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Ethical Leadership Effects on Medical Laboratory Personnel Accountability Behaviors

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This is to certify that the doctoral dissertation by

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Abstract

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MS, Walden University, 2019

MA, Ashford University, 2017

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Dissertation Submitted in Partial Fulfillment

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Abstract

Ethical scandals have continued to generate disturbances in the corporate world and have encouraged ethics studies in organizations. Research has shown there is a relationship between ethical leadership and employee accountability in a variety of organizational settings, including healthcare. However, in medical laboratories that relationship has not been explored. A quantitative study was conducted to examine if medical laboratory employee perceptions of manager ethical leadership was associated with their own accountability behavior. A total of 69 participants responded online to three instruments to measure the study variables: ethical leadership was assessed by the Ethical Leadership at Work Questionnaire, employee accountability behavior was assessed by the Leadership Accountability Scale, and total time an employee was assigned to a given manager was identified by a demographic questionnaire. The relationship between the variables was analyzed using regression analysis. The results showed that medical laboratory manager ethical leadership had a significant predictive relationship with laboratory employee accountability behaviors (F (1, 67) = 34.03, $p < .001$), and that the total time assigned to a medical laboratory manager does not moderate the relationship between medical laboratory manager ethical leadership and laboratory employee accountability behaviors (B = -0.00, t = -0.41, p = .681). The findings of this study show that ethical leadership in medical laboratory organizations was a strong predictor for increased accountability behavior in medical laboratory employees. This study may be used for positive social change to raise awareness of the need for ethic studies in medical laboratory organizations and practices where ethics studies are currently nonexistent.

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Chapter 1: Introduction to the Study

Ethics are a set of moral principles that derive from cultural norms and values that sometimes turn into federal regulations or state laws (Brown et al., 2005; Gronowski et al., 2019; Hartog et al., 2015). Unfortunately, these laws and federal rules are often found to be ineffective when people face ethical decisions that involve the well-being of patients and society (Datta, 2020; Gronowski et al., 2019). Ethical practices in laboratory medicine are defined by either the law of the laboratory's municipality or a code of conduct regarding decision-making for clinical laboratory professionals (Wijeratne & Benatar, 2020). Professionals recognize that there is no study on ethical leadership within medical laboratory leaders. Additionally, there is no book on ethical leadership for medical laboratory leaders (Bruns et al., 2015; Wijeratne & et al.,2020). This lack of knowledge and resources on ethical leadership is due to the fact that medical laboratory scientists rarely participate in bioethical disputes and are unaware of the vital need for and importance of ethical leadership in medical laboratory settings, and record ethics as an operating manual rather than moral responsibility (Afolabi et al., 2015; Madhu et al., 2019).

Domen (2002) conducted a survey and found that 84% of medical laboratory professionals believed that ethical issues are underrecognized, and 38% revealed that their current ethics training is inadequate and impractical for their practice. Bruns (2015) found that ethical leadership training and teaching is absent in both clinical and medical laboratories. Moreover, there is no workable theory on ethical leadership that can be served as a guide to assist medical managers in dealing with ethical dilemmas and

decision making (Shina et al., 2019; Wijeratne et al., 2020). Ethics is crucial in medical laboratory medicine because medical laboratory employees have a responsibility for the general well-being of society and members of their community (Datta, 2020).

Nyrhinen (2000) revealed that genetic testing, HIV, prenatal, autopsy, specimen handling, and labeling are the most ethical problematic examinations in a medical laboratory, with a range of 46% to 68.2% total errors in the pre-analytic phase (Gamble et al., 2014). As such examination errors occur during the pre-analytical phase, the results and interpretations from this analysis are often used for discrimination and stigmatization. Ethics in medical laboratory settings only focus on collecting specimens, chemical disposal, information collections, the performance of the test, medical record retention, and storage (Aggwal et al., 2020; Cocks, 2016; Datta, 2020). While these guidelines are acceptable for medical laboratory management, in some cases, they are inadequate due to the lack of theoretical knowledge of ethical leadership and ethical training in medical laboratory settings (Cocks, 2016; Gronowski et al., 2019; Wijeratne et al., 2020).

Witjeratne and Benatar (2020) stated that the most common ethical dilemmas in medical laboratory settings are due to negligence and lack of accountability because physicians or managers sometimes approve forms and reports without review, which sometimes cause a patient to face life-threatening symptoms or end up in intensive care. Additionally, employees or physicians are appointed to leadership roles based on long-term tenancy rather than management skills or experience. They are given responsibilities with no leadership training nor ethical leadership knowledge for managing employees (Khalajzadeh et al., 2019). Because medical laboratory managers rely on their training

concerning surgery issues, chemical disposal, patient confidentiality, patient safety, and record-keeping they have little knowledge on how to model ethical behavior in the workplace to influence employee ethical and accountability behaviors (Bruns et al., 2015; Gronowski et al., 2019; Wijeratne et al., 2020).

Goleman (2009) stated that a leader's attitude can either energize or deflate an organization. Leadership is crucial for team management, organization functions, and directions. Health care organizations, especially medical laboratory industries, have placed little effort in leadership development and training for their assigned management roles (Ghiasipour et al., 2017, Wijeratne et al., 2020). Ghiasipour et al. (2017) argued that the absence of ethical leadership research in health care is a social problem that places stakeholders at risk impacting society's health level. From qualitative analysis, they found that clinical managers are unfamiliar with leadership theory and lack knowledge of organizations' behavior for managing employees. While the manager's leadership style must align with the organization's practice and values, a leader with no ethical standard or morals can give rise to a toxic work culture that can lead to the downfall of the entire organization and endanger public safety (Brown et., 2005; Hartog et al., 2015).

Although research on the relationship between ethical leadership and accountability is scarce, it has shown that leadership integrity plays a significant role in employee accountability (Waddock, 2004). Unfortunately, in today's world, especially in medical laboratory settings, employee accountability does not appear to be a common trend in practice (Balderson et al., 2005; Brown, 2004; Gamble et al., 2014). Accountability is the obligation and the willingness to accept responsibility for one's

actions and mistakes (Lerner & Tetlock, 1999). Over the years, demand for greater employee has increased over the years in medical laboratory organizations (Baker et al., 2004; Brown, 2006). Concurrently, it is believed that employee accountability was easy to monitor without leadership guidance. However, these assumptions were proven wrong and resulted in inaccurate laboratory results fatalities in some cases, which impacted patient treatment due to employee negligence (Baker et al., 2004; Bourne, 2013; Komarnicki, 2012;).

Ethical issues play a vital role in laboratory medicine. Therefore, managers who are appointed into leadership must be fully aware of the importance of ethical leadership in medical laboratory management and decision making (Aggarwal et al., 2021; Witjeratne et al., 2020). To the present date, the effect of ethical leadership on employee accountability behavior in medical laboratory settings is unknown because medical laboratory organizations only enforce ethics through regulations (Datta, 2020). The lack of knowledge of ethical leadership in medical employees is a social issue that cannot be ignored and will continue to pose a significant threat to public safety.

Statement of the Problem

Medical laboratory personnel have an obligation to their patients, communities, and society (Bhagwat & Pai, 2020). The lack of ethical leadership knowledge in medical laboratory management can give rise to more ethical scandals and malpractice that will endanger both patients and the public if not addressed (Ghiasipour et al., 2017; White et al., 2019; Witjeratne et al., 2020). Although researchers have shown that ethical leadership practice may prevent these detriments, there is a lack of understanding of the

effectiveness of ethical leadership on employee outcomes, especially in laboratory medicine (Afolabi et al., 2015; Brown et al., 2005). At present, there is no research regarding the ethical behavior of leaders on employee ethical behavior of accountability in medical laboratory organizations (Witjeratne et al., 2020). Additionally, professionals in medical laboratory establishments have limited ethical leadership knowledge for managing employees (Bruns et al., 2008). They are unaware of the ethical behaviors that they are supposed to exhibit through social learning to influence the ethical behavior of accountability in their employees, because ethical leadership studies are conducted in other areas outside of health care (Brown et al., 2005; Bruns et al, 2008).

Accountability behavior is taking ownership of the results of one's actions, and the willingness to accept responsibility and be accountable for that action without blaming others (Wang, 2016). While the need to strengthen accountability in healthcare organizations has made its appeal in healthcare studies (Barker et al., 2004; Deber, 2010; Deber, 2014), the fundamentals of how to influence accountability behaviors through ethical leadership in medical laboratory organization remained under researched. The relationship between ethical leadership and accountability behavior in medical laboratory settings remain undetermined because medical laboratory organizations enforce accountability only through regulations or state laws rather than ethical leadership training and teaching (Gamble et al., 2014; Steinbauer et al., 2014). Given that little is known of the influence of ethical leadership in laboratory medicine, a gap was be addressed by examining the effect of ethical leadership on medical laboratory personnel accountability behaviors. Consequently, a study was conducted to examine the effect of

ethical leadership on employee accountability behaviors among medical laboratory personnel.

Purpose of the Study

This focus of this quantitative study was to determine the effect of a laboratory manager's perceived ethical leadership on their assigned laboratory employees' accountability behaviors. It also explored if the time working for a given medical laboratory manager moderates the relationship between their assessed ethical leadership in predicting their laboratory employee's accountability behaviors. This study promotes social change by demonstrating the impact of ethical leadership on medical laboratory staff and increasing awareness of the need for ethics training in medical laboratories.

Research Questions and Hypotheses

The following research questions and associated hypotheses guided this study:

Research Question 1 (RQ1): Does perceived medical laboratory manager ethical leadership predict their assigned laboratory staff's employee accountability behaviors?

Null Hypothesis ($H_0$1): Perceived medical laboratory manager ethical leadership does not predict their assigned laboratory staff's employee accountability behaviors.

Alternative Hypothesis (H_a1): Perceived medical laboratory manager ethical leadership predicts their assigned laboratory staff's employee accountability behaviors.

Research Question 2 (RQ2): Does the total of months laboratory staff is assigned to work for a medical laboratory manager moderate the relationship between their perception of their managers ethical leadership and the assigned staff's employee accountability behaviors?

Null Hypothesis ($H_0$2): The time laboratory staff are assigned to work for a medical laboratory manager does not moderate the relationship between their perception of their managers' ethical leadership and assigned staff's employee accountability behaviors.

Alternative Hypothesis (H_a2): The time laboratory staff are assigned to work for a medical laboratory manager moderates the relationship between their perception of their manager's ethical leadership and the assigned staff's employee accountability behaviors.

Theoretical Framework

Social Learning Theory

Bandura's social learning theory (SLT) has been used by professionals to understand the mechanism of unethical behavior and the influence of ethical leadership on employee outcomes (Brown et al., 2005). SLT suggests that behavior is learned through observation and learning (Bandura, 1977). In relationship to unethical behavior in the workplace, employees can learn ethical or unethical behavior through observation to determine what behaviors are expected and rewarded. When employees learn what actions are considered acceptable by their leaders, unethical behavior is eliminated (Brown et al., 2005). SLT is used to explain the characteristics that contribute to ethical leadership and how ethical leaders influence ethical behaviors in their employees. Employees look up to their leaders for ethical guidance and feedback. When the leaders act as credible role models, the employees value the behavior and learn to model the ethical behavior observed (Brown et al., 2005; Copeland, 2016; Trevino et al., 2014).

Knowing this, medical laboratory managers using the SLT can learn what behavior to follow and exhibit to influence ethical behavior of accountability in their employees.

Moral Disengagement Theory

Bandura's (1999) moral disengagement theory (MDT) is used in ethical studies because it is used to focus on why employees engage in certain behaviors and how employees tend to justify their unethical behaviors to avoids guilt or consequences from their deviant behavior and maintain balance with their personnel moral standard. The employee will try to validate a decision that results in deviance and deactivation from their internal moral standard (Bandura, 1999; Tillman et al., 2018). For example, if an employee makes a mistake, the employee may lie to their leader and fail to take accountability for their actions if that employee believes that reporting their mistakes will place their job security in jeopardy. Unlike SLT, MDT does not imply modeling; the theory focuses on employee moral justification and leadership practice on employee deviance (Gang, 2018). Research has shown that employees with low moral disengagement are more sensitive to ethical leadership and that employee perception of ethical leadership is more robust when the employee's moral disengagement is low (Bonner at al., 2016). The MDT suggests that ethical leadership relationship with followers goes beyond role modeling (Bandura, 1999; Moore et al., 2019). Through cognitive processing ethical leaders can reshape how their followers form their moral decisions to decrease deviant behaviors and organizational corruptions (Moore et al., 2019). Given scholarly consensus that the MDT is valid in ethics studies, it was applied in this study.

Nature of the Study

The study delivered instruments online to examine the predictive relations of ethical leadership and accountability behaviors of medical laboratory employees. Ethical leadership was measured using Kalshoven et al.'s (2011) Ethical Leadership at Work Questionnaire (ELWQ), a questionnaire proven to be reliable for measuring ethical leadership outcomes and unethical behaviors in the workplace (Kalshoven et al., 2011; Wijesekara et al., 2018). Accountability behavior was assessed using Wood and Winston's (2007) Leader Accountability Scale (LAS). The LAS is highly desirable for leadership selection, development, and leadership effectiveness research (Khurrum, 2006; Wood et al., 2007). A regression analysis, using SPSS, was used to examine the predictive relations of medical laboratory managers ethical leadership influence on the accountability behaviors of medical laboratory personnel. A moderation analysis was conducted to test whether the time medical laboratory staff serve under a given manager influences the relationship between a manager's assessed ethical leadership and their staff's self-reported employee accountability behaviors. The population of medical laboratory employees sampled for this study reside in Western upstate New York.

Definition of Terms

The definitions of the terms and variables presented below provide an understanding of the concepts used throughout the study.

Accountability behavior: The ability to take ownership of one's action without passing the blame to someone else with the willingness to take responsibility for that action (Deber, 2014).

Employee engagement: The level of psychological investment and commitment an employee has towards an organization with the willingness and ability to contribute to its success (Yi-Jia et al., 2008).

Ethical leadership: A form of leadership, where the individual leads by example and demonstrates appropriate behavior and applies morals standard in decision making (Brown et al., 2005).

Health care organization: A health system organization that provides health services such as treatment, diagnosis, cure for disease, illness, or injury, and is often the first point of contact with health care practitioners and professionals to provide primary care, secondary care, and public health (Cocks, 2016).

Medical laboratory employees: Individuals who worked in clinical pathology, anatomy pathology, blood bank, chemistry, histology, pathology, genetics, microbiology, toxicology, clinical biochemistry, cytogenetic laboratories, hospitals, clinics, and private physician offices responsible for conducting tests that provide information on patients' diagnostic, treatment, and prevention of disease (Cocks, 2016; Majkić-Singh,2017; Wijeratne et al., 2020).

Medical laboratory manager: A person who is trained and understands the effectiveness and efficiency of medical laboratory operations and functions; plans and implements laboratory procedures, ensures staff compliance, provides administrative support, resolves the problem, and monitors the laboratory. A medical laboratory manager primary role is to ensure that their employees comply with the laboratory rules

and regulations and ensure that the laboratory is well maintained to increase work efficiency and quality (Gamble et al., 2014; Wijeratne et al., 2020).

Moral disengagement: A psychological process where the individual is convinced that an ethical standard does not apply in a particular situation (Bandura, 1999; Bonner at al., 2016).

Servant leadership: A form of leadership where the individual focus is to serve all the stakeholders in the organization. Servant leaders share their powers in decision making with their employees and encourage innovation (Greenlaf, 1970).

Social change: A way in which society develops overtime to promote better living, create policies, make necessary changes, increase awareness, and fight against social injustice to promote better living conditions (Sablonniere, 2017).

Transformational leadership: A leadership style where the leader inspires, motivates their followers. The leadership style relies on leader-member exchange because the leader does not make demands of their followers and does not require their followers to work harder to get rewarded. Transformational leadership is comprised of four components: charisma, motivation, inspiration, and stimulation (Bass & Avolio., 2000; Bruns, 1978; Herold et al., 2008).

Transactional leadership: A leadership style that is based on self-interest. Leaders with this leadership style tell their employees what is expected from them to be rewarded while relying on reward and punishment to influence employee and rely on self-motivated employees to accomplish the organization's goals and (Brown et al., 2005; Kanungo & Mendonca., 1996).

Unethical behaviors: Actions that fall outside that which is deemed morally right and acceptable, lack moral principles, and do not adhere to moral conduct (Gang, 2018).

