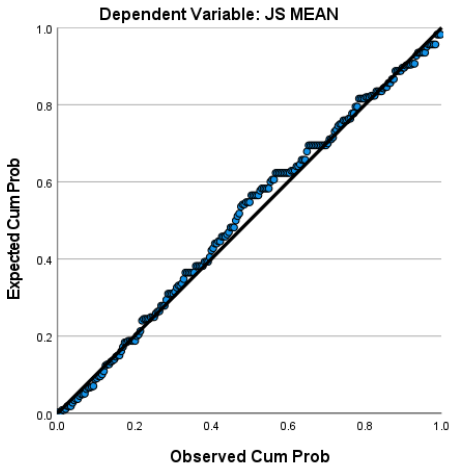


Figure 6 displays the P–P plot of data for OCB in a 45-degree line, confirming the normality of residuals (RBD, 2017).

Figure 6

Probability–Probability Plot for Organizational Citizenship Behavior

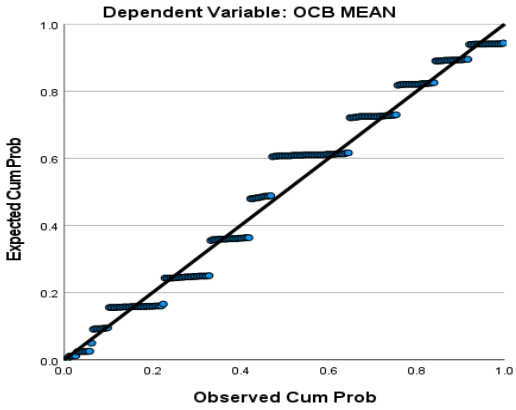


Figure 7 displays the histogram for JS, which shows an appropriately formed bell curve indicative of normally distributed data (RBD, 2017).

Figure 7

Histogram for Job Satisfaction

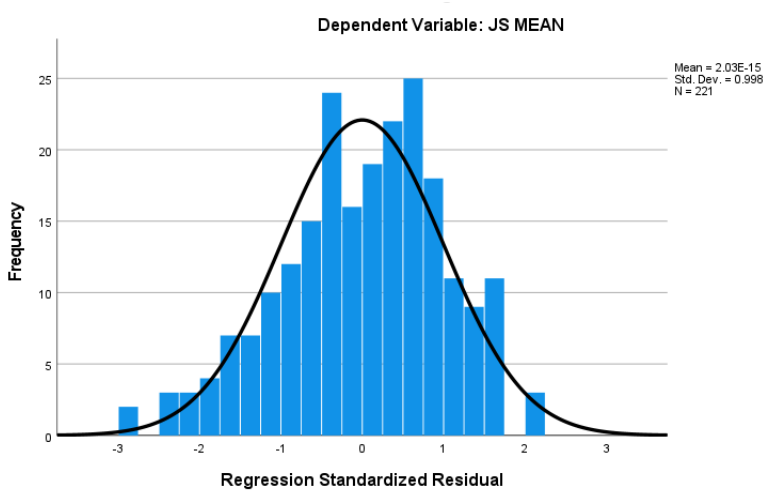
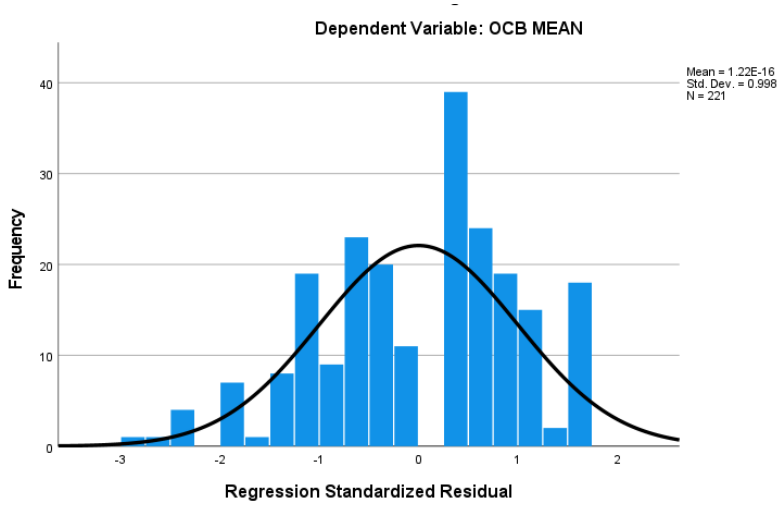


Figure 8 displays the histogram for OCB, which shows an appropriately formed bell curve indicative of normally distributed data (RBD, 2017).

