

DEVELOPMENT OF EMPATHETIC MANAGERS TO SUPPORT DISABLED EMPLOYEES UTILIZING SIMULATION-BASED LEARNING

By

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May, 2025

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ABSTRACT

Empathy is a crucial skill for effective leadership, particularly in diverse workplaces where understanding and addressing employees' needs contribute to organizational success. This study examines the impact of simulation-based learning on developing empathy in business students. Grounded in Kolb's experiential learning theory (1984), the research explores how immersive simulations enhance students' empathy by engaging them in real-world workplace scenarios.

A mixed-methods approach was used to assess the effectiveness of simulation-based empathy training. Undergraduate business management students participated in a simulation addressing mobility challenges, reflecting on accommodations for employees with disabilities. Pre- and post-tests measured changes in empathy levels, while qualitative responses provided deeper insights into students' perspectives. The results showed a significant increase in self-reported empathy scores ($p = 0.015$), with participants demonstrating an improved ability to recognize and respond to employees' emotional needs. Qualitative findings further indicated a heightened awareness of inclusive leadership and a stronger commitment to fostering supportive work environments.

This study affirms the value of simulation-based learning in developing empathy among future managers. Findings highlight how Kolb's experiential learning cycle—encompassing concrete experience, reflective observation, abstract conceptualization, and active experimentation—effectively enhances emotional intelligence in management education. While the simulations fostered short-term empathy growth, future research should investigate long-term skill retention. Additionally, expanding simulations to include other diversity factors, such as race, gender, and socioeconomic status, could further promote empathy and inclusivity in leadership training.

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UTILIZING SIMULATION BASED LEARNING

A Dissertation

Presented to the Faculty of the Department of Educational Leadership
East Carolina University

In Partial Fulfillment of the Requirements for the Degree
Doctor of Education in Educational Leadership

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May, 2025

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DEDICATION

This dissertation is lovingly dedicated to my incredible wife, whose unwavering support, patience, and encouragement carried me through every step of this journey. Your belief in me made this work possible, and your partnership made it meaningful.

To my son—you are my inspiration. May you grow up in a world that values empathy, equity, and the dignity of every person. I hope this work contributes in some small way to building that world for you and your generation.

To my parents, thank you for instilling in me the values of hard work, compassion, and lifelong learning. Your love and guidance laid the foundation for everything I have accomplished.

Finally, I dedicate this work to aging and disabled individuals everywhere. May the insights gained from this research help to build more inclusive, understanding, and human-centered workplaces. Your experiences matter. Your voices deserve to be heard. This work is for you.

ACKNOWLEDGEMENTS

First, I would like to express my deepest gratitude to Ms. Beth Ritter and Dr. Paul Mulvey, whose partnership and mentorship were instrumental throughout this process. Your insight, encouragement, and consistent belief in this work kept me grounded and focused.

Special thanks to Ms. Leslie Heath, whose early edits and thoughtful feedback helped shape the foundation of this dissertation. Your willingness to step in at the start made a lasting impact.

I am deeply thankful to Dr. Jordan Bullington-Miller for being not only a brilliant coach and editor but also a calm and steady voice of reason when I needed a sanity check. Your support carried me through many long days and late nights.

To all of my previous Human Resources and Medical Simulation students—thank you. Your curiosity, energy, and thoughtful engagement inspired the very concept of this study. You are the reason this research exists.

A heartfelt thank you to Ms. Gabriella Hesse, Ms. Julie Seger, and my cohort—your friendship, creative ideas, and shared experiences helped keep this process collaborative and hopeful, even in the toughest moments. I am also incredibly grateful to my team, whose behind-the-scenes support and encouragement kept me organized, focused, and on track.

To my dissertation committee, thank you for sticking with me—especially during the final push to the finish line. Your time, patience, and commitment to quality made this work stronger and more meaningful. I appreciate each of you for your investment in both the process and the product.

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CHAPTER 1: INTRODUCTION

Empathy is a crucial skill for business leaders to develop, particularly in relation to the inclusion of disabled and aging employees in the workplace. Research suggests that individuals with disabilities face various barriers in higher education and employment settings that may include discrimination, negative attitudes, and lack of understanding from their colleagues (Morgan, 2021; Shier et al., 2009). Empathy can help overcome these barriers by enabling individuals to understand and appreciate the challenges facing disabled and aging employees (Meyer, 2020). For example, a study by Hsu and Lien (2017) highlights that empathetic leadership improves employee satisfaction and retention, particularly for those with disabilities, by fostering a supportive and inclusive environment.

This study aimed to explore the use of simulation to improve empathy in business students, ultimately providing a tool to better engage future managers in protecting their employees. Based on my experience as a business manager, I have observed situations where numerous employees have required accommodation, whether due to disabilities or transient health-related issues. In these situations, demonstrating empathy and understanding as an employer is not only a moral imperative but also a strategic choice. Additionally, proactively addressing the needs of team members can prevent potential legal proceedings and lawsuits, thus safeguarding the well-being of both employees and the organization (Smith & Smith, 2022). Furthermore, this empathy can enhance relationships with team members, resulting in an environment of trust and support (Johnson, 2018).

An example of a situation reflecting a lack of empathy by managers in higher education occurred during the COVID-19 pandemic and subsequent recovery. The initial uncertainty about the virus and its transmission led to policies that forced changes in workplace structures and

contact restrictions. Employees that had to be on site may or may not have been provided with safe places to work at an adequate distance from others, even when buildings may have been empty because of employees working from home. Research by Klein and Alpert (2021) indicates that inadequate safety measures and lack of empathy towards employee concerns during the pandemic contributed to heightened stress and dissatisfaction among workers. Baiano et al. (2022) found that the social aspects of empathy like active listening, turn-taking, sharing, and collaboration abilities that impact work were negatively impacted during the pandemic.

Even as more information about the virus and appropriate interactions were determined, employees may have encountered non-empathetic managers who were unwilling to work with employees to identify individual settings and working conditions. In some instances, managers did not always consult or heed the advice of their human resources partners. The outcomes of these stories, and others like them, continue to be seen in Americans with Disabilities Act (ADA) claims made to the Equal Employment Opportunity Commission (EEOC) through settlements and ongoing cases (Shier et al., 2009; Wilson et al., 2017).

A lack of empathetic leaders in management roles making decisions about accommodations for an increasingly disabled and aging workforce is leading to increased costs to employees and companies (Job Accommodation Network [JAN], 2022; Shier et al., 2009; Stanley, 2010). Americans with Disabilities Act claims made to the Equal Employment Opportunity Commission (EEOC) have proven that managers often fail to provide the accommodations employees are requesting (Shigaki et al., 2012). Managers are not able to, nor are they trained to, empathize with the needs of their disabled and aging workforce (Stanley, 2010).

Accommodation survey information has been collected by the Job Accommodation Network (JAN) under a contract with the U.S. Department of Labor's Office of Disability Employment Policy and conducted by researchers at West Virginia University (JAN, 2022). Of the 1,029 surveys with cost information collected from 2004 to 2019, 56% of the surveys reported that the accommodation cost was zero (\$0), while the remaining 44% only cost \$500 to implement (JAN, 2022). Nearly all (99%) of the accommodations provided were a one-time cost, while 1% carried an annual cost (JAN, 2022). In 19% of employment discrimination defense settlements, the average cost was \$125,000 and required more than 200 days without resolution in 446 closed claims reports (Hiscox, 2016). While the cost of accommodation is low compared with settlements, employer empathy is needed to begin the interactive process of providing accommodations (Santos et al., 2019; Shier et al., 2009).

At North Carolina State University (NCSU), the Poole College of Management is committed to helping its students understand how appropriate accommodations level the playing field for employees in the workplace. However, knowledge alone cannot adequately prepare graduates to lead equitably. To this end, simulations in the classroom allow for the practical application of lessons learned by introducing students to real-life scenarios in a safe space that is conducive to experimentation. More than 25,000 business students have graduated from Poole College, representing diverse backgrounds and unique perspectives. Accommodation surveys have revealed the critical need for employer empathy in providing necessary adaptations, there is a real chance to impact future leaders at NCSU's Poole College.

The class of 2023 stands out with a diverse population of future leaders, including 767 first-generation students, 108 veterans, and 83 student-athletes among its ranks (Poole College of Management, n.d.). These statistics not only reflect the diversity of the student body but also

underline the pressing necessity for comprehensive and empathetic managerial skills. As graduates take positions in the professional space, the volume of future managers illustrates the pivotal role these future managers may assume in leading employees through accommodation challenges (National Association of Colleges and Employers, 2021). As NCSU continues to graduate close to 1,000 new leaders each year, the impact of these future managers in shaping more inclusive and empathetic workplaces becomes increasingly significant, underscoring their potential to drive positive changes in accommodating diverse employee needs.

While specific data on managerial positions after completion of the Master of Business Administration (MBA) program at Poole College is not provided, broader industry insights indicate that a significant percentage of graduates begin supervising others within five years of graduation, further emphasizing the role these future managers may play in fostering inclusive workplaces and addressing accommodation challenges (Mintzberg, 2004). According to NCSU statistics, at graduation, 60% of graduates of the full-time MBA program are employed (Poole College of Management, n.d.). Although Poole College does not provide specific data on how many graduates have supervisory roles immediately after graduation or within 5 years, a survey by the National Association of Colleges and Employers (2021) indicates that the average percentage of graduates who supervise others within 5 years of graduating is 28% for bachelor's degree holders and 38% for master's degree holders.