Assumptions

A general assumption was that the participants were honest and truthful in their responses from the survey. Participants can often choose to give an answer that they believed might be more desirable to the researcher (Trett et al., 2012). Another assumption was that participants had a sincere interest in the research with no other motives, and that the research sample represented medical laboratory employees. The final assumptions were that the participants had enough insights and interaction with their manager to respond the survey, and that the findings from the study are beneficial for large medical laboratory organizations that specialized in medical testing and contribute to promoting social change.

Scope of the Study

The study was limited to medical laboratory managers and medical laboratory employees. Medical laboratory employees take up management roles as leaders with minimal help from the physician and administrator of their practice and are expected to maintain the laboratory work efficiency to increase profit (Kippist et al., 2009). Medical laboratory employees are required to adhere to high ethical standards. Like any other area in medicine, there are unique ethical issues that directly affect medical laboratory practice. Consequently, there is a lack of ethics research in medical laboratory medicine (Grotowski et al., 2019; Madhu et a., 2019). For the purposes of this study, a single population of 55 medical laboratory employees in Western upstate New York were

selected to focus solely on medical laboratory employees rather than more broadly on other health care professions. Due to the nature of the population, the results from this study are unlikely to be generalizable to other populations in health care.

Limitation of the Study

A limitation that occurred in this study was that some of respondents did not respond to most of the survey and exited before completion. To manage this limitation, the target audience in the Survey Monkey Target Audience collector and demographic questionnaire was adjusted to send the survey to the right respondent who matched the criteria of the demographic questionnaire with reminders every 2 weeks. The Survey Monkey Target Audience collector options from SurveyMonkey also made sure that the survey was sent to a specific population of medical laboratory personnel based on demographics, employment status, gender identification, time assigned under current manager, number of years of employment and age. Another limitation was that the time under current manager may vary between participants, where employees may have worked for a previous manager for a much more extended period. To manage this limitation, participants were asked in the demographic questionnaire to record the time in month that they have spent under their current laboratory manager. Another limitation was the possibility of missing of data due to sample attrition resulting in a difference between the initial and the ending sample (Mason, 1999). The sample size analysis from the G* Power 3.1 software indicated that 55 participants was an appropriate sample for the study. Therefore, to account for sample attrition, a 10% margin was added to the sample size and total of 61 participants was sample. An additional limitation was that this

study focuses on large medical laboratory organizations specializing in medical testing. Therefore, the findings from this study might not reflect other specializations in small medical laboratory settings, especially hospitals laboratories.

Quantitative research involves a structured questionnaire with close-ended questions. Therefore, a structured questionnaire limited the outcomes of the study. The nature of the self-report survey limits the outcomes of the research because respondents have limited options of responses, then the additional information in-depth interview can provide (Simon 2011; Younus 2014). Therefore, it was important that the design of the study aligned with the population, and that the correct target group was selected to obtain the maximum amount of reliable and valuable data.

Significance of the Study

The findings of this study support an understanding of ethical leadership on employees' moral actions in laboratory organizations and fill the gap in current research. Additionally, the findings can be used as a guide for medical organizations in the fundamental effect of ethical leadership on employee behaviors in medical laboratories. Last, the findings support the ongoing need for ethical leadership studies in medical laboratory practice.

Ethical dilemmas are presented daily in medical laboratory settings. Although laboratory employees do not come into direct contact with patients, the lack of ethical practice and ethical leadership failures can cause life-threatening events that can interfere with public safety and society (Gronowski et al., 2019; Witjeratne et al., 2020). As ethical dilemmas continue to surface in medical laboratories, the professionals who are assigned

leadership roles are often left unaware of the importance of ethics in their decision making (Khalajzadeh et al., 2019). Furthermore, they are often unaware of the behavior that they are supposed to exhibit to their subordinates to eliminate unethical behaviors and increase accountability in their department (Khalajzadeh et al., 2019; White et al., 2019). The findings of this study cover a gap in ethical leadership literature in laboratory medicine, where ethics studies are currently non-existent, and raise awareness on the need for ethical leadership studies in medical laboratory organizations. Furthermore, the result from this study can help promote better work environments for employees and help create new policies and ethics training that help decrease unethical behaviors in the workplace.

Summary and Transition

While laboratory organizations rely on studies from other health care professions to guide their practice, managers in laboratory medicine do not have a current model on ethical leadership to guide their practice (Gronowski et al., 2019). Furthermore, the ethical leadership training that these managers received is inadequate and insufficient for their management roles, and do not address the ethical issues that uniquely affect medical laboratory practice (Bruns et al., 2015; Gronowski et al., 2019; Wijeratne et al., 2020). Chapter 1 presented the need for ethical leadership in the medical laboratory setting. The purpose, problem, and reference to previous literature presented the beneficial factor of ethical leadership in organization management and practice. The presented study addressed that gap by examining the predictive relations of ethical leadership medical laboratory managers on the accountability behaviors of the medical laboratory personnel

they supervise. This study can contribute to the promotion of social change by improving workplace conditions for medical laboratory personnel. The result of this study raised awareness of the importance of ethical leadership in medical laboratory management.

Chapter 2 presents a literature review of the theories and fundamental concepts of the study. The chapter focuses on the theoretical concept of leadership. Leadership theories, including transformational, transactional, servant, and ethical leadership, are be discussed. The concept of accountability and what is known about the relationship between ethical leadership and accountability are addressed. Chapter 3 covers the research design, methodology, the population, including participant selection, instrumentation, data collections, and analysis, are discussed. Threats to validity, ethical procedure, and participants' protections are also explored. In Chapter 4, data provided from medical laboratory employees from Western New York are analyzed. The assessments used for the research are the ELWQ and LAS and were distributed using SurveyMonkey. Chapter 5 reviews the findings of the study and makes connections between the findings to the literature and the theoretical framework. The limitations of the study are explored, and recommendations for future research are provided.

Chapter 2: Literature Review

This chapter contains literature on the theoretical foundations of leadership with the definitions of the concept, including current research findings that address ethical leadership and accountability. From a theoretical basis leadership theory, transactional leadership, transformational leadership, servant leadership, ethical leadership, accountability behavior and ethical leadership, SLT, and MDT are discussed. Previous researchers have argued that ethical leadership has an impact on employee outcomes. In this chapter, theoretical and empirical research that focuses on ethical leadership, power and leadership, accountability behaviors, and impacts on employee accountability behavior are reviewed. The literature review compares ethical leadership with other leadership theories to understand concepts that appear to be similar.

Literature Search Strategy

The keywords that were used to conduct this literature search included *ethical leadership, unethical behavior, moral justification, harassment in the workplace, deceptive behaviors, workplace and ethics, workplace accountability, ethic in laboratory medicine, laboratory medicine management, and leader characteristic, leadership and accountability, laboratory ethics, medical ethics, laboratory management, power and leadership, leadership and ethics,* and *leadership theories*. Databases that were used for the search included ResearchGate, Emerald Insight, ProQuest, Education Source, Psych info, Psych articles, Business Source Complete, EBSCO, ScienceDirect, Walden University Dissertation & Theses database at Walden University, SAGE Journals, and the Social Citation Index.

Leadership Orientations

Leadership theory is one of the most researched and debated topics in social psychology, management studies, and industrial/organizational psychology (Connell et al., 2002; Pfeffer, 1993). Scholars continue to seek more information regarding what makes a good leader (Anderson et al., 2015; Mutswa, 2016; Oludolapo et al., 2019). According to Northhouse (2016), individuals commonly seek new information on becoming a great and effective leader. The result of this curiosity has resulted in increased leadership studies over the years (Brown et al., 2005; Hartog et al., 2015). Organizations use leadership research to identify employees with leadership skills to significantly improve organizational functions, productivity, and proficiency (Bass,1990; Butts, 2012; Northouse, 2016).

Lussier and Achua (2010) stated that an organization's future strongly relies on its leadership because leaders can help increase employee productivity; increase organization revenue; promote changes; and increase positive attitude, performance, engagement, loyalty, and job satisfaction. Throughout the years, leadership researchers recognized that different leadership styles and approaches contribute to leadership theory and complexity of leadership (Bass,1990; Brown et al., 2005; Burns, 1978). Traditionally, the most common leadership approaches are autocratic, participative, laissez-fare, transactional, and transformational leadership. In recent years, servant, authentic, and ethical leadership have been added to that list. The following sections provide additional context on each of these leadership styles.

Autocratic Leadership

Autocratic leadership, also known as authoritarian leadership, is a leadership style characterized by authority where the individual has dominance over all decisions and allows little input from group members (Chioma et al., 2017). Individuals with this leadership style make decisions based on their judgment without cooperation and engagement from their followers and use reward, coercion, or punishment as tools to motivate their subordinates (Lopez, 2014; Schoel et al., 2011). Studies reveal that autocratic leaders can harm an organization by forcing their followers to perform tasks based on their ideas of success rather than shared vision (Cherry, 2016; Srivastava, 2016). As power is the dominant attribute of autocratic leadership (Schoel et al., 2011), individuals with this leadership style show little value to employee creativity, which often leads to low employee engagement and satisfaction, as well as lack of trust and teamwork (Amanchukwu et al., 2015; Blomme et al., 2015; Kan et al., 2015).

Autocratic leadership is mainly preferred in intensive or critical care practice because often, the physician is the only one in the team with the requisite skills and knowledge to diagnose and select the appropriate treatment for patients (Yun et al., 2005). During a surgical procedure, trauma, and acute resuscitation where there is little time for collaborative decision making, the physician often instructs the staff on what to do and makes decisions based on justifiable need without staff input (Samarakoon et al., 2019; Sanftou et al., 2017). Autocratic leadership studies in healthcare primarily examined critical care employee opinions and not employee outcomes (Sanftou et al., 2017; Vance et al., 2002). This leadership style tends to promote diagnostic error because

the leader is often unwilling to share information with their staff to retain power. Having no tolerance for mistakes it may cause staff members to remain silence due to fear of being blame even if they have critical information or have observed a behavior that the physician overlooks (Mantous et al., 2011; Stanfou et al., 2017; Yun et al., 2005).

Participative Leadership

Participative leadership is a leadership style where team members participate in the decision-making process (Xu, 2017). This leadership style is the total opposite of autocratic leadership because the leaders facilitate employee engagement in the management process and integrate their followers' skills and knowledge into the decision-making process before arriving at a final decision (Chioma et al., 2017; Srivastava, 2016). As a result, employees feel more engaged, valued by their leader and are more motivated to work efficiently (Srivastava, 2016; Xu, 2017). Studies show that participative leadership significantly influences employee communication and satisfaction, improves patient health, and reduces job turnover (Batti et al., 2012; Musinguzi et al., 2018; Xu, 2017). Additionally, in health care, employees participating in decision-making are more motivated to carry out team functions and responsibilities (Musingisi et al., 2018; Xu, 2017).

Srivastava (2016) showed that participative leadership leads to trust development among subordinates, he also found that the leadership style is only effective when employees are motivated to share their knowledge (Srivastava, 2016). Despite the positive outcomes of participative leadership on employee satisfaction and organizational change (Pardo-del-Val et al., 2012), the leadership style is more successful in motivated

employees (Chery, 2016). Even when all employees contribute to the decision-making, the leader still spends much time and effort to make even a small decision, due to conflicts and lack of resolution during decision making (Samarakoon, 2019). Further, disadvantages that are known to emerge in participative leadership are slow motivation, conflicts, and loss of time during decision-making, which can be critical during an emergency when quick decisions are needed for patient care (Chery, 2016; Mantous, 2011; Nagendra, 2016; Xu, 2017).

Laissez-faire Leadership

Laissez-faire style is a form of leadership where the leaders fail to take responsibility for themselves and their subordinates (Allen et al., 2013; Chery, 2016). Employees perceive individuals with this leadership style as absent and withdrawn leaders who have no interest in their follower's growth and show little effort to form a relationship with their followers (Arenas et al., 2018; Bass, 1985; Northhouse, 2010). Laissez-faire leadership involves a hands-off approach where the leader puts more of the responsibility if not all in the hands of their followers while being available for feedback (Gilani et al., 2014). Zareen et al. (2015) found that laissez-faire leadership can be effective where employees are highly motivated and capable of completing tasks independently. In these cases, the autonomy given by laissez-faire leaders increases satisfaction and learning opportunities in employees with high intrinsic motivation (Cilliers et al.,2008; Zareen et al., 2015).

Researchers found that laissez-faire leadership is the most ineffective and most destructive leadership style (Avolio & Bass, 1995; Chery, 2016). Leader avoidance

behavior and lack of guidance causes employees to be less motivated and less productive, due to the lack of structure, support, and lack of appreciation (Chery, 2016; Ekmekci, 2016; Samarakoon, 2019; Skogstad et al., 2014), which leads to poor group performance, missing deadlines, avoidance in communication, lack of cohesiveness within-group, conflicts, and deferral decision-making (Allen et al., 2013). Quantitative research reveals that both laissez-faire and transactional leadership adversely affect job satisfaction and weaken interpersonal relationships in health care workers (Chaudhry et al., 2012; Madlock et al., 2008; Samarakoon, 2019). Further, laissez-faire leaders appear to have low level of engagement with team members and lack emotional intelligence skills that often result in lack of trust between the leader and the employee and can also result in unethical practice (Avolio & Bass, 1995; Ekmekci, 2016; Northouse, 2010; Tosunoglu, 2016).

Transactional Leadership

A transactional leader focuses on allocating assets and using contingent rewards to direct followers to achieve organizational goals and obtain desired behaviors (Bass, 1985; Washington et al., 2014). A transactional leader uses reinforcement, power, and punishment to motivate employees by appealing to an individual need rather than the group goals (Northouse, 2010). Leaders in this category set goals and expectations for their employees and offer a reward when the standard is met (Bass, 1990; Fletcher et al., 2018; Saros, 2001). An example of a transactional leader is a politician who looks to win votes by promising new policies that will help their followers, which also works for his/her interest (Paramova & Blumberg, 2017).

Bass (1990) stated that transactional leadership style negatively affects employee performance and development because a transactional leader does not focus on forming a relationship with their employees and do not set the effort to increase creativity and leadership skills. In the workplace, managers with transactional leadership style focus more on organizational functions, sustaining status quo, and stability (Barbuto, 2005; Sultana et al., 2015). Under a transactional leader, employee outcomes rely on reward and the leader's ability to determine which reward will increase employee motivation, engagement, and satisfaction (Osborne et al., 2017). Nevertheless, the reward and incentives program used for the employee performance, and to increase motivation are often found to be ineffective in transactional leaders because they often fail to determine which incentive programs are best suited for their employees. Studies show that employees who earn livable wages are less motivated by financial rewards (Aguinis et al., 2012; Kulchmanov et al., 2014; Randall et al., 2006). Additionally, employees who do not want leadership roles or are intrinsically motivated will not show a change of performance because they will find the rewards unbeneficial (Aguinis et al., 2012; Barbuto, 2005; Hay, 2013). This roadblock often causes transactional leadership to be ineffective because the leader fails to analyze their employee's needs to increase productivity, growth, motivation, and innovations (Bass, 10985; Northouse, 2010; Sultan et al., 2015).

Transformational Leadership

Transformational leadership is one of the most researched leadership styles because it focuses on charismatic behavior, followers' development, organizational

culture, and change (Bass & Riggio, 2006; Bryman,1992). Transformational leadership gained popularity over the years because of its critical role in employee motivation, workgroup performance, and employee satisfaction (Antonakis, 2012; Bass & Riggio, 2006; Herold et al., 2006). Bruns first developed the transformational leadership theory in 1978. The theory states that transformational leaders focus on satisfying the basic need of their followers while inspiring individuals to provide new solutions and ideas to create a better work environment (Bass, 1999; Bruns, 1978; Sfantou et al., 2017). Herold et al. (2008) defined transformational leaders as individuals who understand the value of their establishment and align their goals with their employees. The leadership style influences, encourages, empowers, and motivates employees to take pride in their work and focus on the organization's well-being (Lussier & Achua, 2010; Yi-Jia et al., 2008).