Figure 8

Histogram for Organizational Citizenship Behavior



The mean of JS is 5.6227, and its standard deviation is .89052. CTL is constant, with a mean of 5.7632 and a standard deviation of .65577. The total number of participants was 221. The mean of OCB is 5.7817, and its standard deviation is .77870. CTL is constant, with a mean of 5.7632 and a standard deviation of .65577. The total number of participants was 221.

Table 2 displays the standardized residual statistics for JS, which is -2.778. The minimum and maximum values of the standardized residual statistics should not exceed -3.29 or +3.29.

Table 2

*Standardized Residual Statistics for Job Satisfaction (*N *= 221)*

Statistic	Minimum	Maximum	*M*	*SD*
Predicted value	4.2742	6.2264	5.6227	.32005
Residual	-2.31368	1.74974	.00000	.83103

Standardized predicted value	-4.214	1.886	.000	1.000
Standardized residual	-2.778	2.101	.000	.998

Note. The first dependent variable was JS, having a MEAN of 5.6227.

Table 3 displays the standardized residual statistics for OCB, which are -2.96. The minimum and maximum values of the standardized residual statistics should not exceed -3.29 or +3.29.

Table 3

*Standardized Residual Statistics for Organizational Citizenship Behavior (*N = *221)*

Statistic	Minimum	Maximum	*M*	*SD*
Predicted value	5.7576	5.7924	5.7817	.00571
Residual	-2.28374	1.23659	.00000	.77868
Standardized predicted Value	-4.214	1.886	.000	1.000
Standardized residual	-2.926	1.584	.000	.998

Note. The second dependent variable was OCB, having a MEAN of 5.817.

Table 4 shows the JS model summary, including the Durbin-Watson Statistic 1.989. This indicates that the assumption of independence of observations or errors has been met. The Durbin-Watson statistic value should be at least 1 and not greater than 3 (RD, 2017). The R correlation, the coefficient of determination R^2, and the adjusted R^2 for JS are .359, .129, and .125, respectively.

Table 4

Model Summary for Job Satisfaction

Model	*R*	R^2	Adjusted R^2	*SE* of the estimate	Durbin-Watson
1	.359 [a]	.129	.125	.83292	1.989

[a] The predictor (constant) was CT MEAN.

Table 5 shows the model summary for OCB, which includes the Durbin-Watson statistic, 1.989. This indicates that the assumption of independence of observations or errors has been met. The Durbin-Watson Statistic should be at least one and not greater than three (RD, 2017). The R correlation, the coefficient of determination R^2, and the adjusted R^2 for OCB are .007a, .000, and -.005, respectively.

Table 5

Model Summary for Organizational Citizenship Behavior

Model	*R*	R^2	Adjusted R^2	SE of the estimate	Durbin-Watson
1	.007[a]	.000	-.005	.78046	1.824

[a] The predictor (constant) was CT MEAN. [b] The dependent variable was OCB MEAN.

Table 6 shows an ANOVA significance value for JS <.001, indicating rejection of the null hypothesis and acceptance of the alternative hypothesis. The alternative hypothesis was that there is a significant relationship between CTL and JS for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility. The degree of freedom for JS is 32.482 and .012, respectively.

Table 6

Analysis of Variance for Job Satisfaction

	Model	*SS*	*df*	*MS*	*F*	*p*
1	Regression	22.535	1	22.535	32.482	< .001 [a]
	Residual	151.933	219	.694		
	Total	174.468	220			

Note. The dependent variable was JS MEAN.

[b] The predictor (constant) was CT MEAN.

Table 7 displays an ANOVA significance value for OCB > .001, indicating acceptance of the null hypothesis and rejection of the alternative hypothesis. The null hypothesis was that there is no relationship between CTL styles OCB for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility. The degree of freedom for OCB is .012.

Table 7

Analysis of Variance for Organizational Citizenship Behavior

	Model	*SS*	*df*	*MS*	*F*	p
1	Regression	.007	1	.007	.012	.914 [a]
	Residual	133.396	219	.609		
	Total	133.403	220			

Note. The dependent variable was OCB MEAN.

[a] The predictor (constant) was CT MEAN.

Table 8 displays the unstandardized coefficients for JS, which are 2.810 and .488. Therefore, for every one-unit increase in CTL, JS will increase by .488.