Drawing from the trends outlined in the previous data, it is plausible to estimate the trajectory for the 2023 cohort of Poole College graduates. With an approximate count of 3,000 individuals graduating from this program in 2023, projections suggest that around 840 (about 28%) of those holding undergraduate degrees and approximately 114 (about 38%) of those with graduate degrees will assume managerial roles within 5 years post-graduation. These estimations

are derived from the statistical trends observed nationally among bachelor's and master's degree holders, as articulated by the National Association of Colleges and Employers (2021). This analysis contextualizes the potential impact and leadership scope that graduates from Poole College might wield within various industries, emphasizing the significance of their managerial competencies in addressing organizational challenges, including accommodation initiatives, as they move into leadership positions.

In the classroom, it is important to ensure that business students are exposed to and understand the changing needs of individuals requiring accommodations, both in higher education and employment settings. When taken into consideration, data from NCSU, specifically displays a rising demand for ADA protections within the institution (see Table 1). The increase in the request for accommodations can signal an escalating challenge in meeting the diverse need of individuals within this specific higher learning environment. Disabled and aging employees continue to face significant challenges to receive the support they need from managers (JAN, 2022).

Thousands of people endure these challenges when they do not receive necessary accommodation from management at their place of employment (JAN, 2022). Knowledge and the application of empathetic leadership by management could prevent issues that might ultimately cost the company. As a result, it is important for business students to develop empathy so that they can understand how to work successfully with all employees. While the use of educational methods, like simulation, to improve empathy in medical students is known (Chen et al., 2015; Jiang et al., 2023), the use of simulation to improve empathy in business students is unknown. Educational simulations in business schools are interactive, real-world scenarios

Table 1

Workplace Accommodations Requested at NCSU

Type of Request	2019	2020	2021	2022	2023
Total reasonable accommodation requests	142	168	*	*	177
ADA specific accommodation requests	40	47	*	*	72

Note. *Data not available for 2021 and 2022; NCSU Office for Institutional Equity and Diversity Year in Review Reports, 2019-2023.

where students make decisions and experience the outcomes, allowing them to apply theory, practice problem-solving, and develop skills in a risk-free environment. This study aims to explore the use of simulation to improve empathy in business students, ultimately offering a tool to better engage future managers in the process of protecting their employees.

Background of the Problem

The use of educational methods, like simulation, to enhance empathy among medical students is a recognized practice, yet its application in cultivating empathy among business students remains an area yet to be fully explored (Chen et al., 2015). There persists a challenge for disabled and aging employees in obtaining necessary support from their managers, resulting in significant consequences for thousands who do not receive necessary accommodations. Consequently, these oversights by managers lead to substantial annual expenditures for companies, emphasizing the importance of empathetic leadership to prevent such avoidable errors (JAN, 2022). This study aimed to provide a versatile tool applicable within educational settings and for learning and development professionals seeking to engage managers more effectively in prioritizing the well-being of employees, thereby offering a proactive approach to addressing and mitigating such challenges.

The Human Resource Frame, as outlined by Bolman and Deal (2009), provides a valuable perspective on how organizations can create an environment that values people and supports their needs. This framework can be particularly helpful when considering the experiences of people with disabilities in higher education and the workforce.

Defining the Challenges of Aging and Disability

According to the World Health Organization (WHO), over one billion people worldwide experience a disability, making up approximately 15% of the global population (WHO, 2020).

Disabilities can affect various aspects of daily life, including mobility, cognition, independent living, hearing, vision, and self-care (Centers for Disease Control and Prevention, 2020a; Ozkara San et al., 2022). These disabilities can occur at any age, with some individuals having congenital disabilities, while others may experience disabilities resulting from the natural course of aging (Harrison & Hargrove, 2006; Laditka & Laditka, 2018; Rowe & Kahn, 1997).

The history of inclusion for disabled persons in higher education has been a long and often difficult one (Leake & Stodden, 2014). Before the passage of the ADA in 1990, disabled individuals were often excluded from higher education (Leake & Stodden, 2014). This was due in part to a lack of physical accessibility on many campuses but also due to societal attitudes that viewed disabled individuals as incapable of succeeding in higher education.

In recent decades, there has been a significant shift toward greater inclusion for disabled individuals in higher education (Collins et al., 2018). This has been driven in part by legal requirements such as the ADA but also by changing attitudes and beliefs about disability. As a result, more and more universities have created disability resource offices to provide support and accommodations for disabled students and employees.

Although attitudes and beliefs regarding accommodations are changing, Bravo et al. (2020) noted that individuals with disabilities are underrepresented in academia and face significant challenges in obtaining accommodations. Furthermore, approximately one third of higher education faculty and staff are aged 55 years or older (Pritchard et al., 2019). These individuals may experience age-related disabilities, such as visual or hearing impairments, that can affect their work.

While disability cultural centers and affinity groups are improving inclusivity in higher education by changing the frame from a medical diagnosis to a valid identity (Jain, 2021; Saia,

2022), students with disabilities continue to encounter challenges in acquiring accommodations. Santos et al. (2019) reported that students with disabilities face barriers such as inadequate accommodation, lack of accessibility in course materials, and negative attitudes from faculty and peers. These challenges can impact their academic success and overall college experience, showing that the improvements noted by Collins et al. (2018) are far from a resolution to the overall situation.

To address these issues, higher education institutions are implementing initiatives to support individuals with disabilities. For example, some universities are offering training to faculty and staff on how to create accessible course materials and provide accommodation for students (Kawas et al., 2019). Additionally, disability cultural centers on campus provide support and accommodation for students with disabilities (Saia, 2022). These initiatives aim to create a more inclusive and accessible learning environment for all students and faculty.

According to Nicolaisen et al. (2019), aging and disabilities have unique effects on life satisfaction and quality of life. In line with the national trend of an aging workforce, higher education has seen a rise in the number of older individuals pursuing education (Harrison & Hargrove, 2006a; Laditka & Laditka, 2018a). Additionally, students with disabilities now make up a substantial portion of higher education classrooms and are enrolling at higher rates than in the past (Santos et al., 2019). Although workplace and student accommodation needs vary, the demand for accommodation is increasing for both groups.

Literature on inclusion has grown rapidly in recent years, with many studies building on existing frameworks and testing new ideas for creating inclusive workplaces. Shore et al. (2018) demonstrated there is still a need for a clear and well-defined set of constructs with associated empirical testing. Most studies on inclusion have been conducted in the U.S., so there is a need

for more research on inclusion globally, including localized approaches (Shore et al., 2018). The occupations, industries, and organizational level of participants in studies of inclusion have been variable, and there is a need for more research comparing managers and non-managers to understand their potentially different experiences and views on inclusion.

Disabilities are prevalent worldwide and affect individuals of all ages and professions, including higher education faculty and staff. Accommodations and support for individuals with disabilities and age-related impairments are crucial to ensuring equal opportunities for success in higher education.

Context of Study

This study was conducted at North Carolina State University (NCSU) located in Raleigh, NC. Established in 1889 as an agricultural and mechanical college for the "common man," NCSU has grown significantly from its initial cohort of 52 students to more than 36,000 enrolled students in 2022 (NCSU, 2022; Salsi & Salsi, 2005). In response to a fractured higher education system in North Carolina, efforts to create a unified University of North Carolina (UNC) system began in 1970. This consolidation effort included the University of North Carolina at Chapel Hill, North Carolina State University, Woman's College (now the University of North Carolina at Greensboro), the University of North Carolina at Charlotte, the University of North Carolina at Asheville, and the University of North Carolina at Wilmington. Following legislation in 1971, the UNC system expanded to include 16 institutions (UNC System, 2021). By 2021, the total enrollment across the UNC system reached 244,508 students, with approximately 14% enrolled at NCSU (UNC System, 2021).

Recognizing the importance of business education alongside its agricultural and technical programs, NCSU founded the College of Management in 1990, which was accredited by the

Association to Advance Collegiate Schools of Business (AACSB) in 2000 (Poole College of Management, n.d.). The Poole College of Management was renamed in 2010 and continues to leverage the university's STEM focus, ranking in the top 100 for undergraduate business programs (Poole College of Management, n.d.). The college offers a range of undergraduate and graduate programs, including degrees in Accounting, Business Administration, Economics, Master of Business Administration (MBA), Master of Management, Master of Accounting, and Master of Global Innovation Management (Poole College of Management, n.d.).

The college's location in Raleigh provides proximity to a vibrant business community, facilitating internships and job placements for students. Graduates from the Poole College of Management often secure positions in diverse sectors such as finance, consulting, technology, healthcare management, marketing, and supply chain management. The college maintains strong industry connections, supports experiential learning through hands-on projects, internships, and consulting opportunities, and promotes entrepreneurship and innovation (Smith, 2021). Additionally, the college emphasizes sustainability and ethical business practices, integrating these values into its curriculum (Poole College of Management, n.d.).

In 2021, Bloomberg Businessweek ranked the MBA program at NCSU number one in diversity and online interaction (Poole College of Management, n.d.). The undergraduate and graduate entrepreneurship programs were ranked first in the Southeast and 15th nationally by the Princeton Review and Entrepreneur magazine (Smith, 2021). These accolades underscore the Poole College of Management's commitment to providing quality business education and fostering a diverse and inclusive environment, making it an ideal site for this study.