Transformational leadership has some transactional content where both the leader and the follower work together to attain a higher level of motivation and achieve their goals (Aviolo et al., 2004; Aviolo et al., 2011; Bass, 1990). Further, transformational leadership is often present during organizational development and changes, making this leadership style an essential aspect in any work setting (Yi-Jia et al., 2008). Transformational leadership plays a crucial role in employee performance, job satisfaction, and engagement (Yi-jia et al., 2008). A transformational leader inspires involvement by allowing employees to be creative without micromanaging. This buy-in also creates a healthy work relationship between the organization, the employees, and the leader (Huang et al., 2009; Singh, 2019; Zhang & Bartol, 2010). Employees inspired by

their transformational leader are more likely to increase work performance, commitment, and satisfaction (Gillet & Vandenberghe, 2104).

Charisma is one of the main components of transformational leadership, yet, researchers found a difference between transformational leadership, which may incorporate charismatic qualities, and charismatic leadership (Aviolo et al., 2004; Bass, 1990). Transformational leaders engage in charismatic behavior by motivating and influencing their followers to achieve better work outcomes and influence their followers to be committed to the organization's changes and values (Aviolo, 2004). In contrast, a charismatic leader increases commitment and collaboration in employees and increases work proficiency by showing confidence in their ability and capabilities (Bass, 1990; Aviolo et al., 2004; Van Knippenberg & Sitkin, 2013). Ethics studies reveal that a transformational leader can behave both ethically or unethically based on their moral values, power misusage, or when decision-making is based on personal gain (Felix et al., 2016; Keely, 1995; Krishnan et al., 2000; Muhammad et al., 2016). Koroll (1994) stated that transformational leadership has its place in health care because medical laboratory personnel need to have a manager who acts as a role model, projects ethical conduct, and applies changes and resources to increase the quality of work-life, patientcare, community satisfaction, and employees' motivation (Baqer et al., 2018; Kaluku et al., 2018).

Servant Leadership

Servant leadership has raised significant disagreements on leadership over the years (Eva et., 2019; Gandolfi, 2018). How can an individual be a leader and a servant at

the time? Greenleaf first introduced servant leadership in 1970. Servant leaders demonstrate assertive moral behavior toward their employees and focus on their employees and team members rather than their own needs (Chung, 2011, Hale & Field. 2007; Udani et al.,2013). Servant leaders see their leadership position as a responsibility rather than a privilege; they are ethical and attentive to the concerns and needs of their followers (Hale & Fields, 2007; Greenlaf, 1977). Servant leaders nurture their followers, empower their followers to develop their full capacities and provide support to employees to achieve tasks and goals (Greenleaf, 1970). A servant leader includes employees in decision-making; this input increases team cohesiveness, work engagement, and trust between employees, clients, and stakeholders (Melchart et al., 2010; Saleem et al., 2020).

Research shows that servant leadership plays a role in employee retention by creating a sense of belonging in the employee and establishing a positive work environment (Chen et al., 2002). One of the primary goals of servant leadership is to create a healthy work environment, establish a platform for growth, increase organizational performance, and create a positive impact on society (Greenleaf, 1970). Servant leaders recognize their follower's ability and contribution and influence their subordinates to achieve their full potential and personnel goals (Al Afeshat et al., 2019). A servant leader positively influences work relationships and collaboration between employees to increase a healthy work environment and culture (Burton et al., 2017; Hu & Liden, 2011; Melcher & Bosco., 2010).

Scholars found that servant leadership significantly influences employee performance, commitment, organizational trust, task performance of subordinates,

employee satisfaction, and retention (Asefat & Farida, 2019; Saleem et al., 2020). In organizational settings, servant leadership has gained its popularity, in part, due to its ethical component (Sousa et al.,2017). Servant leaders empower, protect their employees, and chose professional goals based on the organization's objectives (Muhammed et al., 2016). Servant leadership is often found to be the preferable leadership style in health care organization because a servant leader applies ethical principles in their practice (McMahone, 2012), focuses on their team, develops trust, and empowers team members to increase patient satisfaction, and improve the value of patient care (Trastek et al., 2014). Servant leaders have been shown to promote ethical work climate in health care organization, reduce the cost of marketing for inpatient recruiting, and decrease patient care costs to provide a more sustainable, high-quality health care system (Schwartz et al., 200).

Authentic Leadership

The rapid increase of ethical scandals in organizations and government agencies both nationally and internationally in recent years indicates that there is a need for authentic leaders (Landez, 2018; Peus et al., 2012; Bagdasarov & MacDougall, 2016). Although the knowledge of authentic leadership is still embryonic, the leadership style is known to increase positive behavior, quality of life, work productivity, trust, and job satisfaction (Avolio et al.,2005; Chan et al., 2005). Additionally, research shows that authentic leadership is the biggest predictor for job satisfaction and organizational commitment (Jensen et al., 2006). In healthcare management, the leadership style has been shown to improve patient care, work engagement, and mental health (Al-Marri et

al., 2020; Coxen et a., 2016). Authentic leaders have strong moral standards and values; they lead with purpose and possess a strong awareness of who they are as individuals and how they behave (Avoli et al., 2005; Avoli et., 2014). According to Northouse (2015), followers observed their authentic leaders' behaviors based on three categories intrapersonal, interpersonal, and development. The intrapersonal category of an authentic leader is the internal qualities that the leader possesses, the knowledge of the leader, and self-perception (Northouse, 2015). Authentic leaders lead with integrity and transparency by engaging in communication with their followers to influence feedbacks and make decisions based on internalized convictions and moral reasoning (Avolio & Gardner, 2005; Hannah et al., 2003; Leroy et al., 2015).

Authentic and ethical leadership are very similar with different concepts. Both leadership styles have comparable fundamental frameworks: balanced processing, relational transparency, self-awareness, and authentic behavior (Ilies et al., 2005; Kalshoven et al., 2011). However, Authentic leaders are practical and expect their followers to follow the same guidelines in which they operate (Saeed et al.,2020); though the practice brings positive outcomes, it might not always be ethical base on the leader moral values (Saeed et al., 2020; Sendjaya et al., 2016). At the same time, ethical leaders are theoretical, and authentic whose leadership are based on ethics and morals (Saeed et al., 2020).

Ethical Leadership

Ethical leadership falls under two categories: 1) the character of the leader, and 2) the action of the leader (Brown et al., 2005). Ethical leaders influence their followers

through role modeling, interpersonal relations, communication, reinforcement, and ethical decision-making (Brown et., 2005; Trevino et., 2006). While understanding the influence of ethical leadership on subordinates is still on its infancy, professionals continue to face roadblocks when conducting ethical studies base on the belief that ethics can be thought from experience, rather than theoretical knowledge or empirical studies, and that their knowledge on ethical leadership is sufficient any discipline (Hartog et al., 2009; Price, 2000). Further scholar that examines the influence of ethical leadership on subordinated only focus on the moral characteristics of the leader, not the leader's action, issues of ethics and ethical leadership studies, and the mediating effect in which ethical leaders influence employee behaviors (Avolio et al., 2009; Schminke et al., 2005).

Research suggested that leaders can influence ethics through motivation (Lord et al., 2001), unfortunately, the belief and style of practices are sometimes found to be inadequate, and resulted misinformation, or malpractice of ethics in the workplace (Bruns et al., 2008; Lord et al 2001; Price, 2000) Ethical leadership is about the leader's actions, who they are as individual, how they apply ethic in decision making, including their relationship with their followers (Brown et al., 2005; Khalshoven et al., 2011; Zang et al., 2018). Ethical leader follows ethical values, takes his/her employee and organization into consideration, and applies ethical principles and standards during decision making (Curtis & O'Connell, 2011; Treviño et al., 2003).

Unethical leadership can affect lower-level employees (Brown et al, 2010). When the leader fails to take accountability and engages in malicious behavior, it affects their followers, and encourages their followers to engage in similar behaviors (Brown et al.,

2010). The aftermath from the unethical leader behavior not only affects the organization's culture, but it also affects employee morale, decreases employee satisfaction, and gives rise to a toxic work environment, with an increase of employee turnover (Brown et al., 2005; De Hoogh et al., 2008; Mulki et al., 2007).

Unethical leadership often goes unrecognized because leaders sometimes foster or ignore unethical behavior among employees without reprimand (Ashford, 1989, Brown et al., 2010). Employees often engage in unethical behavior to increase organizational performance, by trying to help the organization, the employees often disregard the organization's policy or standard of operation (Brown et al., 2010). When ethical leaders exhibit moral behavior, it has a positive effect on the employee that can also result in positive outcomes (Brown et al., 2005; Moore et al., 2019). Thiel et al (2018) found that through leader and member exchange ethical leadership increased employee performance, engagement, and commitment.

Brown et al. (2005) stated that there are two ethical leadership elements: a moral person and a moral manager. A moral person in ethical leadership focuses on the character of the individual and traits built on fairness, honesty, respect, openness, integrity, care, trust, and ethical principles (Brown et al., 2005; Trevino et al., 2000). Leaders with these characteristics are found to be welcomed by their followers; they are active listeners to their follower's concerns to identify problem in the organizations (Brown et al., 2005). A moral manager in ethical leadership represents how the leader uses their power and leadership position to influence ethical principles and ethical behavior through role-modeling (Gang, 2018; Trevino et al., 2000; Zang et al., 2012), and

influences ethical behaviors of accountability by relating the employee's ethical behavior to the organization's management system (Brown et al., 2005; Resick et al., 2018).

Summary of Leadership Orientations

Leadership is not always straightforward; it is not a one size fit all for all organizations and situations. Each leadership style has advantages and impediments, as well as an appropriate use for specific situations. Understanding the leadership style that aligns with the organization's needs for practice can give managers a sense of control on how to influence their employees' behaviors and become effective leaders. The table below provides a summary comparison of the eight common leadership based on findings from leadership research.

Ethical Leadership Considerations

Ethical leadership is important in medical laboratories because it influences positive collaboration between employees and helps create ethical workplace culture to provide high-quality service that is safe for patients and society (Gamble et al., 2014). Every day brings new ethical issues; ethical leaders can help medical laboratory employees develop a better understanding of ethical principles and promote ethical behavior through role modeling (Brown et al., 2014; Gamble et al., 2014; Pronovost et al., 2018; Saxena et al., 2014). In health care industry moral disengagement have been found to pose a serious threat to patient care, and public safety by displacing accountability of unethical act into another source (Hyatt, 2017). For example, a healthcare professional might disregard a patient's pain in fear of addiction or undermining the patient's discomfort by blaming their judgment on organization policy.

According to Hyatt (2017), this type of justification, and displacement, may lower the quality of care for the patient and threaten the patient's autonomy where the patient feels pressured or coerced to participate in treatment that they were against or to remain inpatient care for a more extended period.

Ethical leadership has been found to decrease employee moral disengagement (Zhao et al., 2018). It is crucial in healthcare, especially in medical laboratories, because moral disengagement behaviors do not merely occur at a personnel level but also occur at the organization level (Hyatt. 2017). Therefore, a healthcare organization must improve ethical education to discourage deviant behaviors.

Ethic leadership education and training are important in health care organization because it helps create a culture of accountability that teaches employees to know when to hold themselves accountable and speak up when they witness unethical behaviors (Deber, 2014). In behavioral science, the SLT seeks to elucidate how behaviors are learned and how the performance and behavior of leaders affect the work environment (Brown et al., 2014). In medical laboratory environments, the modeling of ethical behaviors by laboratory leaders is essential to help set high moral ground, build trust, respect, credibility, and collaborations to create a healthy workplace culture (Pronovost et al., 2018).

Evidence showed that more than 98,000 Americans died each year from medical errors due to medical mistakes and limited accountability (Gamble et al., 2014; James, 2013; Pronovost et al., 2018), and further revealed that many of these fatal mistakes could have been avoided if the employees had followed ethical and accountability

practice (Pronovost et al., 2018). Other evidence revealed that more than 2000 people were ill after drinking water that was contaminated with E.coli resulting in the death of 6 individuals (Cote et al..2017), while an investigation in the medical laboratory that is responsible for the water monitoring showed no wrongdoing, further investigations showed that the error of the laboratory malpractice occurs during the pre and post-analytic phase due to inadequacy, negligence and lack of accountability resulting in a 1 billion dollar class-action lawsuit (Cote et al., 2017; Hipel et al., 2003; Walkerton Inquiry, 2000). These unfortunate events present the need for ethical leadership and employee accountability in medical laboratory environments.

A culture of accountability can help health organizations provide better care, improve trust and positive work culture (Pronovost et al., 2018). However, the practice of accountability starts with the leader, regardless of the leadership style and orientation (Pronovost et al., 2018). The practice of accountability is essential in leadership because it not only influences employees who have direct contact with the leader it also influences lower-level employees to practice accountability behavior and reduce a work culture of silence where unethical behaviors go unreported (Deber, 2014; Pronovost et al., 2018). Employee accountability is one of the focuses of the study; therefore, a review on accountability, and the relationship between ethical leadership, employee accountability is important in this literature review to strengthen the case of the need for employee accountability in medical laboratory settings.

Accountability

Not many studies have been conducted on ethical leadership and employee accountability (Ghanem & Castelli, 2019). Studies that were conducted focused on leadership accountability and the importance of accountability in ethical leadership rather than investigating the effect of ethical leadership on employee accountability (Ghanem et al., 2019). Accountability behavior is the ability to take ownership of one's action and the willingness to take responsibility, answer, and accept the consequences for that action without shifting the blame to someone else (Tetlock, 1999; Wang, 2016). Tetlock suggests that an employee must be aware of the accountability behaviors portrait by their leader before they can engage in that behavior (Tetlock, 1999). Because only when an employee is held accountable by their leaders that they become aware of the accountability condition expected from them and more likely engage in ethical behavior (Paolini et al., 2009).

In healthcare, accountability is crucial because it requires medical professionals to acquire special skills and knowledge to provide better care for their patients, and to respect legal and social standards (Batti et al., 2014). At the same time, professionals believe that healthcare professionals will always be accountable for their actions due to fear and legal recommendations (Gamble et al., 2014). Cox (2010) reveals that medical professionals' accountability depends more on morals, self-accountability, leader's behavior, and concern for the public interest. If the employee perceived moral principles and judgment to be absent in their leaders, it would affect employee accountability and

negatively affect the work culture and development (Cox, 2010; Gustafson, 2013; Lerner & Tetlock, 1999).

Lack of accountability in any organization can lead to severe erosion of ethical practice (Ghanem & Castelli, 2019). Therefore, the role of the leader is to ensure that employees understand the importance of accountability and ethical decisions (Deber, 2010; Ghanem & Castelli, 2019; O'Brochta et al., 2012). Leaders should model accountability and should learn to hold their employees accountable because lack of accountability can severely affect an organization and pose a severe danger to society, whether it is physical, financial, or mental (Brown et al., 2016; Deber, 2010). Medical laboratory accountability falls under four categories: finances, regulations, information, and incentives (Deber, 2010). Throughout these four categories, regulation was found to be the primary approach use by medical laboratory organizations to achieve accountability (Gamble et al.,2014). Reason for this approach is regulations are required for high-quality laboratory practice, patient care, and because medical laboratory enforces ethics only through laws and regulations (Gamble et al., 2014). Nevertheless, as medical laboratories are highly regulated, there is a need to increase employee accountability during the pre-post-analytical phase and point-of-care testing (Cote et al., 2017; Deber, 2010). While accountability continues to be of great interest in healthcare organizations, especially medical laboratories, studies showed that the phenomenon could be unpredictable and hard to manage without leadership and policy direction (Deber, 2014; Gamble et al., 2014). Unfortunately, these studies were conducted in other sectors outside

of healthcare, leaving with the unknown of understanding the influence of ethical leadership on medical laboratory employee accountability.

Related Theory

The moral disengagement and the social learning theory have helped professionals understand employee behavior, leadership, and unethical practice (Brown et al., 2005; Tillman et al., 2017). In health care, the MDT help understands how healthcare practitioners justify unethical behaviors by switching blame or accountability on their managers or organization policy (Hyatt,2017). Studies on ethical leadership and lack of accountability in health care have made both the MDT and SLT great candidates for this study. In medical settings, employees can learn ethical and unethical behavior through observation (Brown et al., 2005). Therefore, medical laboratory managers must act following ethical standards, and aware that they are being monitored by their employees, and understand that how their employees perceive them determine their success in establishing a healthy work environment where accountability is held to a high standard (Brown et al., 2005; Brown et al., 2014; Cox, 2010)

Social Learning Theory

Over the years, professionals relied on the SLT to understand ethical leadership's influence on employee outcomes (Brown et al., 2005). SLT provides an understanding of why an employee perceives a particular characteristic of a manager as displaying ethical leadership (Brown et al., 2005). SLT argues that followers perceived a leader as an ethical role model when the leader leads with high moral values and ethical principles (Bai et al., 2017; Bandura; 1977; Brown et al., 2005). SLT also helps to explain how

ethical leaders influence their followers through learning, engagement, observation, and guidance (Bandura, 1977; Brown et al., 2005).