Table 8

Coefficients for Job Satisfaction

Model		Unstandardized Coefficients		Standardized Coefficients	*t*	*p*	95.0% CI for B	
		B	*SE*	Beta			*LL*	*UL*
1	(Constant)	2.810	.497		5.657	<.001	1.831	3.789
	CT MEAN	.488	.086	.359	5.699	<.001	.319	.657

Note. The dependent variable was JS MEAN. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 9 displays the unstandardized coefficients for OCB, which are 5.731 and .009. Therefore, for every one-unit increase in CTL, OCB will increase by .009.

Table 9

Coefficients for Organizational Citizenship Behavior

Model		Unstandardized Coefficients		Standardized Coefficients	*t*	*p*	95.0% CI for B	
		B	*SE*	Beta			*LL*	*UL*
1	(Constant)	5.731	.465		12.315	<.001	4.814	6.649
	CT MEAN	.009	.080	.007	.109	.914	-.149	.167

Note. The dependent variable was OCB MEAN. CI = confidence interval; LL = lower limit; UL = upper limit.

Summary

A simple linear regression was applied to examine the relationship between CTL and JS. Preliminary analyses were conducted to assess the assumptions of collinearity, outliers, normality, linearity, homoscedasticity, and independence of residuals; no violations were observed. ANOVA testing verified rejection of the null hypothesis that there is a relationship between CTL and JS for physicians, nurses, and other healthcare professionals whose jobs do not involve direct patient contact within a rural healthcare facility. The results of the simple linear regression were significant: F (1, 219) = 32.482, $p < .001$, $R^2 = .129$. The predictor CTL was significant, with JS ($B = .488$, $t = 5.699$, $p < .001$). The regression formula is Y=2.810 + 0.488 (JS).

Simple linear regression was conducted to examine the relationship between CTL and OCB. Preliminary analyses were conducted to assess the assumptions of collinearity, outliers, normality, linearity, homoscedasticity, and independence of residuals; no

violations were observed. ANOVA testing verifies acceptance of the null hypothesis that there is no relationship between CTL styles and OCB for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility. The results of the simple linear regression were insignificant: F (1, 219) = .012, $p < 0.914$, R^2 = .000. The predictor CTL was insignificant, with OCB (B = .009, t = .109, $p < 0.914$). The regression formula is y = 5.731 - 0.009 (OCB).

The effectiveness of CTL and its influence on JS and OCB could directly enhance patient outcomes and overall well-being, benefiting the surrounding community. Healthcare institutions in rural areas must adopt CTL techniques to leverage these advantages fully. Additionally, organizations across various industries could reap the benefits of implementing CTL (Ystaas et al., 2023). In Section 4, the findings are interpreted and considered in the study's implications for positive social change.

Section 4: Application to Professional Practice and Implications for Social Change

Introduction

This quantitative study examined the influence of CTL on JS and OCB of professionals and other workforce members whose jobs do not include direct patient contact within a rural healthcare facility. This study comprises three constructs: (a) CTL, (b) JS, and (c) OCB. The study's predictor or independent variable was CTL, and the two outcome or dependent variables were JS and OCB. The study used a modified version of an MLQ and a 7-point Likert scale, providing a general average score of the subscales within the applied data set. The 7-point Likert scale correlated with the MLQ was as follows: 1 (*strongly disagree*), 2 (*disagree*), 3 (*somewhat disagree*), 4 (*neither agree nor disagree*), 5 (*somewhat agree*), 6 (*agree*), and 7 (*strongly agree*).

Interpretation of the Findings

Udin's (2023) study unequivocally demonstrates that CTL directly influences JS (knowledge-based work passion), which significantly fosters and enhances OCB, ultimately driving organizational effectiveness. Although this secondary study parallelled Udin's, its results were similar. Additionally, Purwanto's (2021) regression analysis definitively demonstrated that transformational leadership has a significant effect and a strong, positive influence on JS and OCB. This study demonstrated a significant relationship between CTL and JS but no significant relationship between CTL and OCB for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility. CTL's effect on JS was key to improving workforce members' performance by considering their feelings, modeling their opinions, promoting growth,

and decreasing attrition rates. The significance of CTL in rural healthcare settings could create favorable outcomes (Fallatah et al., 2017).

Much literature on CTL underlines its importance in all types of industries. The expense of losing workforce members is much greater than retaining them (Carter et al., 2019). This study is consistent with other investigations that determine a direct positive effect on workforce members, increasing their ability to have more goal-oriented attitudes (Fletcher et al., 2019). Studies have revealed that CTL supports inspirational motivation, idealized influence, intellectual stimulation, and individualized consideration within a rural healthcare facility (Zhao et al., 2023).