Statement of Focus of Practice

It is estimated that over one billion people around the world experience a disability (WHO, 2020). Among the population of working-age (18-64) individuals in the United States, 11%, or approximately 22 million adults, live with disability (U.S. Census Bureau, 2022). Yet, Maestas and Mullen (2019) estimate that approximately 50% of the workforce does not receive workplace accommodations that could improve their ability to perform the functions of the job. In 1996, Parry et al. noted gaps in ADA coverage at business schools and the lack of information in textbooks. The analysis by West et al. (2022) highlights significant progress enabled by the ADA and Individuals with Disabilities Education Act (IDEA) but underscores the need for continued work in higher education and business education to fully align with inclusive principles.

The focus of this study is the improvement of empathetic responses in business students managing and working with employees who need accommodations in the workplace, specifically using simulation as an educational tool. Simulation has played a significant role in business education, providing students with the opportunity to learn by doing and experiencing real-world situations without the risks and costs associated with actual practice (Boyle et al., 2016). Simulation-based learning has been used in various business disciplines, including finance, marketing, and operations management. Simulation can help students develop skills in critical thinking, problem-solving, decision making, and teamwork. Moreover, it has been shown to improve students' academic performance and increase their motivation and engagement in the learning process (Beranič & Heričko, 2022).

One of the earliest examples of simulation in business education was the development of business games in the 1950s, which were designed to mimic real-world business situations (Goi,

2021). Over the years, simulation has evolved, and today it takes many forms, such as computer-based simulations, case studies, role-plays, and business simulations (Beranič & Heričko, 2022, Goi, 2021). Simulation, as highlighted by Stredwick and Ellis (2005), stands as a valuable pedagogical tool within human resource management, specifically in pivotal areas like recruitment, selection, and training. It offers students a safe and controlled space to practically apply their skills and knowledge. This method aligns with active learning strategies, which prompt students to actively engage in the learning process beyond passive activities like lectures or reading. Simulation activities rank among the prevalent active learning techniques extensively employed in business education (Beranič & Heričko, 2022).

Hendy (2021) found that human resources competencies, as measured by both a leadership simulation and final exam performance, improved by 40% throughout the course of the semester. These results are like those found in a smaller sample collected by Rosa and Vianello (2015), which also showed simulation as an effective means of achieving teaching and learning competencies. Other studies have demonstrated the benefits of simulation-based learning in business education. For example, a study by Hmelo-Silver et al. (2007) found that simulation-based learning improved students' understanding of complex concepts in marketing. Similarly, a study by Bakoush (2022) found that simulation-based learning was effective in developing students' critical thinking skills in finance.

Simulation has also been used in executive education programs to provide managers with the opportunity to practice decision making in complex and uncertain situations. Wright et al. (2016) noted that evidence-based management education held similarities with medical education, and the successful methods used in medicine could cross into business education. For example, a study by Stumpf (1989) found that simulation-based learning was effective in

developing senior leaders. Despite the benefits of simulation-based learning, there are some challenges in its implementation. One challenge is the cost and time required to develop and run simulations (Lateef, 2010). Another challenge is the need for experienced facilitators to guide students through the simulation process effectively (Lateef, 2010).

Simulation has a long history in business education and has proven to be an effective teaching tool. Active learning and simulation activities are valuable methods to engage students in the learning process and to help them develop critical thinking and decision-making skills. However, their use may be limited in certain business disciplines, such as human resources, due to perceived subject matter differences. The goal of this study is to address this gap by assessing and validating a simulation activity for creating more empathetic leaders.

Purpose of the Study

The purpose of this study is the improvement of empathetic responses in business students managing and working with employees needing accommodations in the workplace, specifically using simulation as an educational tool. Using simulation as an educational tool, the study addresses a critical gap in existing literature: the lack of effective methods to cultivate empathy in future leaders. This deficiency is significant because the absence of empathetic leadership often perpetuates organizational costs, including lower employee engagement, higher turnover, and diminished workplace inclusivity. By combining practical and academic perspectives, this research not only contributes to the theoretical understanding of empathy development but also provides actionable insights for organizations aiming to foster inclusive and adaptive management practices.

To address the research questions, the study employed a mixed methods design, structured across three phases. Data collection involved pre- and post-survey questionnaires with

quantitative data modeled after Chen et al. (2015), with references to clinicians adapted to focus on managers. Additional qualitative questions were added to get to the real value perceived by the participants as they prepare to enter the workforce. In this study, the Plan-Do-Study-Act (PDSA) cycle served as a systematic and iterative method for continuous learning and enhancement (Deming, 1986). This structured four-step model facilitates ongoing process improvements by testing, implementing, and refining changes to achieve desired outcomes (Taylor et al., 2014).

Overview of the Inquiry

The first stage of the PDSA cycle, Plan, focused on identifying areas for improvement and strategically planning changes with specific objectives. For this research, the initial PDSA cycle aimed to adapt an aging simulation by incorporating business-specific scenarios tailored for students concentrating in human resources (Chen et al., 2015).

The subsequent stage, Do, involved executing the planned changes. This translated into implementing the modified simulation experience with the targeted participants, ensuring alignment with their course curriculum (Deming, 1986). The Study stage followed, involving comprehensive data collection and analysis to assess the outcomes and measure the effectiveness of the changes introduced. This stage included examining the impact of the modified simulation on participant perceptions and learning outcomes (Taylor et al., 2014). Finally, the Act stage used findings from the Study stage to adjust refinements aimed at further enhancing the process. Future cycles may involve expanding the participant pool or refining the simulation based on feedback and insights from earlier phases, fostering an ongoing cycle of improvement and evolution (Chen et al., 2015).

Collaborative Inquiry Partners

Ms. Beth Ritter and Dr. Paul Mulvey served as collaborative inquiry partners for this study and facilitated access to their human resources courses at NCSU. Dr. Mulvey, an associate professor in the Poole College of Management, focuses on reward systems, work teams, leadership, recruiting, and retention. He has received several teaching awards, consulted with over 60 organizations, and published articles in management journals. Ms. Ritter, a lecturer at NCSU, has held HR leadership positions at Burt's Bees, Campbell Soup Company, and Nabisco Brands Company. She is a certified compensation professional and a certified Myers-Briggs Type Indicator practitioner. Dr. Mulvey and Ms. Ritter provided critical feedback in the pilot phases and provided access to students enrolled in coursework for the study.

Research Questions

The utilization of simulation in education is grounded in Kolb's experiential learning model, which highlights the way our experiences influence our learning process (Kolb, 1984). As such, this study was guided by the following research questions:

RQ1. To what extent does participation in an empathy simulation influence how undergraduate business students experience empathy toward disabled employees they may supervise in the future?

RQ2. What are the potential limitations and challenges of using simulations as a tool for improving empathy toward disabled employees in business students based on Kolb's experiential learning model?

RQ3. How do future business leaders perceive and reflect on their learning experiences from empathy simulations, and how do these reflections contribute to their development of empathy toward disabled employees?

Theoretical Framework

Kolb's experiential learning model served as the relevant framework upon which this study was designed. The model is explored in-depth in forthcoming chapters due to its profound implications for understanding how individuals acquire and apply knowledge through experiences. This model, encompassing concrete experiences, reflective observation, abstract conceptualization, and active experimentation, offers a robust lens through which to examine the learning processes and potential interventions relevant to accommodating aging individuals and those with disabilities in educational and workplace settings (Kolb, 1984; Kolb & Kolb, 2009). Chapter 2 delves into a discussion of Kolb's model, elucidating its applicability in addressing the accommodation needs of diverse learner populations and fostering inclusive environments in both educational and professional spheres.

Definition of Key Terms

To facilitate a comprehensive understanding of this study, the following definitions clarify key terms and concepts:

Americans with Disabilities Act (ADA) - A U.S. civil rights law that prohibits discrimination against individuals with disabilities in public life, including employment, education, transportation, and public accommodations. Enacted in 1990 and amended subsequently, it mandates equal opportunity and effective communication for individuals with disabilities (U.S. Department of Justice, 2020).

Association to Advance Collegiate Schools of Business (AACSB) - A global nonprofit association that provides quality assurance, business education intelligence, and professional development. AACSB accreditation is a prestigious form of specialized accreditation for business schools worldwide (AACSB International, 2023).

Empathy - Understanding a person from their frame of reference rather than one's own, or vicariously experiencing that person's feelings, perceptions, and thoughts. Empathy does not, of itself, entail motivation to be of assistance, although it may turn into sympathy or personal distress, which may result in action. In psychotherapy, therapist empathy for the client can be a path to comprehension of the client's cognitions, affects, motivations, or behaviors. (American Psychological Association, 2023)

Family and Medical Leave Act (FMLA) - A U.S. labor law allowing eligible employees to take unpaid, job-protected leave for family and medical reasons, such as the birth of a child or serious health conditions. It balances workplace demands with family needs (U.S. Department of Labor, 2021).

Individuals with Disabilities Education Act (IDEA) - A U.S. federal law ensuring students with disabilities receive free and appropriate public education tailored to their needs. IDEA requires individualized education programs (IEPs) and provides services to support educational success (U.S. Department of Education, 2021).

People Managers - Individuals responsible for overseeing and leading teams within an organization. They manage hiring, training, performance, and development, and they focus on creating a supportive work environment that values employees as key assets (SHRM, n.d.).

Soft Skills – Soft skills are those related to behavioral and interpersonal abilities, such as the ability to effectively communicate, problem-solve, collaborate, and organize (SHRM, n.d.).