According to SLT, behaviors are learned through interaction, experiences, environment, and knowledge (Bandura, 1977). While Bandura (1977) argues that a person's behavior will never occur from these factors alone, he suggests that role modeling plays a crucial role in influencing ethical behavior in employees (Bandura, 1977; Brown et al., 2005; Trevino et al., 2005). Bandura (1977) states that when an individual notices something that occurs in their environment, it stimulates memories of the noticed events. The individual, in turn, reproduces the behavior. When the individual reproduced the behavior, the environment delivered a reinforcement or consequence for that behavior that forced the individual to analyze if the behavior is acceptable or not acceptable (Bandura, 1977; Brown et al., 2005).

SLT suggests that ethical leaders can influence their employees through role modeling. The psychological process of role modeling entails observation, identification, and anything learned through experience. Employees can learn what behavior is expected through role modeling (Bandura, 1977; Brown et al., 2005). While studies suggest that role modeling is an essential aspect of leader behavior, it is also essential that leaders observe the employee behaviors to correct unwanted behaviors (Bai et al., 2017). While an ethical leader is known to be charismatic, to promote respect, fairness, and altruism, these behaviors might not be interpreted the same way by all employees (Bai et al., 2017; Yussen & Levy, 1975). Therefore, being the observant ethical leader can help understand

how employees interpret, understand, and practice ethical behavior to illustrate and influence ethical behavior in employees (Bai et al., 2017; Bandura, 1991).

Moral Disengagement Theory

MDT suggests that when individuals violate their moral standards, it creates psychological imbalance and cognitive discomfort that force them to disassociate themselves from the consequences to avoid taking accountability for their unethical behaviors (Bandura, 1999). MDT describes why individuals often tried to justify their unethical behaviors and why they fail to take accountability and face the consequences for their actions (Bandura, 1999; Liu et al., 2012; Moore et al., 2015).

According to Bandura (1999), MDT involved eight components: moral justification, euphemistic labeling, fair comparison, displacement of responsibility, distorting consequences, and reducing identification or dehumanization. MDT discusses moral justification as when an individual seeks to justify an action against an ethical standard. Then engage in euphemistic labeling to reshape their emotions and cognition by comparing their act as less harmful to another individual's actions (Bandura, 1999). Furthermore, the individual displaced responsibility by avoiding taking accountability for their actions and distancing themselves from the consequences (Bandura, 1999; Moore et al., 2015). Cognition distortion occurs when the individual ignores the consequences for their action and denies their unethical behavior by blaming another individual for actions and believing that their victim is responsible and influences their deviant act (Bandura, 1999).

Research indicated that moral disengagement mediates the relationship between ethical leadership and employee unethical pro-organizational behavior (Hsieh et al., 2020). Through cognitive influence, ethical leaders help their employees recognize and understand what is ethically wrong and influence their employees to abandon moral disengagement behaviors (Hsieh et al., 2020; Tillman et al., 2018). Tillman et al. (2018) argued individuals' response to others' unethical practices differs from individuals. Further, subordinates' moral disengagement influence how they perceived their supervisor as an ethical leader (Tillman et al., 2018). Employees with low moral disengagement are more likely to be influenced by their leader's moral disengagement behavior than employees with high moral disengagement (Bonner et al., 2016).

Hsieh and colleagues (2020) investigated the influence of ethical leadership and employee ethical behavior on unethical pro-organizational behavior and evaluate the mediating effect of the moral disengagement on the relationship between ethical leadership and employee unethical pro-organizational behavior. They found that moral disengagement mediates between ethical leadership and employee unethical pro-organizational behavior. Additionally, employee ethical behavior moderates the relationship between ethical leadership and employee unethical to organizational behavior and found that the relationship between moral disengagement and employee unethical pro-organizational behavior is weak when the employee ethical behavior increases (Heish et al., 2020).

MDT suggests that individuals often separate themselves from their morals to justify their behavior and rationalize their behavior (Bandura, 1999). The individual

unethical behavior often provokes guilt and shame in the individual that creates an ongoing cycle that will not refrain the individual from engaging in unethical behavior even if it causes mental discomfort (Bandura, 1999; Tillman et al., 2018). Therefore, the displacement of responsibility from the individual will continue to cause that individual to engage in post-moral disengagement as a coping mechanism to lessen their guilt and perceives their deviant act as justifiable (Bonner et al., 2014; Tillman et al., 2018).

Power in Leadership

Power and Leadership, from the perspective of social psychology, are viewed as having the ability to influence, modify or change the behaviors or attitudes of an individual or a group (French & Raven, 1959; Northouse, 2001). Lunenburg states (2012) that great leaders have common characteristics; they have the vision to achieve goals and have the personnel power to accomplish them. At the same time, power can be perceived as a negative attribute in both research and practice because leaders can use their power for unethical purposes (Lunenburg, 2012). Power is universal and plays a significant role in organizational outcomes, and employee motivation, especially in health care (Lunenburg, 2012; Saxena et al., 2019). Power and leadership are linked; leaders use power to accomplish organizations' goals. However, power can negatively impact organizational functions if unproperly managed (Raven, 1993; Saxena et al., 2019). Therefore, it is empirical that leaders understand how power operates to be more equipped to influence subordinates and become effective leaders (Lunenburg, 2012; Nelson et al., 2012).

Social psychologists French and Raven (1959) analyzed the source of power in organizations and proposed five bases of power legitimate, reward, coercive, expert, and referent. Six years later, Raven (1965) added information power. Connection power was also added by other researchers (Ansari, 1979; Bhal et al., 2000; Howel et al., 2000). French and Raven (1959) suggested that power is sorted into two categories: formal and informal. Expert and referent power are characterized as informal power because they are derived from personnel power sources and exist without any recognized authority or subordinates to manage (Lunenburg, 2012; Raven et al.,1959). Legitimate, reward and coercive power are characterized as formal power because they are generated from positions of authority.

Individuals with formal power uphold a dominant position on subordinates (Raven et al., 1959, Raven, 1993). Research reveals that formal and informal power can give rise to desirable or undesirable organizational outcomes (Ansari et al., 2008; Raven, 1993; Samarakoon, 2019). Greater use of informal power in an organization is related to higher organizational commitment, job satisfaction, and organizational citizenship behavior (Kovach, 2020; Raven, 1993). In contrast, formal power is related to a high level of absentees, job burnouts, and decreased organization productivity (Ansari et al., 2008; Kovach, 2020; Raven, 1993).

Legitimate Power

Legitimate power is a person's ability to influence others' behaviors because of the power he/she holds in the organization (Lunenburg, 2012; Raven et al., 1959). Individuals with legitimate power are assigned their leadership or authority position by

contract that defines the manager's job characteristics, responsibilities, and organization policies (Ansari et al., 2008; Lunenburg, 2012). In the workplace, individuals with legitimate power can give commands and ask their subordinates to complete tasks within the jurisdiction of their authority (Ansari et al., 2008; Kovach, 2020; Raven et al., 1959). Furthermore, those with legitimate power have the authority to hire new or terminates employees, conduct performance appraisals, and set goals for employees (DuBrin, 2009; Lunenburg, 2012). Ansari et al. (2008) found that legitimate power can decrease employee motivation, creativity, and engagement. Additionally, legitimate power can create organizational conflict because subordinates are only influenced by the authoritarian title the person uphold and will only comply if they perceived the use of power as legitimate and understand the leaders right to influence (Ansari et al., 2008; Jones et al., 2016; Samarakoon, 2019).

Reward Power

Reward power is an individual's ability to influence others' behavior by providing a reward (Lunenburg, 2012; Raven et al., 1959). Such rewards can be a job promotion, more responsibilities; financial incentives such as pay, raises, or bonuses; praise, empowerment, or recognition for hard work (Lunenburg, 2012). A manager can use rewards to motivate, influence, and control employee behavior (Raven, 1993). Reward power has been shown to increase work performance and employee empowerment when the manager explains the behavior that is being rewarded and creates a clear link between the reward and the behavior (Ansari et al., 2008; Lunenburg, 2012; Raven et al., 1959). When communication and the reward are established, it creates a positive work

environment and creates an optimal relationship between the employee and the manager (Jones et al., 2016; Nelson et al., 2012; Randolph et al., 2011).

Research shows that reward power can be unstable and does not always maintain employee motivation and satisfaction (Faiz, 2013); if the reward being offered does not attain the employee's need or is not valued, it can give rise to job dissatisfaction and disengagement (Lai et al., 2011). Further, financial rewards can be inconsistent because it does not guarantee that the employee's behavior will remain positive after their financial need are met (Bashman et al., 1996; Lai et al., 2011; Singh et al.,2016). Further, power reward can give rise to unethical behavior and poor work quality because an employee might engage in unethical behavior to earn the reward (Bachman et al., 1966; Kovach, 2020); this can create competition in the workplace, reduce teamwork, and group productivity where the employee might switch his/her attention on the reward rather than their work quality (Kovach, 2020; Raven et al., 1959).

Expert Power

According to French and Raven (1959), expert power is characterized as informal because it does not rely on any formal position of authority and is derived from individuals who possess specific skills, experience, knowledge, expert advice, and respected information (Lunenburg, 2012; Raven, 1993). A study revealed that individuals with expert power do not always possess leadership skills and are often assigned their authoritarian position base on outstanding performance (Goncalves, 2013). Without proper knowledge on how to apply leadership skills and how to exercise their power to manage and influence their employees, these managers will never become effective

leaders and will never gain the respect they need to affect their subordinates' behaviors (Raven, 1993; Goncalves, 2013). Knowledge is power, and people always welcome expert advice when perceived as creditable and trustworthy (Kovach, 2020; Luthans, 2011; Raven et al., 1998). In healthcare, patients follow their doctor's or medical practitioners' advice because they acknowledge that they have the expertise and unique skills in the medical field (Kreitner et al., 2010). However, experts of power can be unreliable because the person given the information must be trustworthy, and their credibility must have relevance (Luthans, 2011). For example, a medical practitioner advising on finance, computer science, or politics might not be perceived as relevant. Therefore, the medical worker does not have expert power in these fields (Lunenburg, 2012; Luthans, 2011).

In the workplace, it has been shown that expert power positively influences subordinates with internal locus, increasing motivation and satisfaction in these employees (Ansari et al., 2008; Kovach, 2020). Additionally, these individuals are often included in top decision-making due to their expertise, even if they are low-level employees (Nebus, 2006). However, different findings were observed in employees with external locus because an individual with expert power can be perceived as egocentric by other employees and often have poor communication skills and poor face-to-face interaction when delivering their message (Nadaee et al., 2012; Nebus, 2006).

Referent Power

Referent power is a person's ability to influence others' behaviors based on a positive relationship built on admiration and respect for that individual (Raven,1993). In

the workplace, a manger often possesses referent power over their subordinates by influencing the employee to partake or complete a particular task because of their friendly relationship (Bartos et al., 2009; Gabel, 2012; Lunenburg, 2012). Today social media influencers, such as celebrities, exercise referent power over their fans and followers based on admiration (Craig et al., 2006).

Marketing research shows that some celebrities have the power to influence individual's choices on the product they buy (Craig et al., 2006). For example, Lebron James or Oprah Winfrey, who are not experts in skincare products or clothing creation, can influence their fan base to blindly buy a product they promote because they identify these products as their favorites (Craig et al., 2006). YouTube is one of the major platforms for social influencers and product marketing (Hou, 2019). YouTube influencers grow their fan base from their charismatic behaviors and positive energy and influence others through allure disposition, approval, and admiration to purchase a product they recommend for profit (Hou, 2019; Kovach, 2020; Vecchio,1997).

Scholars reveal that referent power is the most critical managerial tool because managers who possess referent power continue to gain power over time by modeling behavior they expect to see in their subordinates over a long period (Biong et al., 2010; Lunenburg, 2012). In the workplace, referent power is found to be positively associated with employee performance, commitment, organization climate, and growth, leader's and employee's satisfaction, behavior compliance, trusting relationship between the employee's and the leader with the decrease of employee absentees (Bartos et al., 2008; Kovach, 2020; Lunenburg, 2012; Raven et al.,1998)

Coercive Power

Coercive power is identified by French and Raven (1959) as the use of force, public shaming, withholding information, excluding specific individuals in a meeting, not approving time off, sexual harassment, threatening to terminate, or withholding promotion or bonuses to punish the employee. Employees working with a manager with coercive power often carry out projects and are forced to work in projects out of fear of losing their job or annual bonus (Ansari et al., 2008; Raven et al., 1998). Misusage of coercive power in the workplace should be avoided because it gives rise to employee frustration, dissatisfaction, fear, work stress, and alienation (Biong et al., 2010; Kovach, 2020). Though coercive power may lead to compliance of employees, the compliance and engagement are frequently found to be temporary (Tuner, 2005), and often results in a decrease in employee performance, involuntary compliance, decrease of trust with high turnover rates (Hoffman et al., 2017; Lunenburg, 2012; Tuner, 2005).

A manager often uses coercive power to reduce unwanted behavior and absentee employees (Kovach, 2020). While the use of coercive power might reduce the behavior, it often results in employee resistance with the decrease of motivation because these employees often perceived their managers as bullies who uses their legitimate authority to force them into submission (Raven et al., 1998; Saxena et al., 2019; Teven, 2006; Thoresen et al., 2003). Research has shown that employees who work for a manager with coercive power are less motivated and less proactive, they only do the bare minimum (Taucean et al., 2016). They do not volunteer to participate in a project or additional work (Taucean et al., 2016). Additionally, employees working with managers with coercive

power are reported to have increasing health issues, poor work relationships and are less likely to succeed within the organization (Fredrickson et al., 2008; Kovach, 2020; Taucean et al., 2016).

Information Power

Information power is the ability to provide information to enable decision-making (Bartos et a., 2008). Information power has not been investigated thoroughly as the other base of power associated with leaders' success but has been found to distinguish success between successful and unsuccessful entrepreneurs (Ansari et al., 2008). Information power is based on the perception that leaders with a high level of information power have a greater chance of compliance from their subordinates and are more likely to succeed in their leadership role (Erchul et al.,2001, Goncalves, 2013). Information power is an excellent resource for entrepreneurs because they need to gather accurate information through their social network to apply to their new business ventures and execute their ideas (Ansari et al., 2008; Bossidy et al., 2002).

Though information and expert power have some similarities, scholars argue that both have distinct constructs (Ansari,1990). Expert power is the entrepreneur's personnel skills and knowledge, whereas information power is the entrepreneur's ability to secure accurate information that contributes to the growth and success of their business (Ansari et al., 2008). In the health care setting information, power plays a crucial role in patients care (Bartos et al., 2008). Communicating information is vital for clinicians because they utilize both expert and referent power to provide critical information that is perceived to be trustworthy and persuasive by their patients (Bartos et al., 2008). In clinical settings,

nurses exercise a high level of information power because they spend direct contact with patients (Lipley, 2006); this relationship causes the physician to rely on the information they received from the nurse to make informed medical decisions for the patient care (Paynton, 2008).

Connection Power

Connection power is about networking; it is based on the perception that successful entrepreneurs are well connected with powerful individuals (Ansari, 1990; Ansari et al., 2008; Bhal et al., 2000). Connection power is the ability to gain influence from an acquaintance (Ansari, 1990). In the business world, the connection of power is crucial because an individual can use their connection power to build a coalition with others, to get jobs done, and serve as a mediator to secure deals between entrepreneurs (Ansari et al., 2008). Studies reveal that an entrepreneur's social network is crucial for their success and can be used as a natural resource to their business (Aguinis et al., 2008; Kilduff & Tsai, 2003).

Entrepreneurs are also perceived to have a high level of referent, information, expert, connection, and reward power and use their connection power to promote their ideas when dealing with constituents and influential individuals (Ansari, 1990; Ansari et al., 2008). Appropriately used connection of power can be beneficial to employee professional growth and can bring positive outcomes in decision making (Ansari et al., 2008). Connection of power mainly rely on communication; when the individual shares knowledge about their connection and professional strengths a manager can use the information to assign the employee to a specific project and demonstrate that they value

their opinions during decision making (Cullen-Lester et., 2016). The benefit of connection of power, when used effectively through awareness and communication, is that employees can use it at all levels within the organization to promote career and information resources (Ansari et al., 2008; Saxena, 2019).