Maslow's hierarchy of needs theory was applied to this study to explain the needs and behavior of the workforce. Studies have illustrated Maslow's hierarchy of needs by revealing that workforce members' reputations and a sense of self-worth enhance individuals' behaviors in healthcare by satisfying their higher needs (Yan et al., 2016). The Maslow hierarchy of needs is a commonly utilized theory applied by CTL. Although this theory has been criticized for its apparent stringency, workforce members may have other priorities; Maslow (1943) himself expressed skepticism regarding the applicability of this rigidly ordered hierarchy (Yan et al., 2016).

Limitations of the Study

Any research attempt inevitably carries limitations and delimitations regarding its fundamental theories, design, probable replication, deficiencies in data collection, questionnaire design, inadequate subgroups, data analysis, and other factors (Shaw, 2024). The first limitation of this study is that it only encompassed and focused on one

rural healthcare facility. Many private and governmental hospitals may reveal different outcomes due to the differences in their environment. A second limitation is that participant responses may vary and may not have been captured in the existing data set. Thirdly, this study failed to create a systematic limitation scoring index for authors, editors, reviewers, and readers, and recognizing their cumulative results could result in a better understanding of the research content and legitimacy (Shaw, 2024). Lastly, researcher and selection bias may affect the analyses and assumptions (Theofanidis & Fountouki 2018). The data used in this study were condensed data sets from Udin's (2023) study. The simple linear regression model used for this secondary data set has not been established for exactness, and other statistical methods may be helpful.

Recommendations

Maslow's theory stresses the need for healthcare managers to know workforce members' psychological and economic needs to increase healthcare performance. Healthcare leaders should be able to apply Maslow's hierarchy of needs theory, which could increase JS, and OCB (Maslow, 1943; Rangachari, 2008). Healthcare leaders should observe how individuals can fulfill organizational objectives and interpersonal interactions that support CTL (Alshahrani et al., 2024). Healthcare leaders should recognize the importance of understanding the psychological and ecological needs of the workforce. Managers and policymakers should also design procedures that encourage workforce members to increase the quality of patient care, increase performance, and enhance JS and OCB (Wang et al., 2021).

Long (2014) recommended the application of CTL. CTL plays a vital role in positively influencing organizational performance. CTL practice is essential for shaping performance outcomes. Training for middle and upper management is an essential strategy for empowering managers to secure employee support for change. It is imperative to prioritize training, education, and development activities for managers, as these initiatives are crucial for enhancing their ability to manage change effectively within a dynamic environment (Usman, 2020).

Implications for Professional Practice and Social Change

Much literature on CTL highlights its importance for all industries (Tian, 2020). The cost of losing workforce members is much greater than retaining them through compensation (Carter et al., 2019). It is suggested that leaders utilize CTL to create a positive, constructive workplace environment by application of Maslow's theory (Maslow, 1943). CTL influences employees to improve their performance and productivity (Kwarteng et al., 2023). Healthcare leaders applying CTL strategies should also respect their workforce members while identifying factors that inhibit performance (Haghighi & Maleki, 2016). Bass's (1985) theory confirmed that leaders ought to effectively convey the organization's vision and mission through the workforce, heighten confidence within the workforce, and satisfy physiological needs, a sense of connection, status, and self-actualization, strengthening the health of the surrounding community (Maslow, 1943).

CTL could improve the health and well-being of employees, which is crucial in mitigating numerous societal challenges and associated costs that stem from the short-

sighted actions of both managers and employees, potentially affecting their families as well. Prioritizing employee wellness should be a fundamental focus for any organization (Šarotar et al., 2017). Leaders should be aware of their behavior when promoting CTL, providing benefits for the group, and not just for the individual. This is crucial for ensuring all employees are aligned with the organization's vision and strategic goals (Swart et al., 2015).

Conclusion

This study explained how CTL affects JS and OCB in a rural healthcare facility. The results revealed a significant relationship between CLT and JS for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility. Therefore, the null hypothesis was rejected. The null hypothesis regarding OCB in this study was accepted. It did not confirm a significant relationship with CTL for physicians, nurses, and others whose jobs do not include direct patient contact within a rural healthcare facility. Although insignificant, there was a slight increase in OCB.

This study demonstrated that utilizing CTL strategies by healthcare administrators at a rural healthcare facility will contribute to organizational effectiveness. The application of CTL helps workforce members recognize and unite with their leaders. The workforce may be more likely to behave and participate in volunteering for extra assignments, create a positive work environment, feel bonded with the organization, and be adaptable to their job responsibilities, promoting continuous quality improvement and

generating persuasive insights to increase and inspire the overall performance at all levels of the organization (Udin, 2023).

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