Assumptions

The basic assumptions of this study included that participants would engage in the activity and participate in discussions about the experiences of aging and disabled people. It was assumed that the participants will answer questions honestly and without bias. Additionally, the

proposed study operated under several foundational assumptions regarding simulation-based training. Firstly, it acknowledged the widespread consensus on the effectiveness of simulation as a tool for enhancing skills and knowledge, supported by various studies (Abildgren et al., 2022; Salas et al., 2009).

Furthermore, the study assumed that simulations offer a secure and controlled environment for learners to practice and hone their abilities, a viewpoint substantiated by multiple sources (Alinier & Oriot, 2022; Braunstein et al., 2022; Salas et al., 2009). Additionally, the study presupposed that simulation serves as a viable method for assessing competency, drawing support from specific studies in the field (Huang et al., 2022; Isaak et al., 2018).

Moreover, the study considered simulation's capacity to replicate intricate or infrequent scenarios, leveraging evidence from various sources (Isaak et al., 2018; Maijanen, 2020; Merica, 2012). Furthermore, the research assumed that simulations facilitate a nuanced understanding of real-world complexities, as supported by a breadth of studies (Brazil et al., 2023; Lainema & Nurmi, 2006; Martinelli et al., 2018; Sundararajan, 2021). Lastly, the study contended that simulation serves to test and refine strategies and processes, reinforced by findings in the field (Brazil et al., 2023; Faria et al., 2008).

In summary, the study's fundamental assumptions revolved around participants' active engagement in discussions and their provision of unbiased, honest responses. Furthermore, the core assumptions about simulation-based education in medicine and business emphasize the efficacy of simulation as a multifaceted tool for improving skills, knowledge, safety, competency assessment, scenario replication, real-world comprehension, and strategy refinement, all supported by relevant research (Abildgren et al., 2022; Alinier & Oriot, 2022; Braunstein et al., 2022; Brazil et al., 2023; Faria et al., 2008; Huang et al., 2022; Isaak et al., 2018; Lainema &

Nurmi, 2006; Maijanen, 2020; Martinelli et al., 2018; Merica, 2012; Salas et al., 2009; Sundararajan, 2021).

Scope and Delimitations

The scope of this research centered on the deliberate selection of undergraduate business students at NCSU as the primary participants engaged in the planned simulation intervention. Moorer's (2009) findings underscored disparities between undergraduate and graduate business learners involved in service-learning activities, highlighting the potential for enhanced benefits among undergraduates, particularly through increased social and academic exposure. To ensure consistency and control over the experiences contributing to the study, the focus was exclusively limited to traditional undergraduate students. This delimitation aimed to mitigate confounding variables introduced by graduate or nontraditional undergraduate students' diverse backgrounds or prior experiences. The target for participant involvement in this study was to encompass up to 200 individuals, emphasizing the intent to gather a substantial sample size representative of traditional undergraduate business students at NCSU for robust data analysis and interpretation.

Limitations

Several limitations warranted consideration within this study. Firstly, the sample size presented a notable constraint. A singular PDSA cycle would involve only HR-concentrated participants, while a dual-cycle approach would extend the scope to encompass business majors at large, potentially enhancing the study's generalizability. However, the mixed-method design's challenge arises from the relatively low estimated sample size of one PDSA cycle (est. $n \leq 30$) compared to two cycles (est. $n \leq 100$). This discrepancy in sample size posed a potential limitation to the rigor of the quantitative portion of the analysis.

Another significant limitation was in the subject demographics. Given the diversity in student ages, varying levels of life experiences may significantly influence their perceptions and responses. While participant age often signifies independent thinking, it is essential to acknowledge that young adults, including undergraduate students, continue to undergo brain development. Furthermore, research, exemplified by Hendy (2021), has indicated potential gender-based differences in response to web-based, simulation-oriented activities, adding a layer of complexity to the interpretation of results.

Additionally, prior exposure to aging and disabled populations among students could impact their empathetic responses, potentially affecting the outcomes of the simulation intervention. Students with pre-existing exposure might not exhibit the same degree of change in their empathetic reactions, impacting the study's ability to gauge the intervention's efficacy fully.

Moreover, intrinsic motivation plays a pivotal role in determining the level of engagement with simulation activities (Rogmans & Abaza, 2019). Variability in intrinsic motivation among learners may introduce discrepancies in their participation and engagement levels, influencing the interpretation of results. These limitations underscore the complexities inherent in the study's design and the need for cautious interpretation of findings.

Significance of the Study

This study aimed to explore the use of simulation to improve empathy in business students, ultimately offering a tool to better engage future managers in the process of protecting their employees. The study was limited to undergraduate business majors who will be managing higher education or industry teams in their careers. An empathy gap has been noted between how businesses interact with each other (Seet et al., 2010), how they maintain workforce equity

(Bharwani & Ruzycki, 2022), and how they accommodate the disabled community (Evans et al., 2023).

Empathy in new managers is crucial for fostering inclusive workplaces, especially concerning the inclusion of disabled and aging employees. Research highlights the significant barriers faced by individuals with disabilities in education and employment settings, highlighting the role of empathy in overcoming these challenges (Morgan, 2021; Shier et al., 2009). Cultivating empathy among new managers holds the promise of bridging understanding gaps and ensuring the needs of disabled and aging employees are met. By instilling empathetic leadership practices, this focus aims to create a more supportive and inclusive work environment, positively impacting the lives of employees facing diverse challenges.

Advancing Equity and Social Justice

This study has the potential to impact aging and disabled employees working with or potentially managed by the students undergoing this active learning exercise. By creating a better frame for the accommodation needs of these growing segments of the higher education workforce, participants may be better managers and peers for those in need. For social justice to occur, all members of society must have access to the resources and privileges available. Peck (2016) emphasized the idea that social justice is more than hard-fought legal changes. Although access can be provided legally, true social justice occurs when people are able to embrace these opportunities safely and without fear of reprisal.

In this study, the social justice gap between legal requirements for the acceptance of older people and people with disabilities into higher education classrooms and the workforce and the changes needed for these communities to be truly accepted is broad. The COVID-19 pandemic assisted many disabled employees with opportunities that had not been afforded previously.

However, as more people return to the classroom and workplace, this progress is already reversing (Kalmbach, 2022). This indicates that true acceptance of this community never really took place, and social justice was not achieved.

In medicine, it is known that it takes a decade for "best practices" to become widely used by the community once established. These changes are primarily driven by the educational infrastructure and the emergence of young leaders in the fields. It is not fast or easy, but care does get safer and, eventually, more equitable. By starting in business classrooms with future higher education and entrepreneurial leaders, strategies can be laid out for future generations.

This study holds the potential to significantly impact the lives of aging and disabled employees in higher education settings, particularly those managed or influenced by students engaged in this active learning exercise. By fostering a comprehensive understanding of accommodation needs among these growing segments within the higher education workforce, study participants can become empathetic and adept managers, offering vital support to those in need. The study aimed to address the social justice gap prevalent in educational and workforce systems, where legal requirements for the inclusion of older individuals and those with disabilities exist, yet genuine acceptance and seamless integration remain elusive (Peck, 2016).

The recent strides made during the COVID-19 pandemic for disabled employees, albeit temporary, shed light on the unresolved societal acceptance issues. True social justice involves creating a safe and welcoming environment where opportunities are not just legally provided but are embraced without fear of discrimination or reprisal. Leveraging insights from the medical field, which often takes time for best practices to be widely adopted, this study endeavors to initiate lasting change. Instilling empathy and awareness in future leaders within business classrooms may pave the way for a gradual yet transformative shift toward equitable and

inclusive practices in higher education and beyond. This strategic approach sets the stage for future generations of leaders, offering a framework to foster safer and more equitable care in communities.

Advances in Practice

This study provides an opportunity for business instructors and educators to explore the potential impact of a novel simulation activity on the empathy of learners and its implications for higher education and entrepreneurship. By positively impacting learners' empathy through this activity, instructors may be able to foster a greater understanding of diverse perspectives and improve their students' abilities to communicate, collaborate, and innovate in their future careers. Ultimately, this could lead to a more inclusive and equitable business environment, as well as greater success in entrepreneurship endeavors. By prioritizing empathy development in business education, educators may be able to create a new generation of leaders who are equipped with the skills and mindset needed to address complex challenges and create positive social impact.

Summary

The absence of empathetic leadership in management has led to increased costs for both employers and employees, particularly affecting individuals with disabilities and those who are aging (Chen et al., 2015). Often, managers fail to implement necessary accommodations due to a lack of understanding and empathy, despite the relatively low cost of these adjustments (Jammaers et al., 2016). This study aims to address this gap by using simulations to enhance empathy among business students, thereby preparing future managers to better support their employees.

With over a billion people globally experiencing disabilities - representing 15% of the population - inclusive practices are essential (World Health Organization, 2021). This study

evaluated the effectiveness of a simulation tool designed to foster empathy among business students, specifically while serving as the manager of disabled or aging populations.

The research was conducted through a structured learning framework, encompassing three phases with pre- and post-surveys to ensure research rigor. While the study's limitations included a small sample size and diverse subject demographics, its potential implications are significant.

By promoting a more inclusive business environment, the study aims to advance equity for disabled employees (Stevens & Campion, 1994). Chapter 2 reviews relevant literature, offering context and background on simulation in education, the role of empathy, and management settings, alongside an exploration of Kolb's experiential learning model. Chapter 3 details the study's design, and procedures, while Chapter 4 includes the results and the analysis of the results. Finally, Chapter 5 provides an interpretation of the results, recommendations for further study, and final conclusions.