As mentioned previously, one of the abilities of a leader is to influence others (Northouse, 2016). Regardless of the leadership style, a leader must possess the ability to influence employees to follow the organization's policy, mission, and value at an individual, group, and organization level (Hartog et al., 2011; Northouse, 2016). However, a leader's ability to influence his/her employee depends on the type of power the leader possesses within that organization (Haller et al., 2018; Saxena et al., 2019).

In health care environments, employees with expert power are often included in decision-making due to their expertise. Similarly, medical professionals often possess expert power over their patients because the patient-perceived them to be knowledgeable in their field (Kreitner et al., 2010). Power and leadership are essential to influence employee behavior change and influence employees to get things done (Saxena et al., 2019). Information power is crucial in medical settings because physicians often rely on their nurse or medical laboratory analysis to provide a proper diagnosis and treatment for their patients (Paynton, 2008). While informant power is known to be beneficial in health care settings (Paynton, 2008), a leader with an autocratic leadership style who shows little value to their subordinate cooperation might choose to dismiss the employee information and create a treatment plan without their staff cooperation (Stanfou et al., 2017).

Research on power is still premature because most research conducted on power base solely investigated leadership style rather than employee outcomes. About ethical leadership, a study found that expert and referent power plays a crucial role in the relationship between ethical leadership and employee outcomes through role modeling (Haller et al., 2018; Hoogh et al., 2009), an ethical leader with referent power can influences employees to perceive them as a role model, indicating that socially responsible power use within the boundary of ethical leadership may be the key to help understand ethical leadership effect on employee outcomes (Haller et al., 2018; Hoogh et al., 2009; Vevere, 2014).

Summary and Transition

The literature presented in this chapter reinforces the importance of ethical leader and employee accountability in a medical laboratory. Medical laboratories provide 80% of data for diagnostic, monitoring, and treatment of patients. Additionally, they hold responsibilities to society to use their resources efficiently to provide accurate results useful to public health for disease control and monitoring; therefore, providing a high quality of laboratory service should be prioritized in practice, which was one of the critical components this study addresses. In recent years of ethical scandals in medical laboratories severely affected public safety resulting in death, long-lasting critical illness and some cases, and misdiagnosis. The need for ethical leadership and employee accountability has made it appeal in healthcare studies; yet there is little evidence regarding what measure and protocol ethical leadership should follow to increase accountability in medical laboratory employees.

Power is an essential process in an organization. Getting things done and managing employees requires power. While referent and expert power have been shown to have a positive relationship with ethical leadership in employees' outcomes through role modeling (Hartog et al., 2011), very little is known about the effect of ethical leadership and power on employee accountability and the relationship between power and leadership style on employee outcomes, especially in medical laboratory medicine. In this literature review, the different bases of power were discussed, and scholarly findings on the effectiveness of each power base were presented.

There are numerous studies on autocratic, participative, laissez-faire, transactional, transformational, servant, authentic, and ethical leadership, as well their outcomes on employees' behaviors and organization functions. As the antecedent and outcomes of ethical leadership on employees' accountability remained under-researched, all of which are beneficial for medical laboratory organizations. We have yet to understand the predictive effect of a leader's ethical behavior on employee accountability in medical laboratory organizations. Understanding the effect of ethical leadership on employee ethical behavior of accountability professionals in medical laboratory settings through the SLT and the MDT can help medical laboratory leaders understand the behavior, leadership practice, and power ability they need to influence ethical behaviors in their employees.

In Chapter 3, the research design, methodology, the population, including participant selection, instrumentation, data collections, and analysis, are discussed. Treat to validity, ethical procedure, and participants' protections are also explored. In Chapter

4, data provided from medical laboratory employees from Western New York are analyzed. The assessments used for the research are the ELWQ and LAS and were distributed using SurveyMonkey. Chapter 5 explores the findings of the study and make connections between the findings to the literature and the theoretical framework. The limitations and implications of the study are explored, and recommendations for future research are provided.

Chapter 3: Research Methods

This quantitative study examined the influence of ethical leadership on employees' accountability behaviors in medical laboratory settings and whether time assigned to a manager, measured in months, moderated the relationship between the perception of a manager's ethical leadership and the assigned staff's employee accountability behaviors. Medical laboratory employees are responsible for conducting tests, collecting samples, monitoring, treating, and diagnosing diseases. Medical laboratory employees often work in hospitals, physician offices, clinics, or private laboratories. As their work plays a significant part in health care and environmental safety, medical laboratory employees are trained and educated for their positions and job functions (Cocks, 2016; Gamble et al., 2014; Wijeratne et al., 2020). Within laboratory settings, medical laboratory managers or supervisors often have many years of experience, with advanced training and knowledge of laboratory functions. However, these medical laboratory managers are often left unaware of the importance of ethical leadership in medical laboratory practice. Additionally, they are unaware of the importance of ethics in decision-making and the characteristics needed to influence ethical behavior in their employees (Bruns et al., 2015; Gronowski et al., 2019; Khalajzadeh et al., 2019).

Even though ethical leadership studies in medical laboratory organizations are scarce, there is a plethora of research on the importance of ethical leadership in general (Ghiasipour et al., 2017; Wijeratne et al., 2020). To date there is no current research that examines the influence of ethical leadership in medical laboratory settings on employee

accountability behaviors. This study explores the effect of ethical leadership in medical laboratories and examine the relationship between accountability behaviors and ethical leadership.

This chapter covers the research design, explains the study's methodology, and describes the instruments used to measure ethical leadership and accountability behaviors. It also overviews the sampling procedures, data collection, cleaning process, and data analysis using a multiple regression approach. The validity, ethical procedures, and participants' protection are then presented.

Research Design and Rationale

Upon approval by Walden University's Institutional Review Board, a quantitative analysis to examine ethical leadership's influence on accountability behaviors in medical laboratory employees was conducted. Walden University's approval number for this study is 12-01-21-0786234.

The research questions and hypotheses for this study were:

Research Question 1 (RQ1): Does perceived medical laboratory manager ethical leadership predict their assigned laboratory staff's employee accountability behaviors?

Null Hypothesis ($H_0$1): Perceived medical laboratory manager ethical leadership does not predict their assigned laboratory staff's employee accountability behaviors.

Alternative Hypothesis (H_a1): Perceived medical laboratory manager ethical leadership predicts their assigned laboratory staff's employee accountability behaviors.

Research Question 2 (RQ2): Does the total of months laboratory staff is assigned to work for a medical laboratory manager moderate the relationship between their

perception of their managers ethical leadership and the assigned staff's employee accountability behaviors?

Null Hypothesis ($H_0$2): The time laboratory staff are assigned to work for a medical laboratory manager does not moderate the relationship between their perception of their managers' ethical leadership and assigned staff's employee accountability behaviors.

Alternative Hypothesis (H_a2): The time laboratory staff are assigned to work for a medical laboratory manager moderates the relationship between their perception of their manager's ethical leadership and the assigned staff's employee accountability behaviors.

Participants were surveyed to examine the influence of ethical leadership on accountability behaviors and to examine whether the total time as measured in months, assigned to a medical laboratory manager moderates the relationship between their assessed ethical leadership in predicting medical laboratory personnel accountability behaviors. This study had three primary variables: 1) The predictor variable is ethical leadership, as measured by the ELWQ, 2) The outcome variable is accountability behavior, as measured by the Leader Accountability Scale, and 3) The study moderator variable is total time as measured in months assigned to a medical laboratory manager, as identified by the medical laboratory employee's demographic questionnaire.

In this study, medical laboratory employee, were examined to determine the influence of ethical leadership on employees' accountability behaviors in medical laboratory settings. A multiple regression analysis was performed to examine the relationship between medical laboratory manager assessed ethical leadership and medical

laboratory personnel accountability behaviors using Statistical Package for the Social Science software. Multiple regression analysis was used for this study based on its ability to provide a further understanding of the nature of the variables and consistent and effective use in ethical leadership studies (Belschack et al., 2018; Brown et al., 2005; Bruns et al., 2015; Engelbrecht et al., 2017). A moderation analysis was performed to examine whether the total time as measured in months assigned to a medical laboratory manager moderates the relationship between their assessed ethical leadership and medical laboratory personnel accountability behaviors.

In this study, participants were selected from different laboratory locations in Western upstate New York using Survey Monkey. Consequently, the intermediary relationships observed regarding ethical leadership influence on employees' accountability behaviors were analyzed. The multiple regression analysis research design chosen for this study can serve as a foundation for further ethical leadership research in laboratory medicine. The study focused on determining the influence of ethical leadership on employee accountability behavior by conducting quantitative research on a current unknown subject. The outcomes from this study can contribute to knowledge in medical laboratory organizations, where new theories can be created and tested. Additionally, this study's groundwork can also serve as a road map for further ethical leadership study in a broader population of medical laboratory medicine from other geographic areas and other specialization in health care.

Methodology

As mentioned, the goal of this quantitative study was to determine the influence of ethical leadership on employees' accountability behaviors in medical laboratory settings. Qualitative research is used when the researcher does not know what to expect and is used to answer why something is observed to develop an approach for a problem. Qualitative research data are collected from in-depth interviews, dyads, focus groups, and observation (Busetto et al., 2020). Quantitative research is conclusive because the research method includes quantification to summarize the study's data and is used in research to generalize the result to a larger population (Busetto et al., 2020). Given the current situation of COVID-19, a qualitative study was not beneficial for this study due to fear of virus exposure. Further, given the nature of the study, a quantitative method was preferable because it provided evidence on ethical leadership and employee behaviors and helped test the relationship between medical laboratory managers perceived ethical leadership and medical laboratory employee accountability.

Population

The target population for this study was medical laboratory employees in large medical laboratory company that specialized in medical testing in Western New York. To have a better understanding of the population participants were subjected to a demographic questionnaire that focus on the participants age, months of employment, employment status, and month under their current manager. The population was selected since ethical leadership studies often focus on managers or executives and the employee perception is lacking in existing research. Medical laboratory managers oversee the

laboratory functions, ensure a profitable business, and adhere to the laboratory regulations and practice rules, thus are often considered to be the face of their department (Gamble et al., 2014; Wijeratne et al., 2020). Medical laboratory employees perform tests, collect samples that play crucial roles in patients' diagnosis and treatment (Cocks, 2016; Wijeratne et al., 2020). Therefore, this quantitative research examined the influence of ethical leadership on employees' accountability behaviors in large medical laboratory settings and examined whether time assigned to a manager, measured in months moderates the relationship between their perception of their manager's ethical leadership and assigned staff's employee accountability behaviors.

Sampling and Sampling Procedures

The purpose of this study was to specifically examine ethical leadership influence on accountability behaviors in medical laboratory employees. In a quantitative study, the researcher's role is to select participants that align with the nature and the methodology of the study to ensure the generalization of the population being examined. Given that the study solely focused on medical laboratory employees, a purposive sampling design was appropriate.

Purposive sampling is when the researcher selects a sample based on their knowledge of the population (Black, 2010). In this purposive sampling study design, the participants were selected based on the need of the study. Therefore, participants who did not fit the criteria and profile were rejected and excluded from the study. This sampling design is beneficial for the study because it helped select medical employees in different

demographic areas, such as, years of employment, time assigned to a medical laboratory manager, gender, and employment status.

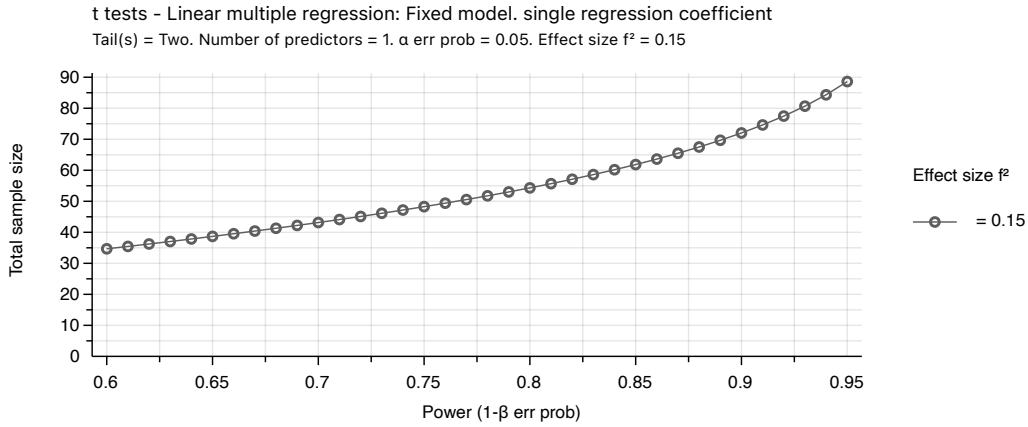
To determine an acceptable sample size for this study, a sample size analysis was conducted. As mentioned, a current study evaluating the influence of ethical leadership on medical laboratory organization does not exist. Therefore, an estimation of the target population size based on previous findings was unattainable. The sample size analysis included statistical power, alpha level, and effect size. The purpose of conducting a statistical power for this study was to determine the strength of the relationship between the variables and how likely a false hypothesize could be rejected. The statistical power determined the probability and the authenticity of the relationship that was likely to occur between the variables. For example, an acceptable level of margin error is set at an alpha level of $\alpha = .05$ predict that there is a 95% chance that the result is be correct with a 5% chance that the result could be wrong (Burkholder, 2013; Frankfort-Nachmias et al., 2008;).

The G* Power 3.1 online software was used to determine the appropriate sample size for this study. A multiple regression, fixed model, single coefficient with a *t* test was used for the analysis. Cohen (1992) stated that the effect size measures the strength of the relationship between the variables. A larger effect size indicates a strong relationship between the variables. Cohen (1992) indicated that effect size falls under three categories: $f^2 = 0.2$ (small), $f^2 = 0.15$ (medium), $f^2 = 0.35$ (large). When the study's sample size is small, the difference between the two-group means is less than 0.2 standard deviations. A standard deviation that is less than 0.2 is be considered biased even if the

results are statistically significant (Cohen, 1988; Cohen, 1992). Based on a power (1-ß error probability) of .80, a level of significance of $\alpha = .05$, number of predictors 1, and moderate size effect $f^2 = 0.15$, G* Power 3.1 calculated a sample size of 55 participants for the appropriate sample size for this study. A 10% rate was added to the sample size, resulting in 61 participants to prevent sample attrition and missing data.

Figure 1

G Power 3.1 Sample Size Analysis*



Procedures for Recruitment

An effective sampling method enables drawing a more precise conclusion and helped strengthen the validity and generalizability of the study. Survey Monkey Audience tool was used to recruit participants for the study. The software allows access to millions of participants around the world and gives flexibility to the researcher to select the target options, target region within a country or state for their audience base on the study (Knussen & McFayden, 2010). Because the study was conducted in Western upstate New York, the target location and target options were adjusted in the Survey Monkey software

to ensure that qualified participants were recruited for the study. A letter of invitation, including a description of the goals and purpose of the study, with a welcome statement that described the voluntary nature of the participants, confidentiality, anonymity, and the researcher contact information was sent to the selected and qualified participants through Survey Monkey Audience.

Instrumentation and Operationalization of Constructs

Any alterations or modifications of the scales were prohibited without permission from the authors. To have access to both scales for the study, permission of request letter was sent to the authors. The authors provided a brief description of the study and how the scale was used for the study. A copy of the permission emails and authorizations to use the scales in this study are in Appendix B.

Ethical Leadership at Work Questionnaire

Medical laboratory managers' leadership was examined using the ELWQ developed by Kalshoven et al. (2011). The ELWQ is shown to be effective in measuring ethical leadership outcomes, and ethical leadership behaviors. The ELWQ is a 46-items assessment based on a 5-point Likert scale of response that range from 1 (*strongly disagree*) to 5 (*strongly agree*) divided into seven categories: fairness, integrity, ethical guidance, people orientation, power-sharing, role clarification, and concern for sustainability. The ELWQ focus on ethical leader behaviors and actions. The scale was developed based on theories interviews with managers and employees, where employees were presented with the ELWQ questionnaire to rate how frequently their leaders display certain behaviors and how they perceive their managers as ethical leaders (Kalshoven et

al., 2011). The ELWQ not only focuses on the leader's behavior but also captures how the leader interacts with his/her subordinates through role modeling and moral engagement. (Kalshoven et al., 2011). To investigate the validity of ethical leaders' behaviors as measured by the ELWQ, Kalshoven et al. (2011) evaluated the relationship of ethical leader behavior to other leadership styles and work-related attitudes. The result shows good psychometric properties of the ELWQ, all reliabilities for measuring ethical leaders' behaviors were above .80 (Kalshoven et al., 2011).