CHAPTER 2: REVIEW OF LITERATURE

This study aimed to explore the use of simulation to improve empathy in business students, ultimately providing a tool to better engage future managers in the process of protecting their employees. To comprehend the purpose and design of the study, it is crucial to review existing research related to simulation in education, as well as research on individuals who could benefit from this type of tool and the significance of enhanced empathy skills for future managers (Sutherland, 2019; Wang et al., 2020). This chapter presents a review of current literature on the use of simulation in both business and medical training to improve empathetic leadership within higher education. Simulation-based education has been shown to be effective in enhancing empathetic skills by providing realistic and immersive learning experiences (Kraiger et al., 2021). In the context of medical training, simulations are employed to develop communication and interpersonal skills, which are essential for empathetic patient care (Hubbard et al., 2022; Albin et al., 2023).

Additionally, the chapter describes Kolb's experiential learning theory, which serves as the theoretical framework for this study. Kolb's theory supports the use of simulation as a method to develop empathy by providing experiential learning opportunities that facilitate deeper understanding and engagement (Kolb, 1984; Kolb & Kolb, 2009). Kolb's model emphasizes the role of concrete experiences, reflective observation, abstract conceptualization, and active experimentation in learning, which align with the principles of simulation-based education. The chapter integrates these elements to provide a comprehensive overview of how simulation can be effectively employed to foster empathy in business students, with the ultimate goal of preparing them to be more empathetic and effective managers.

In 2020, the WHO estimated that over one billion people around the world experience a disability (WHO, 2020). The Center for Disease Control and Prevention (2020b) noted that “mobility, cognition, independent living, hearing, vision, and self-care” disabilities are present in one fifth of the population (Ozkara San et al., 2022, p. 113). These disabilities occur over a breadth of age groups and in every industry (WHO, 2020). While some have congenital disabilities, others experience new-onset disabilities resulting from the natural course of aging (Harrison & Hargrove, 2006a; Laditka & Laditka, 2018a; Rowe & Kahn, 1997). Higher education faculty and staff are impacted by these trends (Bravo et al., 2020; Harrison & Hargrove, 2006a; Laditka & Laditka, 2018a), as more than one third of those in higher education are aged 55 years or older (Pritchard et al., 2019). Both faculty and students experience challenges associated with acquiring accommodations for their aging or disability-related needs (Santos et al., 2019).

Undergraduate business majors enter the workforce as leaders (managers) or rapidly progress to team leadership responsibilities (Bhatti et al., 2022a; Bhatti et al., 2022b; Wilton, 2008). Bhatti et al. showed that learners across cultures gain employability skills related to “entry-level digital skills, problem-solving skills, organizational skills, decision making, and goal-oriented skills”; however, culturally specific needs were often lacking (2022b, p. 1). Cesnales et al. (2020) showed that by facilitating conversations about aging in the multigenerational classroom composed of both younger and older populations, learners recognized the value of continuing education and experienced a decreased aging anxiety while transforming learner stereotypes. When reviewing generational differences in business, Dwyer and Azevedo (2016) found that developing an understanding of these differences was important for operationalizing a multigenerational workforce. Their review, however, failed to show

challenges related to physiologic challenges faced by and within the generations. Familiarizing learners with the tools to foster empathy for older populations could impact the future workforce by dramatically driving innovation and inclusion.

Servant leaders who use empathy when addressing employment concerns are influential and successful in building organizational trust (Muncy, 2020). Actively listening to employees was noted by Muncy (2020) as a common theme for de-escalation of workplace communication concerns. Empathetic leaders can avoid problems associated with adherence to ADA and Family and Medical Leave Act (FMLA) laws by better understanding the position of the employee. This is relevant to this chapter because simulation can facilitate a psychologically safe (Madireddy & Rufa, 2022), as well as a more consistent and reliable, learning environment (Yauger et al., 2020).

Leaders in higher education must adapt our teaching methods to multigenerational classrooms and management methods to multigenerational teams to create opportunities for growth and feelings of cohesion among all learners (Cesnales et al., 2020). Seeber (2020) discussed the increased access to ‘big data’ and availability of quantitative research methods in higher education fields. This shift not only requires technical proficiency but also a deeper understanding of the diverse perspectives and lived experiences that shape learning and collaboration. Developing empathy among educators and leaders is essential to fostering inclusive environments where all individuals feel valued and supported.

Empathy

Empathy is a fundamental skill for effective leadership, ethical decision-making, and fostering inclusive workplace environments (McAllister et al., 2011). In the context of management education, cultivating empathy equips future leaders with the ability to understand

and respond to the diverse needs of their employees, particularly in addressing challenges related to workforce inclusivity, conflict resolution, and ethical dilemmas (McNulty & Politis, 2023). Research across multiple disciplines underscores the importance of empathy in leadership, demonstrating its impact on team dynamics, emotional intelligence, and ethical business practices (Baker, 2017; McNulty & Politis, 2023). This section reviews key studies on empathy development, exploring its cognitive and affective dimensions, instructional strategies for its enhancement, and its broader implications for management education.

In their study on cognitive failures and empathy, Goodhew and Edwards (2022) distinguished between cognitive and affective empathy, revealing that individuals with frequent cognitive lapses tend to have lower cognitive empathy but heightened affective empathy. These findings highlight the complex nature of empathy, suggesting that cognitive control training could improve perspective-taking abilities, which are essential for effective management. Conversely, the observed increase in affective empathy among individuals prone to cognitive failures presents an opportunity to harness emotional attunement for improved team dynamics and conflict resolution. These insights reinforce the necessity of designing targeted interventions in management education that enhance cognitive empathy while leveraging affective empathy for leadership effectiveness.

Baker (2017) emphasizes the critical role of empathy in ethical decision-making and outlines instructional strategies to cultivate this skill in business students. By engaging students in exercises that simulate economic disparities and encourage self-reflection, Baker demonstrates how perspective-taking can be integrated into management curricula. These pedagogical activities align with the objectives of experiential learning, bridging the gap between theoretical knowledge and practical application. By incorporating such empathy-driven exercises into

business education, institutions can better prepare students to navigate ethical complexities in leadership roles, reinforcing the emphasis on empathy as a foundational managerial competency.

Transformative learning theory provides a robust framework for empathy development in management education. McAllister et al. (2011) argue that transformative learning fosters critical self-reflection, enabling students to challenge their assumptions and develop deeper emotional intelligence. By engaging in transformative learning activities, business students cultivate an understanding of diverse perspectives, which is crucial for leading inclusive organizations. Integrating these strategies into management curricula aligns with the broader goal of fostering empathetic leadership, ultimately enhancing ethical decision-making and employee relations.

Beyond ethical considerations, empathy is also integral to emotional intelligence (EQ), a key determinant of leadership effectiveness. McNulty and Politis (2023) highlight the role of empathy in interprofessional collaboration, demonstrating its significance in healthcare education. Their findings suggest that empathy enhances teamwork and communication, contributing to better organizational outcomes. Hauwiller (2025) underscores the role of empathy in fostering cohesive and resilient teams, linking it to innovation and long-term business success. These insights further validate the argument that integrating empathy training into management education is essential for preparing future leaders to navigate complex interpersonal dynamics and drive organizational performance.

Bearman et al. (2015) conducted a systematic literature review to examine the effectiveness of simulation-based education in fostering empathy among preservice health professional students. The review synthesized findings from 27 studies, including randomized controlled trials, quasi-experimental designs, and pre-post studies, which evaluated the impact of various simulation modalities—such as role-play, simulated patients, and virtual reality—on

empathy development. The results indicated that simulation has potential as a pedagogical tool for enhancing empathy, particularly when learners assume the role of a patient, thereby experiencing perspectives that differ from their own. However, the review also highlighted limitations, including concerns that simulated empathy may be performative rather than reflective of a genuine attitudinal shift (Wear & Varley, 2008). The study's findings are particularly relevant to this dissertation's focus on using simulation to improve empathy among business students in the context of disability inclusion. By demonstrating that role assumption and experiential learning are effective mechanisms for empathy development, this review provides foundational support for the application of Kolb's experiential learning model in business education. Additionally, the emphasis on structured reflection in empathy-building simulations aligns with the dissertation's approach to designing immersive learning experiences that encourage perspective-taking and deeper engagement with the lived experiences of disabled employees.

By synthesizing these perspectives, it is evident that empathy is a critical skill for effective management, with implications for ethical leadership, conflict resolution, and workforce inclusivity. The integration of cognitive empathy training, experiential learning activities, and transformative learning strategies into business education can equip future managers with the tools needed to foster inclusive and high-performing teams (Hauwiller, 2025). As businesses and organizations continue to prioritize emotional intelligence and ethical leadership, empathy remains a need in modern management education.

Theoretical Framework

The Kolb experiential learning model provides a theoretical framework for the development and implementation of empathy simulations for business students. The Kolb model

comprises four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb, 1984). This model posits that learning occurs through a cyclical process of experiencing, reflecting, conceptualizing, and experimenting. It has been widely applied in educational settings, including business education, as a tool for enhancing experiential learning and problem-solving skills (Fang & O'Toole, 2023; Motta & Galina, 2023).

In the context of empathy simulations, the Kolb model can guide the design and implementation of simulations that provide business students with a hands-on, reflective, and experiential learning experience. Specifically, the Kolb model can be applied in several ways within business education. Firstly, during the concrete experience stage, students engage in realistic and immersive simulations of disability-related issues in the workplace. This experience forms the basis for further reflection and learning, offering students a firsthand understanding of the challenges faced by disabled individuals (Kolb, 1984).

Following the simulation, students enter the reflective observation stage, where they reflect on their thoughts, feelings, and reactions to the experience. This reflection deepens their understanding and empathy towards the experiences of disabled individuals, enhancing their ability to interact and work effectively with diverse teams in the future (Fang & O'Toole, 2023). Next, in the abstract conceptualization stage, students analyze and synthesize their experiences and reflections, drawing on relevant theories and concepts from the literature. This stage enables students to develop a theoretical understanding of disability issues, allowing them to approach real-world problems with a more informed and empathetic perspective (Motta & Galina, 2023).

In the active experimentation stage, students apply their newfound knowledge and skills to real-world situations. This may involve interacting with disabled colleagues, developing workplace policies that promote disability inclusion, or advocating for change within their

organizations. Despite the potential benefits, research on the effectiveness of empathy simulations using the Kolb model in business education is still limited. There remains a need for further research to explore the potential of empathy simulations using the Kolb model, particularly concerning disability inclusion. The present study aims to address this gap in the literature by developing and implementing an empathy simulation for business students using the Kolb model and evaluating its effectiveness in improving empathy towards disabled employees in the workplace.

The Kolb experiential learning model provides a theoretical framework for the development and implementation of empathy simulations for business students. Kolb's model consists of four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb, 1984). This model proposes that learning occurs through a cyclical process of experiencing, reflecting, conceptualizing, and experimenting. It has been effectively applied in various educational settings, including business education, to enhance experiential learning and problem-solving skills (Fang & O'Toole, 2023; Motta & Galina, 2023).

In the context of empathy simulations, the Kolb model can guide the design and implementation of simulations that provide business students with hands-on, reflective, and experiential learning experiences.

- **Concrete Experience:** Students engage in realistic simulations of disability-related issues in the workplace. This stage provides a foundation for further reflection and learning, allowing students to gain a firsthand understanding of the challenges faced by disabled individuals (Kolb, 1984).
- **Reflective Observation:** Students reflect on their thoughts, feelings, and reactions to the simulation. This reflection deepens their empathy and understanding of disability

issues, enhancing their ability to work effectively with diverse teams (Fang & O'Toole, 2023).

- **Abstract Conceptualization:** Students analyze and synthesize their experiences and reflections, drawing on relevant theories and concepts. This stage helps them develop a theoretical understanding of disability issues, enabling them to approach real-world problems with a more informed and empathetic perspective (Motta & Galina, 2023).
- **Active Experimentation:** Students apply their knowledge and skills to real-world situations, such as interacting with disabled colleagues or developing inclusive workplace policies (Kolb, 1984).

While Kolb's model has been successfully applied in business education (Meyer et al., 2020; Routh, 2020), research on its effectiveness in improving empathy through simulations is still emerging. Routh (2020) highlights the role of structured reflection in deepening learners' engagement with experiential learning, emphasizing that reflection can be enhanced by deliberately adopting different perspectives and practicing empathy through information gathering and sense-making. This aligns with Kolb's second stage, Reflective Observation, which allows learners to critically analyze their experiences, fostering a deeper understanding of diverse perspectives (Routh, 2020). Simulations that immerse learners in real-world problem-solving environments have been shown to promote cognitive disequilibrium, prompting individuals to challenge their assumptions and construct new, empathetic frameworks for understanding human experiences (Routh, 2020). Further research is needed to explore the potential of empathy simulations using the Kolb model, especially regarding disability inclusion. Transformative learning theory has been applied in medical education, noting improvements in attitudes toward disabilities but not in empathy (Dincer & Inangil, 2021; Evans et al., 2023).

While transformative learning theory presents some insights, Kolb's experiential learning model remains central to understanding the effectiveness of empathy simulations in business education. This study aims to address gaps in the literature by developing and implementing an empathy simulation for business students based on Kolb's model and evaluating its impact on empathy toward disabled employees.

The Human Resource Frame

The Human Resource Frame is one of four frames of organizational analysis (Bolman & Deal, 2009). This framework focuses on people as the most important resource in organizations and emphasizes the importance of treating employees with respect and valuing their contributions. The Human Resource Frame is a valuable framework for understanding how organizations can create an environment that supports and values their employees. One of the key components of this framework is the importance of valuing diversity and individual differences (Bolman & Deal, 2009). This is particularly relevant when it comes to disabled persons, who often face significant challenges in both the workplace and in higher education (Kerschbaum et al., 2017a).

Recognizing and embracing diversity involves acknowledging and celebrating the array of differences among individuals, encompassing aspects like race, ethnicity, gender, sexual orientation, age, and abilities. This inclusivity fosters an environment where all employees feel welcomed and valued within organizations. However, disabled individuals often encounter discrimination and exclusion, confronting various challenges in both professional and educational settings. Recent political efforts to remove DEI programs (Alexiou, 2025) come in addition to these preexisting hurdles that range from physical obstacles like inaccessible infrastructure and transportation to social and cultural barriers, including stigma and negative

perceptions surrounding disability (Leake & Stodden, 2014). These combined barriers significantly impede the success and advancement of disabled individuals in their academic pursuits and careers.

Alexiou (2025) examines the impact of President Trump's rollback of DEI initiatives on disability inclusion, highlighting concerns that dismantling these programs may reduce accessibility and support for disabled individuals. DEI efforts have played a key role in promoting awareness and fostering inclusive workplaces, and their removal could reverse progress, leading to increased discrimination. Similarly, Otterman et al. (2025) reported details how Trump's executive orders have eliminated DEI programs in education, citing concerns that they promote division. As a result, schools have suspended DEI training and removed materials, raising concerns among educators and advocates. These critics argued that dismantling DEI in both education and employment weakens efforts to address systemic inequalities, creating new barriers for marginalized communities, including people with disabilities.

To overcome these barriers, organizations need to value and embrace diversity (Ostiguy, 2018). This means creating an environment that is inclusive and supportive of all employees, regardless of their abilities or disabilities. This can include providing accommodations and assistive technology to disabled employees and students, as well as promoting a culture of respect and understanding (Kerschbaum et al., 2017a; Wolbring & Lillywhite, 2021).

Accommodations and assistive technology are essential for ensuring that disabled persons have equal access to opportunities and resources (McNicholl et al., 2019) and may include access to things like wheelchair ramps, Braille materials, and screen readers. By providing these accommodations, organizations can ensure that disabled persons are able to fully participate in the workplace and higher education.

Accommodating employees with disabilities is a beneficial and ethical practice for organizations. Research shows that the costs of providing accommodations are usually low, while the benefits are high (U.S. Department of Labor, n.d.). Accommodations can enhance the job satisfaction, well-being, engagement, and productivity of workers with disabilities (U.S. Department of Labor, n.d.). The importance of accommodation for disabled workers is remarkably high because workers who feel appropriately accommodated experience a significant improvement in their job satisfaction and overall well-being. Extensive evidence from job satisfaction surveys, such as those conducted by the U.S. Department of Labor, has consistently shown that when employees receive the necessary accommodations, they report higher levels of job satisfaction, engagement, and productivity. Moreover, such accommodations often result in reduced turnover rates and absenteeism (U.S. Department of Labor, n.d.), which are critical metrics for any organization's bottom line.

In an era of a wide gap between workers' skills and employment demands, retaining skilled employees is paramount, regardless of disability. The job market has become increasingly competitive, and skilled workers are an asset for any organization. The costs associated with replacing experienced employees are substantially higher than the expenses incurred in providing accommodations (Sheperd, 2022). Therefore, it is not only a moral obligation but also a strategic imperative for organizations to ensure that their employees, particularly those with disabilities, have the necessary accommodations to perform at their best. In doing so, companies can retain and harness the skills and expertise of their workforce, ultimately improving their competitiveness in the broad job market of today.

Promoting a culture of respect and understanding is also essential for valuing diversity of ability (Ehlinger & Ropers, 2020; Mertens et al., 2011). This means fostering open

communication and collaboration among employees and creating a culture that values the contributions of all individuals. It also means challenging negative stereotypes and attitudes toward disabled persons and promoting a more positive and inclusive view of disability. In addition to promoting a culture of respect and understanding, it is also important for organizations to provide opportunities for growth and development for disabled persons. This can include mentorship programs, training and development programs, and career advancement opportunities (Wolbring & Lillywhite, 2021). By providing these opportunities, organizations can help ensure that disabled persons can reach their full potential and achieve success in their careers and academic pursuits.

Appreciating diversity and valuing the individual differences of disabled persons are essential for creating an inclusive and supportive environment in both the workplace and in higher education (Wolbring & Lillywhite, 2021). By providing accommodations and assistive technology, promoting a culture of respect and understanding, and providing opportunities for growth and development, organizations can create an environment that values and supports all employees, regardless of their abilities. This can help ensure that disabled persons can fully participate and thrive in their careers and academic pursuits and can contribute to a more diverse, equitable, and inclusive society. Central to the Human Resource Framework are the pillars of empowering employees, fostering teamwork and collaboration, and providing a supportive work environment.

Empowerment

The Human Resource Frame suggests that empowering employees is a key aspect of creating a supportive and successful work environment (Bolman & Deal, 2009). This involves providing employees with the resources, knowledge, and autonomy they need to make decisions

and take ownership of their work. Empowered employees are more likely to be motivated and engaged and to feel a sense of pride and ownership in their work. This concept is particularly relevant when it comes to disabled persons in higher education (Wolbring & Lillywhite, 2021).