Further ethical leaders' behaviors were positively correlated with transformational and transactional leadership, indicating good convergent validity, and negatively correlated with passive and autocratic leadership, showing good discriminant validity (Kalshoven et al., 2011). All seven ethical leaders' behaviors measured by the ELWQ were found to positively correlate with perceived leadership effectiveness, team commitment, organizational commitment, trust, satisfaction, and negatively related to cynicism, indicating that the ELWQ has good validity with high reliabilities for measuring ethical leader behaviors (Kalshoven et al., 2011). The sample used for this research was from financial, business, health care, government, construction, and education settings (Kalshoven et al., 2011).

Leader Accountability Scale

Employees' accountability behaviors were examined using the LAS, a 10-point Likert Scale that contains 66 items developed by Wood and Winston (2007). Six experts in leader accountability and scale development reviewed and modified the LAS items into three subscales and indicated that the three unidimensional scale face validity criteria

exist (Wood et al., 2007). The Responsibility scale measures the leader's acceptance of the responsibilities that entailed his/her role; the Openness scale measures the leader's public disclosure and communication, and the Answerability scale measures the leader's answerability for his/her actions and decisions (Wood et al., 2007). The population of leaders that were evaluated was predominately male, with a sample size of 148. The participants were also characterized based on the length of time they had a relationship with the leader. Those who did not fill out the demographic questionnaire were removed (Wood et al., 2007). Eighteen items were included in the Responsibility scale and analysis from 148 participants reveals that all the items in the scale measure the same factor. The Cronbach coefficient for the Responsibility subscale was high with a coefficient alpha score of 0.98, indicating that the scale was highly reliable. Twenty-five items were included in the Openness scale and responses from 148 participants showed that the scale had a high degree of reliability with a coefficient alpha score of 0.99 (Wood et al., 2007). Sixteen items were included in the Answerability scale. Redundant items were removed and showed that the Answerability scale has a high degree of reliability with a coefficient alpha score of 0.98 (Wood et al., 2007).

To avoid fatigue, without deviating from what the scale was built to measure. The optimization of the LAS to merge the LAS into a single-factor scale come into question. DeVellis (2003) suggests that shortening a scale should only be done when the researcher "has the reliability to spare." After further review, the scoring method of the LAS scale remained the same, with a range score per item from 0 to 10, with a Cronbach alpha score of .98 (Wood et al., 2021). The LAS was optimized into a single-factor scale

that contains 5 items with an accountability score ranging from 0 to 50 (Wood et al., 2021). Therefore, the shorter version of the LAS scale was used in this study with permission and authorization from the author to measure medical laboratory employee accountability.

Medical Laboratory Employees Demographic Questionnaire

The medical laboratory employee demographic questionnaire allows the researcher to have a better understanding of the population and to provide an accurate description of the research sample (Hudges et al., 2016). The questionnaire helped gain background information on medical laboratory employees such as age, gender, number of months with their current employer, work status, and months working with their current leader. The responses from the demographic survey provided a context for the survey data and helped describe my participants and better analyzed my data. The questions that form the demographic questionnaire were essential to the research and were created to achieve non-discrimination and inappropriate uses of terms for sexual preference (Hudges et al., 2016). Further, responses from the demographic questionnaire helped look at whether the total time an employee is assigned to a manager, in months, impacts perception of ethical leadership and influence on employee accountability behavior.

Data Collection

Participants were provided with an option to participate or decline participation in the study. In the first page of the survey an informed of consent form was provided, as seen in appendix C, where the participants were required to acknowledge their participation in the study before any data can be collected. The participant privacy was

taking into great importance in this study; therefore, the data collection did include any participant name, the participant medical laboratory manager's name and laboratory address, which was explained in the informed consent page. Once consent was received, the Survey Monkey software directed the participant to the demographic questionnaire to ensure that the participant meet the criteria to participate in the study, as seen in appendix B. After the participant completed the demographic questionnaire, and if requirement were met the participant was directed to the ELWQ and LAS surveys. Data was collected using the SurveyMonkey cloud-based software, the participant were given an exit page with my email address, if further contact or information was needed the participants were thanked for their time and were reminded that their data is private, and information given will remain confidential and only be used for the sole purpose of the study (Appendix E). The number of completed responses needed and qualification rate was adjusted in the SurveyMonkey Audience software; uncompleted questionnaires were excluded before analysis, data collection, and data cleaning were completed. Responses were automatically transferred to the IBM SPSS Statistics for analysis and interpretation.

Data Analysis Plan

Puteh and Ong (2017) state that the SPSS software is effective and preferable to perform parametric and non-parametric analysis. It allows the researcher to check the assumptions of a test, to identify normality problems, missing values, and is the most efficient software for frequency, EFA, and correlation analysis (Puteh & Ong, 2017). The data obtained was from each participant. Each participant was issued an identification code when entered in SPSS. The data was analyzed at the group level to prevent the

correlation of the independent variables in the regression model and to maximize the efficiency of the data as a function of statistical power.

Data was analyzed using a multiple regression analysis to examine the significance of the hypothesized predictive effect of ethical leadership on employee accountability behaviors using the IBM SPSS Statistics. A moderation analysis was conducted to examine the influence on the total of months under management between assessing their ethical leadership and medical laboratory employees' accountability behaviors using the IBM SPSS Statistics.

The following section outlined this study's research questions and associated hypotheses as well as the analysis used to address each question.

Research Question 1 (RQ1): Does perceived medical laboratory manager ethical leadership predict their assigned laboratory staff's employee accountability behaviors? To address RQ 1 a multiple regression analysis using SPSS was performed to determine the relationship between ethical leadership and employee accountability behaviors.

Research Question 2 (RQ2): Does the total of months laboratory staff is assigned to work for a medical laboratory manager moderate the relationship between their perception of their managers ethical leadership and the assigned staff's employee accountability behaviors?

To address RQ 2 a moderation analysis was performed using SPSS to examine whether the total time assigned to a manager, measured in months moderates the relationship between their perception of their manager's ethical leadership and assigned staff's employee accountability behaviors.

Threats to Validity

One of the study's assumptions is that this research's findings is beneficial for medical laboratory organizations. Medical laboratory managers are expected to oversee the laboratory's functionality. They are appointed to this management position without any knowledge or training on ethical leadership or the importance of ethical leadership in medical laboratory practice. Factors that might have altered this study's validity are participants biased or lack of honesty. A potential threat to external validity that was identified was the convenience of the sample. Only medical employees in Western New York who fits the parameter had access to the study. Therefore, due to the small sample size, the study's result only generalized that population and might not generalized to other populations in health care. A second threat to external validity was each participant completed the questionnaire online on their own. Therefore, it was unclear if any environmental factors influenced their response.

Ethical Procedures

When conducting a study, it is essential to maintain an ethical standard. It is important that each participant understands the need for the study and understand that they have the right to withdraw from the study without retribution. Additionally, the participants need to be aware of how their responses are interpreted in the study and that participation in the study is voluntary. The role of the researcher is to ensure confidentiality, to provide explicit informed consent in languages that the participants understand, and to make sure that the study will not cause harm to the participants. One of the ethical advantages of using SurveyMonkey for this study was that there was less

risk of invading privacy; the IP address of the respondent was not collected, which leaves it unattainable to trace the respondent. Additionally, it was more feasible for the respondent to understand the use of the data and other dissemination in the informed consent form (Knussen & McFayden, 2010; Pramod et al., 2016).

Advance technology can cause potential misuse. Therefore, the researcher must keep their data secure through the password-protected file, firewalls, and encryption to protect their data confidentiality (Hand, 2018). Furthermore, technology keeps evolving with new trends, new software, and new protocols for data storage; researchers must remain updated and aware of new protocols regarding data storage sensitivity to obtain the maximum assistance for their data security. Privacy plays a central role in data ethics. Therefore, the researcher must be vigilant on how they store their device and should always be cautious on the device they use when accessing their data (Hand, 2018; Fisher, 2013).

Summary and Transition

Chapter 3 discussed the usage of quantitative research to examine the influence of ethical leadership on employees' accountability behaviors in medical laboratory settings. Chapter 3 presented the research method for the study, how the variables were measured were presented. The table of the G* Power 3.1 Sample size analysis that was performed to select the sample size for the study was also presented and interpreted. The data analysis plan, including the ethical procedures that were followed during the data collection were presented.

In Chapter 4, data provided from medical laboratory managers and medical laboratory employees from Western New York were analyzed. Multi regression analysis was used to determine the predictive effect between ethical leadership and employee accountability behaviors. A moderation analysis was used to examine whether the total of months under management moderates the relationship between medical laboratory managers assess ethical leadership in predicting employee accountability behaviors. The assessments that were used for the research were the ELWQ and LAS and were distributed using SurveyMonkey. The data was analyzed using SPSS. In chapter 3, threats to validity were described, including the ethical procedures that was followed to protect the participants' confidentiality and data. Chapter 5 explores the findings of the study and make connections between the findings to the literature and the theoretical framework. The limitations of the study were explored, and recommendations for future research were be provided.

Chapter 4: Results

The purpose of this quantitative study was to determine the effect of a laboratory manager's perceived ethical leadership on their assigned laboratory employees' accountability behaviors. It also examined if the time working for a given medical laboratory manager moderates the relationship between their assessed ethical leadership in predicting their laboratory employee's accountability behaviors. In this chapter, the findings of the data analyses are presented. Descriptive statistics were conducted to examine the trends in the demographic factors and variables of interest. To address the research questions, a series of linear regression models were conducted. Prior to analysis, the assumptions of a linear regression were evaluated. Statistical significance was evaluated at the generally accepted level, $\alpha = .05$.

Study Sample

A total of 75 participants provided consent to respond to the survey questionnaire. Six of the participants did not complete most of the survey and were subsequently removed during the data cleaning process. Data collection took 1 month to complete, with a 92% completion response rate. As mentioned in Chapter 3, the target population for this study was medical laboratory employees in large medical laboratory companies. Therefore, each participant was asked to report the number of employees working in their laboratory. Potential outliers were examined through standardizing the values. Tabachnick and Fidell (2019) indicated that outliers correspond to *z*-scores exceeding $\pm$ 3.29 standard deviations from the mean are extreme values. None of the data for ethical

leadership and accountability behaviors exceeded the thresholds. Therefore, no outliers were removed from the dataset. The final sample consisted of 69 participants.

Demographic Breakout

The participants of the study consisted of 16 men (23.19%) and 53 women (76.8%) located in Western New York who specialize in medical laboratory testing. Most of the sample were permanent full-time employees (n = 46; 66.7%). Frequencies and percentages for gender and current employment status are presented in Table 1.

Table 1

Frequency Table for Gender and Current Employment Status

Variable	*n*	*%*
Gender		
Male	16	23.19
Female	53	76.81
Current employment status		
Permanent Full-Time Employee (40 or more hours per week)	46	66.67
Permanent Part-Time Employee (Less than 40 hours per week)	13	18.84
Temporary Full-Time Employee (40 or more hours per week)	3	4.35
Temporary Part-Time Employee (40 or more hours per week)	3	4.35
Per Diem (Employed by the day and work based on the laboratory needs for staff)	2	2.90
On Call (Available to work at any time when contacted by your employer)	2	2.90

Age of participants ranged from 18 to 70 years, with M = 35.65 years and SD = 12.00. Years with current employer ranged from 0 to 44 years, with M = 7.74 years and SD = 8.98. Number of employees working at medical laboratory ranged from 0 to 80,000, with M = 1609.49 and SD = 9835.83. The summary statistics for age, years with

current employer, and number of employees working at a medical laboratory can be found in Table 2.

Table 2

Summary Statistics Table Age, Years with Current Employer, and Number of Employees Working at Medical Laboratory

Variable	*n*	Min	Max	*M*	*SD*
Age	69	18.00	70.00	35.65	12.00
Years with current employer	69	0.00	44.00	7.74	8.98
Number of employees working at medical laboratory	67	0.00	80,000.00	1,609.49	9,835.83

Descriptive Statistics

Ethical leadership scores ranged from 1.74 to 4.89, with $M = 3.52$ and $SD = 0.54$. Overall months assigned ranged from 0 to 300 months, with $M = 49.68$ months and $SD = 65.29$. Accountability behaviors scores ranged from 1.00 to 11.00, with $M = 7.32$ and $SD = 2.69$. The summary statistics for the variables of interest are presented in Table 3.

Table 3

Summary Statistics Table for Variables of Interest

Variable	*n*	Min	Max	*M*	*SD*
Ethical leadership	69	1.74	4.89	3.52	0.54
Overall months assigned	69	0.00	300.00	49.68	65.29
Accountability behaviors	69	1.00	11.00	7.32	2.69

Correlations Among Study Variables

A series of Pearson correlations were conducted to examine the bivariate associations between the variables of interest. The findings indicated a significant positive relationship between ethical leadership and accountability behaviors ($r = .58$, $p <$

.001). There was not a significant association between overall months assigned and ethical leadership (r = -.08, p = .525). There was also not a significant association between overall months assigned and accountability behaviors (r = -.10, p = .402). Table 4 presents the findings of the Pearson correlations.

Table 4

Pearson Correlations Between the Main Study Variables

	Ethical leadership	Overall months assigned	Accountability behaviors
Ethical leadership	1.00		
Overall months assigned	-.08	1.00	
Accountability behaviors	.58*	-.10	1.00

*p < .05 level.

Tests of Assumptions

Prior to analysis, the assumptions of linearity, normality, homoscedasticity, and absence of multicollinearity were tested to ensure that the data were adequate for inferential analysis using multiple regression.

Linearity

The assumption of linearity was tested with two scatterplots between ethical leadership and overall months assigned with accountability behaviors. The scatterplot between ethical leadership and accountability behaviors depicts a strong positive association (see Figure 2). While the scatterplot between overall months assigned and accountability behaviors depicts a relatively weak inverse association (see Figure 3).

Figure 2

Scatterplot Between Ethical Leadership and Accountability Behaviors

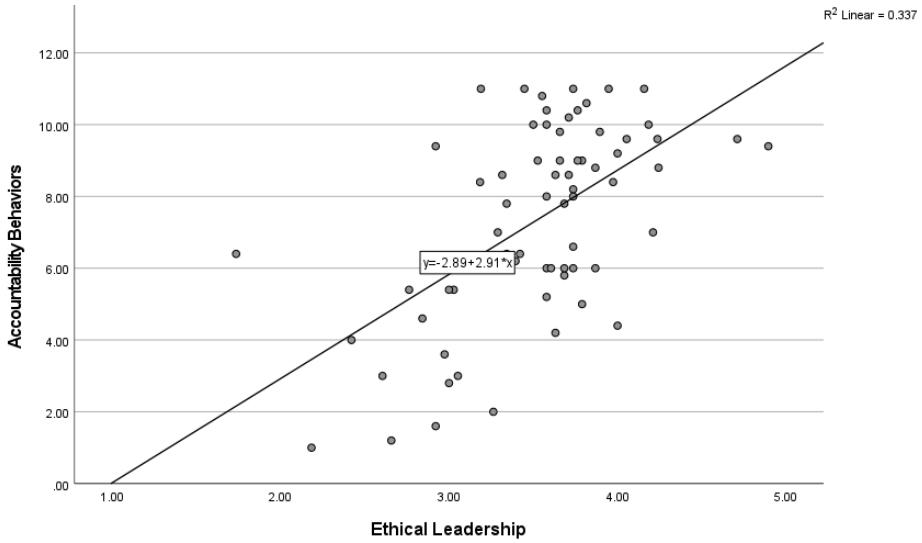
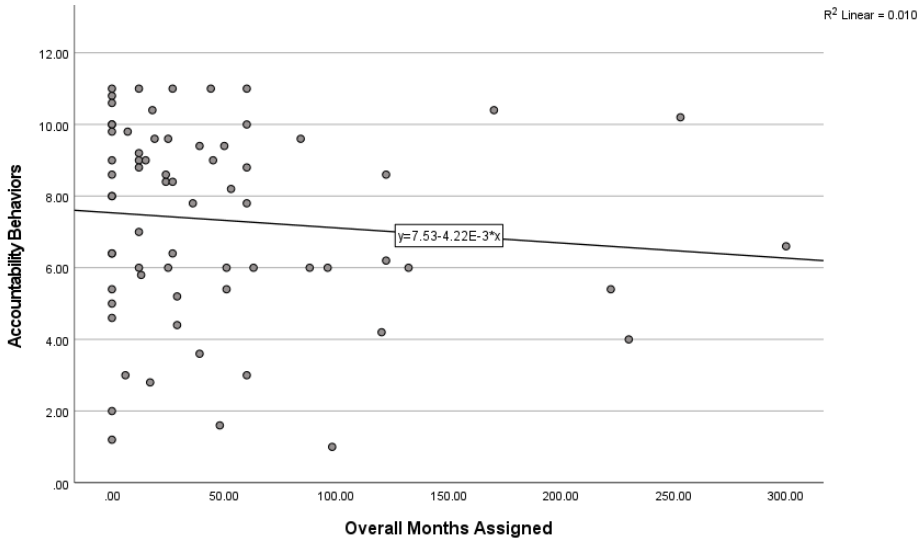


Figure 3

Scatterplot Between Overall Months Assigned and Accountability Behaviors



Normality

Normality was first tested visually with normal P-P scatterplots. The data did not display deviations from the normality trend line, providing evidence of a normal distribution (see Figures 4 and 5).