Disabled persons often face significant challenges in higher education as both an employee or as a student, including physical and social barriers that can make it difficult to succeed and thrive. These barriers can include inaccessible buildings and classrooms, limited access to assistive technology and accommodations, and negative attitudes and stereotypes about disability (Jammaers et al., 2016). To overcome these barriers, it is essential to empower disabled persons in higher education (West et al., 1993).

Empowering disabled persons in higher education involves providing them with the resources, knowledge, and autonomy they need to succeed. This can include access to assistive technology and accommodations as well as opportunities for training and development (Wolbring & Lillywhite, 2021). It also involves creating a culture of inclusion and support that recognizes and values the contributions of disabled persons.

Teamwork and Collaboration

The Human Resource Frame emphasizes the importance of teamwork and collaboration in organizations (Bolman & Deal, 2009). It is believed that when employees work together toward common goals, they can achieve more than if they were working individually. This is because teams can draw on the diverse skills and expertise of their members to solve complex problems and generate new ideas (Corbacho et al., 2021). In the context of disabled persons in higher education and the workforce, teamwork and collaboration can be particularly important for creating an inclusive and supportive environment (Zolyomi et al., 2018).

Accommodations represent a means through which disabled individuals can enhance and bolster teamwork efforts. Accommodations are changes made to the work environment or tasks that enable a person with a disability to perform their job or complete their studies (Man et al., 2020). For example, a person with a visual impairment may require a screen reader to access written material, or a student with a learning disability may benefit from extended time on exams. By providing these accommodations, disabled persons can fully participate in teamwork and collaboration, contributing their skills and perspectives to the group.

Moreover, teamwork and collaboration can help to break down stereotypes and misconceptions about disability. When disabled persons work closely with non-disabled colleagues, they can each demonstrate their capabilities and challenge negative attitudes toward disability which is sometimes referred to as ableism (Jammaers et al., 2016). While there is a risk that stereotypes may be reinforced (Braithwaite, 2016), this can be particularly important in fields where disability is not commonly represented, such as science, technology, engineering, and mathematics (STEM) fields (Lee, 2020). By collaborating with disabled persons, non-disabled colleagues can learn about the unique strengths and perspectives that disabled individuals bring to the table, leading to a more diverse and inclusive workplace or educational setting.

Additionally, teamwork and collaboration can help to foster a sense of community and support among disabled persons. Many disabled individuals face isolation and discrimination in their daily lives, and some may feel like they are the only ones experiencing certain challenges (Emerson et al., 2021). By working together with other disabled individuals, they can find common ground and develop a sense of camaraderie. This can be especially important in higher education, where disabled students may feel like they are the only ones facing certain academic

or social barriers. By working together on group projects or in study groups, they can find a sense of belonging and support that can help them succeed (Emerson et al., 2021).

It is also important to note that teamwork and collaboration can benefit all individuals, not just those with disabilities. By working in teams, individuals can learn from one another and develop new skills and perspectives. They can also experience a sense of shared purpose and accomplishment when they achieve their goals. In the context of higher education and the workforce, these skills are highly valued by employers and can lead to increased career opportunities and success (Stevens & Campion, 1994).

The Human Resource Frame emphasizes the importance of teamwork and collaboration in creating a supportive and inclusive environment in organizations (Bolman & Deal, 2009). Disabled persons can contribute to and benefit from these efforts by working together with non-disabled colleagues, using accommodations to fully participate in teamwork and collaboration, breaking down stereotypes and misconceptions about disability, fostering a sense of community and support among disabled persons, and developing new skills and perspectives. Through these efforts, organizations can create a more diverse and inclusive culture that values the unique strengths and perspectives of all individuals.

Supportive Work Environment

The Human Resource Frame recognizes the importance of creating a supportive work environment for all employees, including those with disabilities (Bolman & Deal, 2009). Disabled individuals may face unique challenges and obstacles in the workplace and providing them with a supportive environment can help ensure their success and well-being (Kerschbaum et al., 2017b). Providing accommodations not only helps disabled individuals to perform their

jobs more effectively but also promotes inclusivity and demonstrates an organization's commitment to valuing diversity and supporting individual differences.

Flexible work arrangements can also be a critical component of a supportive work environment for disabled individuals. Flexible work arrangements, such as telecommuting, flexible work hours, and job-sharing, can help disabled individuals balance work and personal responsibilities, manage symptoms related to their disabilities, and reduce stress and burnout (Kerschbaum et al., 2017b). For example, an employee with a chronic illness may benefit from the ability to work from home on days when they are experiencing symptoms, while an employee with a mobility impairment may benefit from a flexible work schedule that allows them to avoid rush-hour traffic and reduce physical strain.

Another important component of a supportive work environment is access to resources such as counseling and wellness programs. Disabled individuals may experience additional stressors related to their disabilities, such as social stigma or financial strain (Wolbring & Lillywhite, 2021), that can impact their mental health and well-being. Providing access to counseling and wellness programs can help to reduce stress and promote mental health among disabled individuals. Additionally, organizations can offer resources such as disability affinity groups, which provide disabled individuals with a supportive community of peers who share similar experiences (Jain, 2021).

Finally, it is important to note that creating a supportive work environment for disabled individuals is not only beneficial to those with disabilities but for the organization. A supportive work environment can lead to increased job satisfaction and productivity among all employees, as well as reduced absenteeism and turnover rates (Solovieva et al., 2011). Additionally,

organizations that prioritize inclusivity and accessibility are likely to attract and retain a more diverse and talented workforce.

Overall, the Human Resource Frame provides a valuable perspective on how organizations can create an environment that values and supports employees. By empowering employees, fostering teamwork and collaboration, and providing a supportive work environment, organizations can create a culture of engagement and productivity.

Inclusivity in Higher Education

This study aims to enhance empathy among new business school graduates entering the workforce as managers in higher education and beyond. This section explores the business of higher education, focusing on how decisions made by instructors, peers, managers, and leadership impact the aging and disabled communities within academia. As society ages and as students with neurodiverse and physical needs enter higher education institutions, there is a pressing need to adapt how teams manage requests for assistance and opportunities for inclusion.

Aging and disability impact life satisfaction and quality of life differently (Nicolaisen et al., 2019). Higher education institutions reflect the national trend of an increasingly aging workforce (Harrison & Hargrove, 2006a; Laditka & Laditka, 2018b). Additionally, students with disabilities are present in up to 96% of higher education classrooms and are enrolling at rates higher than previously observed (Santos et al., 2019). Although the accommodation needs of employees and students differ, the demand for accommodations continues to rise across both groups.

Despite laws such as the Americans with Disabilities Act (ADA) and the Individuals with Disabilities Education Act (IDEA), individuals within the higher education community may encounter barriers in accessing accommodations. Becker and Palladino (2016) found that faculty

members are often unfamiliar with legal requirements and the interactive process associated with accommodations. Additionally, Shigaki et al. (2012) highlighted that job discrimination and harassment based on disabilities are prevalent among faculty and staff in higher education.

While Lindsay et al. (2017) found no clear consensus on how to address disability challenges among younger people, Bravo et al. (2020) noted that while there were no significant differences in workplace injuries, older workers were at a higher risk for fatal injuries. Safety was later evaluated in the context that age-friendly universities could create a systems-based approach to address underlying ageism, improving inclusivity and safety (Montepare & Brown, 2022; Oberti & Plantamura, 2022).

Cronin and Brooke (2019) reviewed ageism in higher education, identifying both positive and negative attitudes. Positive attitudes toward aging emphasized the value of experience, mentorship, and lifelong learning, while negative attitudes may manifest as biases regarding adaptability, technology use, or diminished productivity among older faculty and staff (Cronin & Brooke, 2019). Wilson et al. (2017) highlighted contradictions in the literature regarding the impact of educational exposure to older individuals, with some studies showing increased ageism and others indicating improved attitudes with increased exposure.

The extension of the working age across the workforce affects recruitment and hiring practices, with older candidates often facing biases (Harris et al., 2017). This ageism can lead to earlier retirement and impact the retention of institutional knowledge, affecting the reputation and quality of education at higher education institutions (Harrison & Hargrove, 2006b). The design of the higher education workforce and treatment of aging and disabled stakeholders are crucial for building inclusivity. Simulation techniques tailored to adult learners can be effective in addressing these needs and fostering empathetic leadership (Bryan et al., 2008).

The Role and History of Management Programs

Management programs have played a pivotal role in shaping the modern workforce. These programs, which encompass a wide range of educational offerings from undergraduate degrees to executive training, have evolved significantly over the past century. Their influence extends beyond the immediate confines of business and into virtually every sector of the economy, positioning them as essential to developing leadership, driving innovation, and ensuring organizational success.

The history of business education in the United States dates back much earlier than the establishment of formal business schools. One of the earliest vocational schools was set up by Mr. Morton in 1635 in Plymouth Colony, which provided practical education aimed at preparing students for careers in trade and commerce. Though not directly comparable to modern management education, this early institution laid the groundwork for the development of vocational and business-oriented education (Lehman, 1930).

The establishment of formal management education can be traced back to the late 19th and early 20th centuries. The Wharton School at the University of Pennsylvania, founded in 1881, marked the beginning of structured management education (Wharton School, n.d.). This was soon followed by the founding of Harvard Business School in 1908, which introduced the Master of Business Administration (MBA) program (Harvard Business School, n.d.). These institutions were created to address the growing complexity of business operations during the industrial era, offering structured education to train professionals for managerial roles in large organizations (Khurana, 2007).