Figure 4

Normal P-P Scatterplot for Regression with Ethical Leadership Predicting Accountability Behaviors

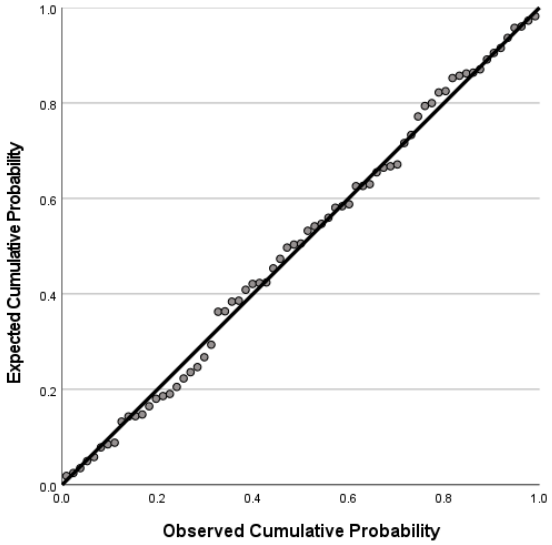
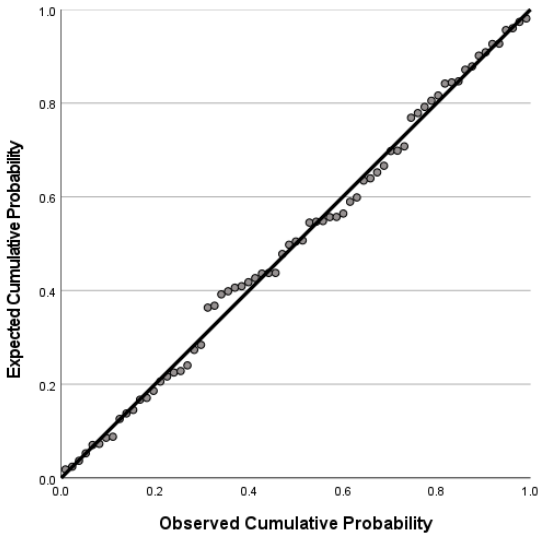


Figure 5

Normal P-P Scatterplot for Regression with Ethical Leadership and Total Months Assigned Predicting Accountability Behaviors



In addition to the visual inspection of the scatterplots, the skewness and kurtosis statistics were examined for each of the variables of interest. According to Kline (2010), to meet the assumption for univariate normality: skewness should fall between -2.0 and 2.0, while kurtosis should fall between -7.0 and 7.0. For ethical leadership, the skewness was -0.57 and the kurtosis was 1.54. For overall months assigned, the skewness was 2.04 and the kurtosis was 4.16. The skewness value for overall months assigned slightly exceeded the threshold of 2.00, which can be attributed to some participants having over 200 months assigned to work for a medical laboratory manager. For accountability behaviors, the skewness was -0.56 and the kurtosis was -0.52. Due to the P-P plots depicting a normal distribution, and overall months assigned slightly exceeding the

skewness threshold no adjustments were made to the data and the analysis was continued as initially proposed.

Homoscedasticity

Homoscedasticity was tested with residuals scatterplots. The data in the residuals scatterplot did not depict a recurring pattern, providing evidence that the assumption of homoscedasticity was supported (see Figure 6 and 7). In addition, the data in the scatterplots to test for linearity (see Figures 2 and 3) demonstrated no funneling or coning across the fit line. Therefore, there was sufficient evidence that the assumption of homoscedasticity was supported.

Figure 6

Residuals Scatterplot for Regression with Ethical Leadership Predicting Accountability Behaviors

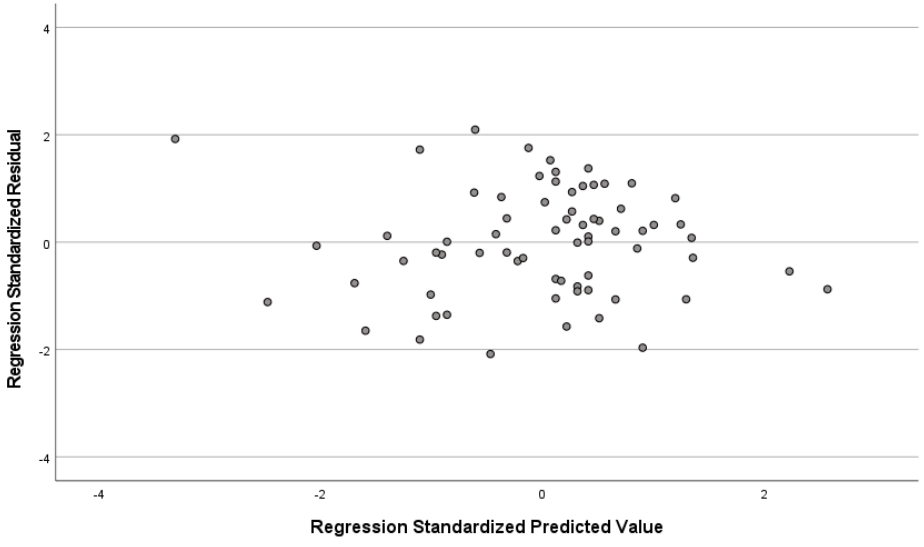
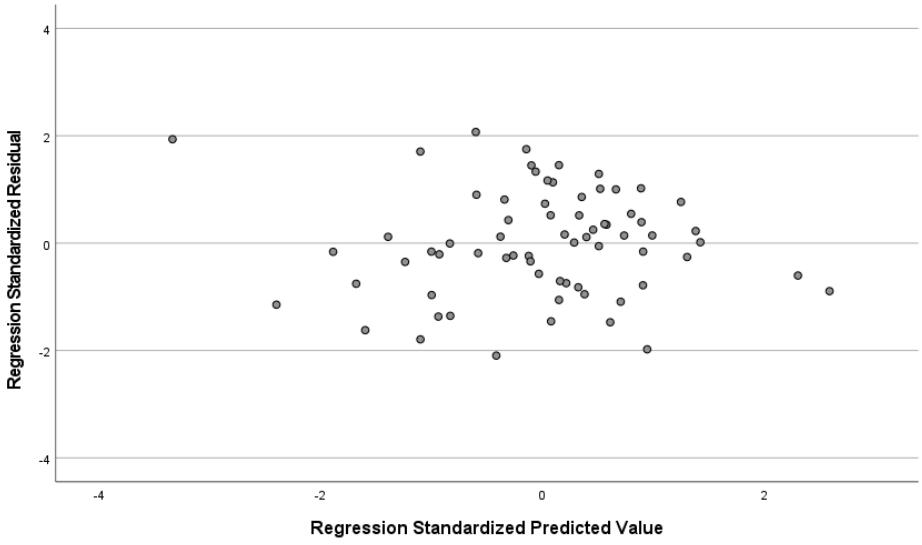


Figure 7

Residuals Scatterplot for Regression with Ethical Leadership and Total Months Assigned Predicting Accountability Behaviors



Multicollinearity

The assumption for absence of multicollinearity was also tested due to the examination of multiple independent variables. Variance inflation factors (VIFs) and tolerance values were used to verify the absence of multicollinearity assumption. Stevens (2010) indicated that VIFs greater than 10 and tolerance values below .40 indicate that there is a high association among the predictors and the assumption for absence of multicollinearity would not be supported. The VIF values were 1.01 and 1.02, while the tolerance values were 0.99 and 0.98. Therefore, there was sufficient evidence that the absence of multicollinearity assumption was supported. Table 6 presents the findings of the VIFs.

Table 5

*Variance Inflation Factors for Ethical Leadership, Total Months Assigned, and Ethical Leadership*Overall Months Assigned.*

Variable	VIF	Tolerance
Ethical leadership	1.01	0.99
Overall months assigned	1.02	0.98
Ethical leadership*Total months assigned	1.02	0.98

Statistical Analysis

Research Question 1 (RQ1): Does perceived medical laboratory manager ethical leadership predict their assigned laboratory staff's employee accountability behaviors?

Null Hypothesis ($H_0$1): Perceived medical laboratory manager ethical leadership does not predict their assigned laboratory staff's employee accountability behaviors.

Alternative Hypothesis (H_a1): Perceived medical laboratory manager ethical leadership predicts their assigned laboratory staff's employee accountability behaviors.

To address research question one, a linear regression was conducted to examine the predictive relationship between ethical leadership and accountability behaviors. The predictor variable corresponded to ethical leadership and the outcome variable corresponded to employee accountability behaviors.

The coefficient of determination, R^2, was .337, indicating that 33.7% of the variance in accountability behaviors can be explained by ethical leadership. The Durbin-Watson statistic was utilized to examine the data for autocorrelation. The Durbin-Watson statistic can range from 0-4, and the assumption is supported if the Durbin-Watson statistic approaches 2.00 (Field, 2013). The Durbin-Watson statistic was 2.06, indicating

that there was not the presence of autocorrelation among the sample. Table 6 summarizes the results of the regression model.

Table 6

Model Summary for Linear Regression with Ethical Leadership Predicting Accountability Behaviors

Model	*R*	R^2	*Adjusted* R^2	*SE of Estimate*	Durbin-Watson
Regression	.580	.337	.327	2.20	2.06

The ANOVA statistics were examined to identify the significance of the collective regression model. The results of the linear regression model were significant, F (1, 67) = 34.03, $p < .001$, indicating that ethical leadership has a significant predictive relationship with accountability behaviors. The ANOVA table for research question one is presented in Table 7.

Table 7

ANOVA Table for Linear Regression with Ethical Leadership Predicting Accountability Behaviors

Model	*Sum of Squares*	*df*	*MS*	*F*	*p*
Regression	165.47	1	165.47	34.03	<.001
Residual	325.74	67	4.86		
Total	491.21	68			

The coefficients statistics examine the fluctuations in accountability behavior based on increases in ethical leadership. With every one-unit increase in ethical leadership (B = 2.91, t = 5.83, $p < .001$), accountability behaviors scores increased by approximately 2.91 units. Therefore, the null hypothesis for research question one (H01)

was rejected. The coefficients for the linear regression to address research question one is presented in Table 8.

Table 8

Coefficients for Linear Regression with Ethical Leadership Predicting Accountability Behaviors

Variable	*B*	*SE*	β	*t*	*p*
Ethical Leadership	2.91	0.50	0.58	5.83	< .001

Research Question 2 (RQ2): Does the total of months laboratory staff is assigned to work for a medical laboratory manager moderate the relationship between their perception of their managers ethical leadership and the assigned staff's employee accountability behaviors?

Null Hypothesis ($H_0$2): The time laboratory staff are assigned to work for a medical laboratory manager does not moderate the relationship between their perception of their managers' ethical leadership and assigned staff's employee accountability behaviors.

Alternative Hypothesis (H_a2): The time laboratory staff are assigned to work for a medical laboratory manager moderates the relationship between their perception of their manager's ethical leadership and the assigned staff's employee accountability behaviors.

To address research question two, a moderation analysis was conducted using a multiple regression to examine whether total months laboratory staff is assigned to work for a medical laboratory manager moderates the relationship between ethical leadership and employee accountability behaviors. The predictor variable corresponded to ethical leadership and the outcome variable corresponded to employee accountability behaviors.

The moderator variable corresponded to total months assigned. To evaluate the moderating effect, an interaction term was developed between ethical leadership*total months assigned.

The coefficient of determination, R^2, was .342, indicating that 34.2% of the variance in accountability behaviors can be explained by ethical leadership, overall months assigned, and ethical leadership*overall months assigned. The Durbin-Watson statistic was 2.08, indicating that there was not the presence of autocorrelation among the sample. Table 9 summarizes the results of the regression model.

Table 9

*Model Summary for Linear Regression with Ethical Leadership, Overall Months Assigned, and Ethical Leadership*Overall Months Assigned Predicting Accountability Behaviors*

Model	*R*	R^2	*Adjusted* R^2	*SE of Estimate*	Durbin-Watson
Regression	.585	.342	.312	2.23	2.08

The ANOVA statistics were examined to identify the significance of the collective regression model. The results of the overall linear regression model were significant, F (3, 65) = 11.26, $p < .001$, indicating that collectively ethical leadership, total months assigned, and ethical leadership*total months assigned has a significant predictive relationship with accountability behaviors. The ANOVA table for research question two is presented in Table 10.

Table 10

*ANOVA Table for Linear Regression with Ethical Leadership, Overall Months Assigned, and Ethical Leadership*Overall Months Assigned Predicting Accountability Behaviors*

Model	*Sum of Squares*	*df*	*MS*	*F*	*p*
Regression	167.93	3	55.98	11.26	<.001
Residual	323.27	65	4.97		
Total	491.21	68			

The coefficients statistics were examined to identify the significance of the interaction term. Due to the interaction term, ethical leadership*total months assigned, not being significant in the model (B = -0.00, t = -0.41, p = .681), there was no evidence that total months assigned moderates the relationship between ethical leadership and accountability behaviors. The null hypothesis for research question two (H02) was not rejected. The coefficients for the linear regression to address research question two are presented in Table 11.

Table 11

Coefficients for Linear Regression with Total Months Assigned Moderating Relationship between Ethical Leadership and Accountability Behaviors

Variable	*B*	*SE*	β	*t*	*p*
Ethical leadership	2.90	0.51	0.58	5.72	< .001
Total months assigned	-0.00	0.00	-0.06	-0.61	.543
Ethical leadership*total months assigned	-0.00	0.01	-0.04	-0.41	.681

Summary and Transition

The purpose of this quantitative study was to determine the effect of a laboratory manager's perceived ethical leadership on their assigned laboratory employees' accountability behaviors. The purpose also explores if the time working for a given medical laboratory manager moderates the relationship between their assessed ethical leadership in predicting their laboratory employee's accountability behaviors. In this chapter, the findings of the data analyses were presented. Descriptive statistics were conducted to examine the trends in the demographic factors and variables of interest. The participants of this study consisted of 16 males and 53 females. 46 out of the 69 participants were full-time employees, with the age rage between 18 to 70 years old. The summary statistic table shows the ranges and mean for the variables of interest: ethical leadership range from 1.74 to 4.89, with $M = 3.52$, employee accountability ranges from 1.00 to 11.00, with $M = 7.32$, overall month assigned under a medical laboratory manger range from 0 to 300 months, with $M = 49.68$ months.

To address the research questions, a series of linear regression models were conducted. The findings for RQ1 indicated that there was a significant positive relationship between ethical leadership and accountability behaviors. Furthermore, the analysis showed that every one-unit increase in ethical leadership employee accountability increased by 2.91 units. Therefore, the null hypothesis for RQ1 was rejected. The findings for RQ2 indicated that total months assigned to work for a medical laboratory manager does not moderate the relationship between ethical leadership and

employee's accountability behaviors. The null hypothesis for research question two (H02) was not rejected.

In Chapter 5, the research problem is again presented, and how the current research findings cover the gap in the literature are discussed. A summary of the study method is presented, including the interpretation of findings for RQ1 and RQ2. The study's limitations, including the impact of COVID-19 and other recent events, are discussed. Recommendations for future research, including investigating how different leadership styles influence employee accountability, are made. The connection between the theoretical framework and current findings are explored and the implications for social change are also discussed.

Chapter 5: Discussion, Conclusions, and Recommendations

Ethical leadership is one of the primary key determinants for organizational functions (Brown et al., 2005). Ethical leaders impact an organization's culture and positively contribute to its reputation and success (Brown et al., 2005; Hartog et al., 2015). Ethical leaders model ethical behaviors through social learning to ensure that their employees work together to fulfill their organization's vision (Brown et al., 2005). Ethical leaders have distinct characteristics and abilities to influence, modify, change the behaviors and attitudes of an individual or a group, and use power to accomplish the organization's goals (Lunenburg, 2012). Research has shown that leadership integrity plays a significant role in employee accountability and demonstrates ethical leadership plays a significant role in medical laboratory medicine (Waddock, 2004). Although researchers have shown that ethical leadership practice is essential for medical laboratory functions, there is a lack of research on the effectiveness of ethical leadership on employee outcomes in laboratory medicine organizations (Afolabi et al., 2015; Brown et al., 2005).

As mentioned in previous chapters in this study, to the present date, there is no research regarding the ethical behavior of leaders on employee ethical behavior of accountability in medical laboratory organizations (Witjeratne et al., 2020). Additionally, managers in medical laboratory establishments have limited ethical leadership knowledge for managing their medical laboratory employees (Witjeratne et al., 2020). Laboratory managers are unaware of the ethical behaviors they are supposed to exhibit through social learning and role modeling to influence their medical laboratory employees'

accountability behavior (Bruns et al., 2008). Therefore, the current quantitative study was conducted to answer this gap by examining the influence of ethical leadership on employees' accountability behaviors in medical laboratory settings and whether time assigned to a manager, measured in months, moderates the relationship between their perception of their manager's ethical leadership and assigned staff's employee accountability behaviors.

Perceived ethical leadership and employee accountability were measured from two surveys: the ELWQ and the LAS. The ELWQ measures ethical leader behaviors and actions and measures ethical leader's interaction with their employees through role modeling and moral engagement (Kalshoven et al., 2011). The LAS measures leader's accountability and measures the leader's expectation, and communication style during decisions making (Wood et al., 2007). Participants who responded to the surveys were medical laboratory employees in Western New York. The participants in this study consisted of 16 men (23.19%) and 53 women (76.8%). The age of the participants ranged from 18 to 70 years. Participants' years with their current employer ranged from 0 to 44 years, and 46 out of the 69 participants were full-time employees.

The results indicated that ethical leadership has a significant predictive relationship with accountability behaviors F (1, 67) = 34.03, $p < .001$, and shows that when ethical leadership increases, employee accountability also increases. Results showed no statistical significance, B = -0.00, t = -0.41, p = .681, indicating that total months assigned to a medical laboratory manager does not moderate the relationship between ethical leadership and accountability.

Interpretation of the Findings

The current study results aligned with the theoretical frameworks and showed that employee ethical behavior could increase through role modeling, communication, and observation and showed that when leaders hold employees and themselves accountable, employees are more likely to report mistakes and disengage in unethical behaviors. Social learning and moral disengagement theory were the two theoretical frameworks that guided this study. The SLT explains that behaviors are learned through observation, interaction, experience, and knowledge (Bandura, 1977). SLT explains why employees perceived specific characteristics of a manager as ethical leadership and how leaders can influence ethical behavior in their employees through role modeling, learning, engagement, observation, and guidance (Bandura, 1977; Brown et al., 2005).

All participants were asked how they perceived their leader's actions, behaviors, decision-making, and interactions as ethical leaders and how this perception influenced their behaviors. The present investigation on the views of the SLT on ethical leadership effectiveness on employees outcomes was consistent with the current research. The SLT suggests that employees are more likely to copy and engage in similar behavior that their leaders portrayed (Brown et al.,2005). When the leader takes accountability, holds the employee accountable for their actions, treats the employees fairly and respectfully, and communicates precisely, the employee is more than likely to behave similarly (Brown et al.,2005; Kalshoven et al., 2011; Trevino et al., 2014). The current study shows that when ethical leadership increases, employee accountability also increases. Leaders can shape their team's ethical climate and culture in the workplace because they have access to

power (Lunenburg, 2012). Power and leadership play a significant role in organizational outcomes (Lunenburg, 2012; Saxena et al., 2019). Leaders in medical laboratory settings can generate and influence these positive outcomes, including employee accountability in medical laboratory organizations through their power and leadership.

The MDT suggests that employees often justify their unethical behaviors and failure to be accountable for their actions by relating their actions to their leader's behaviors or organization policy (Bandura, 1999; Liu et al., 2012). Accountability is a significant component in health care, and without ethical leadership, a lack of accountability in a medical laboratory can raise society's health level and place patients' lives at risk (Ghiasipour et al., 2017). The current study's findings show that when leaders hold employees accountable for their actions, clearly define their tasks, and are not afraid to talk about their mistakes; it increases accountability behavior in their medical laboratory employees and reduces the employee's ability to justify their unethical behavior and displacement of responsibility.

RQ1 determined if perceived medical laboratory manager ethical leadership predicts their assigned laboratory staff's employee accountability behaviors. The three variables analyzed in this study where the predictor variable was ethical leadership measured by the ELWQ, the outcome variable accountability behavior measured by the LAS, and the moderator variable total time measured in months that the medical laboratory employee was assigned to their manager captured using a demographic questionnaire. An ANOVA was conducted to identify the significance of the regression model. The results from the linear regression model were significant, $F(1, 67) = 34.03$, p

< .001, indicating that ethical leadership has a significant predictive relationship with accountability behaviors. The research findings also show that with every one-unit increase in ethical leadership ($B = 2.91$, $t = 5.83$, $p < .001$), accountability behaviors scores increased by 2.91 units. The results prove that ethical leadership influences accountability in medical laboratory employees and show that ethical leadership in medical laboratory organizations is a strong predictor for increased accountability behavior in medical laboratory employees. Although there was no current research examining the influence of ethical leadership on medical laboratory employee organizations, the current research aligns with current findings on ethical leadership outcomes. The results show that ethical leadership positively influences medical laboratory employees' behaviors.

RQ2 entailed conducting a moderation analysis using multiple regression to determine whether the total months laboratory staff member is assigned to work for a medical laboratory manager moderates the relationship between ethical leadership and employee accountability behaviors. Three variables were also analyzed: the predictor variable was ethical leadership, the outcome variable was employee accountability behaviors, and the moderator variable was the total number of months assigned. To evaluate the moderating effect between the predictor and outcome variables, an interaction term was created between ethical leadership*total months assigned. An ANOVA model was conducted to examine the significance of the collective regression model. The result shows that ethical leadership, total months assigned, and ethical leadership*total months assigned has a significant predictive relationship with

accountability behaviors F (3, 65) = 11.26, p < .001, R2 =.342, suggesting that 34.2% of the variance accountability behavior can be explained by ethical leadership. From the linear regression model, no statistical significance was found between ethical leadership*total months assigned (B = 0.00, t = -0.41, p = .681), indicating that the total month does not moderate the relationship between ethical leadership and accountability behaviors. Signifying that time does not play a factor in ethical leadership's ability to increase accountability in medical laboratory employees no matter the time spent with their current medical laboratory manager; if ethical leadership is present, accountability increases in medical laboratory personnel.

Limitations of the Study

One of the study's limitations is the lack of research on ethical leadership outcomes in medical laboratory employees, which limited the quality of the study and limited the ability to collect previous findings that could add value to this study. The lack of previous findings can cause a lack of generalizability and create some difficulties when looking for ethical leadership outcomes in a medical laboratory. Another limitation is that the study was limited to medical laboratory employees in Western New York. Because the study solely focuses on medical laboratory employees in Western upstate New York, other geographic locations may have different experiences that would reflect different results. As mentioned in the first chapter of this study, professionals in medical laboratory establishments have limited ethical leadership knowledge for managing employees because, there is no book on ethical leadership for medical laboratory management, and medical laboratory organizations record ethics as an operating manual

rather than moral responsibility (Afolabi et al., 2015; Bruns et al., 2015; Madhu et al., 2019).

Medical laboratories only reinforce ethical practice based on laws and regulations within their municipality (Wijeratne & Benatar, 2020). These standards of practice may pose a limitation when recreating this study in other geographic areas because ethics standards and practice vary between cultures, geographics, and legal jurisdictions (Datta, 2020; Gronowski et al., 2019). Organization size is also one of the limitations of this study. The study examines medical laboratory employees in more extensive laboratories than small clinics and hospital laboratories. Therefore, reproducing the study in a smaller laboratory setting may yield different results because employees in smaller settings might have different work relationships with their managers than employees in more extensive laboratory settings. In smaller medical laboratories, managers may have more opportunities to create a close-knit relationship and have more opportunities to relate to their staff than managers with a more extensive staff who does not have direct contact with their managers daily.

Due to the minimal daily contact and interactions, medical employees in smaller laboratories may perceive their medical manager's ethical leadership differently than employees from larger medical laboratory organizations. Another limitation was that the time under the current manager might vary between participants, where employees may have worked for a previous manager for a much more extended period. Furthermore, organization culture, how medical laboratory managers are trained, what expectations are set for medical laboratory managers, and how the organization reinforces ethical

expectations, and hold their manager accountable may influence the outcomes of the study.

World events such as COVID-19, recent political scandals, and riots due to racial discrimination and police scandals may have limited this study. During the events of the coronavirus, many medical laboratories did not have any protocols in place and did not have any standing operating procedures to manage their laboratory and maintain productivity during a pandemic (Kabanova et al., 2020). Some medical laboratories had to reassign their staff, and managers had to learn how to maintain a positive work culture and retain work productivity with less staff, especially during potential COVID-19 exposure between employees. These forms of events and sudden reshape of management might also be a limitation to this study because they might have influenced how these employees perceived their managers as ethical leaders during the crisis.

Recommendations

One recommendation for future research would include investigating the influence of ethical leadership on employee accountability behaviors in other laboratory settings, and organizations in both private and public sectors. Because this study only included medical laboratory personnel in Western upstate New York, another recommendation is to expand the participant population to another region in the United States. Furthermore, it will also be beneficial to investigate different leadership styles' influence on employee accountability in different organization settings. There may also be a benefit to investigating the influence of ethical leadership and different power styles on employee accountability in medical laboratory organizations and other organizations.

Medical laboratories influence ethics based on laws and regulations within their jurisdiction; therefore, there will be a benefit to conduct a comparative analysis to determine whether regions and different cultures also influence how medical laboratory employee perceive their medical laboratory manager as an ethical leader. Ethics in medical laboratory organizations follow standard operating procedures and good manufacturing practices. A recommendation is that leaders in medical laboratory organizations must let their medical employees know how to perform their duties and offer coaching to prevent employees from deviating from the standard operating manuals to reduce unethical behaviors.

Ethics might not mean management; being a good manager does not equate to being an ethical leader. Therefore, medical laboratory organizations need to develop ethics training and coaching on ethics standards and practices and need to have a clear understanding of what it means to be ethical and how to be an ethical leader. Furthermore, medical laboratory organizations need to develop a protocol that supports ethical standards and practices when facing an ethical decision and needs to understand the behavior they need to portray when managing employees to decrease unethical behaviors. Previous findings show the importance of ethical leadership in organizational functions (Brown et al.,2005). More studies on ethical leadership need to be conducted in medical laboratory organizations. Professionals in medical laboratories and other parts of healthcare need to participate in medical ethics studies, and the importance of ethical leadership needs to be a trend in medical laboratory organizations and other sectors in healthcare.

Another recommendation would be to repeat this study after COVID-19 COVID protocols have become business as usual or returned to pre-COVID 19 protocols. Covid pandemic protocols and employee management may have altered medical laboratory manager behavior and/or influenced how medical laboratory employees perceived their managers as ethical leaders. A mixed-method research design might benefit the study because the quantitative study only includes close-ended questions. Therefore, conducting in-depth interviews and observation analysis might be beneficial because it will allow the participant to dislodge more in-depth responses and allow the researcher to better understand and explore the research participants' behaviors with their leaders.

Implications

Social change is a deliberated process of creating and applying what is learned at a level where differences can be made to promote better living and development that benefits society. As a result of this study and the findings, the researcher recommends more ethics training and coaching in medical laboratories based on the current findings. Ethics training can help improve the workplace environment and conditions and help diminish potential health risks in communities that could further impact society's health level. The findings of this study will help raise awareness of the need for ethnic studies in medical laboratory organizations and practices where ethics studies are currently non-existent. Medical laboratories provide 80% of data for diagnostic, monitoring, and treatment of patients and provide resources that play a significant role in disease control and monitoring public health. Therefore, this study's recommendations and findings have

shown the importance of ethical leadership in medical laboratories to decrease deviant behaviors that pose a severe threat to public safety and patient care.

At an organizational level, the findings of this study can help promote better work environments for employees and help create new policies and ethics training. Employees with poor work safety and poor training can often engage in deviant behaviors. Therefore, providing safety training with clear communication between managers and employees can reduce work tension and open the door for positive change that will contribute to an ethical work climate. According to the social learning theory, employees learn new behaviors through role modeling and interactions (Brown et al.,2005; Trevino et al., 2014). The findings of this study are beneficial for medical laboratory managers because it helps them understand the positive behaviors that they need to exhibit to eliminate unethical behaviors and increase accountability in their employees. The findings of this study will help strengthen the current debate on the need for more ethical study in medical laboratory organizations and raise awareness on the importance for medical professionals to engage in bioethics disputes and training to increase a better work environment where employee accountability becomes a common trend in practice.

Conclusion

The findings of this study added to the current literature on ethical leadership and covered the gap on the influence of ethical leadership on employee accountability behaviors. This study was able to add to the literature, but it also provided new findings on an area of ethical leadership outcomes that were previously unknown and under research. The previous study focused on accountability as a significant component in

leadership, yet no study has investigated the influence of ethical leadership on employee accountability behavior, especially in medical laboratory medicine. This study not only covers an area that was unknown in medical laboratory organizations, but it also shows that ethical leadership has a positive influence on employee outcomes and shows that ethical leadership positively influences accountability behavior in medical laboratory personnel. Furthermore, the study shows that time does not moderate the effect between ethical leadership and employee accountability behavior, indicating that accountability increases whenever ethical leadership is present. While this study solely focuses on medical laboratory organizations, the significant findings show that ethical leadership can decrease deviant behaviors in the workplace and encourage employees to report mistakes that could cause severe damage to both the organization and society. Understanding how ethical leadership can help increase positive work behavior through role modeling, interaction, and social learning can help improve the relations between medical laboratory managers and medical employees. Ethical leadership can influence how medical laboratory organizations provide ethical training to their new hires, including the resources that they provide to their medical managers to be effective and practical ethical leaders.

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Appendix A: Medical Laboratory Employees Demographic Questionnaire

Directions. Please complete in the following items as they best describe you and your work:

1. On my legal government ID I am identified as:
    A. Male
    B. Female
    C. Other
    D. Prefer not to answer
2. What is your age?
   (Please fill in the blank) ___ Years
3. What are the number of years you have been with your current employer?
   (Please fill in the blank) ___ Years
4. What are the number of years and months you have been assigned to your current medical laboratory manager?
   (Please fill in the blank) ___ Years __ Months:
5. What is your current employment status with your current employer?
    A. Permanent Full-Time Employee (40 or more hours per week)
    B. Permanent Part-Time Employee (Less than 40 hours per week)
    C. Temporary Full-Time Employee (40 or more hours per week)
    D. Temporary Part-Time Employee (40 or more hours per week)
    E. Per Diem (Employed by the day and work based on the laboratory needs for staff)
    E. On Call (Available to work at any time when contacted by your employer)
    F. Other

Appendix B: Survey Exit Page

Completion

Thank you for your participation in this survey, it will not be possible to conduct this research without your cooperation, once again, Thank you! Please click the submit button to send your answers.

Thank you for your time and participation!