Early management programs were focused on teaching the core principles of economics, accounting, and operations, essential for managing industrial enterprises. As the business

environment evolved, these programs expanded their focus to include subjects such as organizational behavior, strategy, and leadership, reflecting the increasing complexity of modern businesses (Augier & March, 2011).

Evolution of Management Programs

Over the decades, management programs have evolved significantly, driven by the changing dynamics of the business world. The curricula have expanded to address not only the functional aspects of business, such as finance and marketing, but also the leadership and strategic challenges posed by globalization and technological advancements (Mintzberg, 2004). This evolution has been marked by the integration of new educational modalities, including the advent of online MBA programs and digital learning platforms, making management education more accessible to professionals balancing work and study commitments (Allen & Seaman, 2017).

The integration of data analytics and artificial intelligence into management curricula has further revolutionized the field. By incorporating courses that focus on technology-driven decision-making, management programs have equipped graduates with the tools necessary to navigate the complexities of the digital economy (Davenport & Harris, 2017). This shift reflects the increasing importance of technology in shaping business strategies and ensuring that managers are equipped with the skills necessary to lead in a data-driven environment.

Management programs have increasingly emphasized diversity, equity, and inclusion (DEI), preparing graduates to lead organizations that are responsive to the needs of an increasingly diverse workforce (Thomas & Ely, 1996). This focus on DEI has contributed to creating a more inclusive and socially responsible business environment, where ethical

leadership and corporate social responsibility play a more prominent role (Carroll & Buchholtz, 2014).

Impact on the Workforce

Management programs have a profound impact on the workforce. Graduates of these programs often occupy leadership positions across various industries, from healthcare to finance, driving organizational success through informed decision-making and effective team management. The evolution of management education, with its focus on critical thinking, leadership, and strategic problem-solving, has enabled graduates to adapt to the challenges posed by an increasingly global and competitive business environment (Mintzberg, 2004).

One of the most significant developments in management education has been the integration of business ethics, particularly influenced by the work of the Ford Foundation. In the 1950s, the Ford Foundation became a leader in promoting the idea that economic well-being does not necessarily guarantee human welfare, but that it is essential to achieving it (Berle & Means, 1967). This concept shifted the focus of business from pure profit generation to considering the broader impacts on society, emphasizing the importance of ethical decision-making in leadership. The Ford Foundation's influence helped shape management education by integrating ethical leadership into curricula, urging future leaders to consider the social and human aspects of business operations alongside economic success (Carroll & Buchholtz, 2014).

The foundation's work played a key role in advancing corporate social responsibility (CSR), which is now a vital component of most management programs. Graduates are increasingly expected to uphold ethical standards in leadership, aligning business goals with societal needs. Management programs emphasize the importance of ethical practices, preparing

graduates to navigate complex moral challenges in the workplace, which has led to a more ethically aware and socially responsible workforce (Carroll & Buchholtz, 2014).

Through experiential learning opportunities, such as internships, consulting projects, and real-world simulations, management programs have also strengthened their ties to the workforce, ensuring that graduates are well-prepared to meet industry demands (Mintzberg, 2004). This practical approach to education has helped bridge the gap between theoretical knowledge and its application in the workplace, creating a more adaptable and capable workforce.

The evolution of management programs over the past century has mirrored the changing needs of the business world and the broader workforce. From their early beginnings in vocational education to the establishment of formal business schools and the integration of ethical leadership principles, management programs have continuously adapted to equip future leaders with the skills necessary to navigate an ever-changing economic landscape. As the business environment continues to evolve, the role of management programs in shaping skilled, ethical, and adaptable leaders will remain central to the success of organizations and economies worldwide.

History of Simulation-Learning in Higher Education

Simulation-based learning has deep historical roots in medical and professional education but has seen expanding applications in higher education as a method for improving practical skills, decision-making, and empathy. Its origins are often traced to medical training, where the pressing need for hands-on experience without putting real patients at risk led to the development of simulations. Early simulators, such as Resusci Anne, introduced in 1960 for CPR training, laid the groundwork for what would later become a widespread and diverse practice (Bradley, 2006).

One of the earliest examples of simulation in business education was the development of business games in the 1950s, designed to replicate real-world business situations (Goi, 2021). Today, simulations have evolved into various forms, including computer-based simulations, case studies, role plays, and business simulations (Goi, 2021). According to Stredwick and Ellis (2005), simulation is particularly useful in human resource management, especially for recruitment, selection, and training. Simulation exercises offer students a safe and controlled environment to practice skills and knowledge.

Active learning engages students beyond passive activities like lectures or reading. Simulation is a common active-learning technique in business education. Hendy (2021) found that human resources competencies, as measured by both the simulation (vLeader) and final exam performance, improved by 40% over the semester. This aligns with findings from Rosa and Vianello (2015), which also demonstrated the effectiveness of simulation for teaching competencies. Other studies highlight the benefits of simulation-based learning. For example, Hmelo-Silver et al. (2007) found that simulation-based learning improved students' understanding of complex concepts in marketing. Similarly, a study by Bakoush (2022) found that simulation-based learning was effective in developing students' critical thinking skills in finance.

Simulation has also been used in executive education to provide managers with the opportunity to practice decision-making in complex and uncertain situations. Wright et al. (2016) noted that evidence-based management education shared similarities with medical education, suggesting that successful methods from medicine could be adapted for business education. For example, Stumpf (1989) found that simulation-based learning was effective in developing senior leaders. Despite the benefits of simulation-based learning, there are some challenges in its

implementation. One challenge is the cost and time required to develop and run simulations. Another challenge is the need for experienced facilitators to guide students through the simulation process effectively.

One of the major milestones in the development of simulation-based education was its formalization as a pedagogical approach by Dr. David Gaba, who defined simulation as “a technique—not a technology—to replace or amplify real experiences with guided experiences that evoke or replicate substantial aspects of the real world in a fully interactive manner” (Gaba, 2004, p. i2). This framework allowed educators to move beyond simple technical replication and into the realm of fully immersive learning experiences.

The rise of simulation-based learning in medical education gained significant momentum with the development of high-fidelity simulators and the introduction of structured simulation-based curricula. By the early 2000s, systematic reviews began to demonstrate the efficacy of simulation in enhancing not only technical skills but also decision-making and patient outcomes (Issenberg et al., 2005). These studies validated the broader use of simulation as an educational tool, leading to its adoption in fields beyond medicine, including business, nursing, engineering, and higher education management.

In higher education, simulation is increasingly used to develop soft skills, such as empathy and communication, particularly in leadership and management training. The shift towards a more inclusive and empathetic leadership model is driven by the recognition that understanding and responding to the needs of diverse groups, including aging and disabled individuals, is essential for institutional success. Simulations designed to address disability awareness, for instance, allow participants to experience barriers from the perspective of those

with physical or cognitive disabilities, fostering a deeper understanding of the accommodations process (Kraiger et al., 2014).

For adult learners, simulation-based education offers unique opportunities. Grounded in experiential learning theory, simulations provide immersive, real-world problem-solving scenarios that align with adult learners' intrinsic motivations and need for relevant, applicable knowledge (Knowles, 1980). This relevance is particularly important for managers in higher education, who must often navigate complex, human-centered challenges. By engaging in scenario-based learning, they can practice empathy in decision-making, hone communication skills, and better understand the needs of diverse teams and student bodies.

The use of simulation in leadership training for higher education management is an area of growing interest. Studies suggest that simulation enhances the development of emotional intelligence, a critical component of effective leadership, by providing managers with opportunities to practice empathy, conflict resolution, and decision-making in controlled, reflective environments (McGaghie et al., 2010; Salas et al., 2009). Simulation exercises are particularly valuable for training in high-stakes environments, such as crisis management, where quick thinking, team coordination, and empathy are crucial (Okuda et al., 2009).

Despite its widespread adoption, simulation-based education continues to evolve. Technological advancements, such as virtual reality (VR) and artificial intelligence (AI), are pushing the boundaries of what simulations can achieve. These tools offer the potential for even more immersive, customizable, and realistic scenarios, enhancing learners' ability to practice empathy and decision-making in increasingly complex, interactive environments (Cooke et al., 2018).

As higher education faces ongoing challenges related to inclusivity, aging workforces, and disability, simulation-based learning provides a critical tool for preparing managers to meet these challenges head-on. By offering realistic, reflective experiences that promote empathy and adaptability, simulations are shaping the future of leadership in academia and beyond.

Empathy Education in Higher Education

Empathy has become an essential component of education, transcending disciplinary boundaries and playing a crucial role in shaping compassionate and effective professionals (Gentry et al., 2016). In higher education, empathy is increasingly recognized as a key attribute in cultivating leaders and professionals who can navigate complex social dynamics, communicate effectively, and foster inclusive environments. Whether in business, healthcare, law, or education, the ability to understand and respond to the emotional and experiential realities of others is vital for both personal and professional success (Decety & Cowell, 2014). As such, the development of empathy in higher education is not just a desirable trait but a necessity for addressing the demands of an increasingly interconnected and diverse world (Rifkin, 2009).

The need for empathy in higher education is especially pronounced in business education, where leaders must navigate complex organizational dynamics and global marketplaces. Empathy is integral to effective leadership, with empathetic leaders fostering trust, collaboration, and innovation within their organizations. Muncy (2020) emphasized that servant leadership, which prioritizes empathy in addressing employee concerns, is critical for building stronger organizational trust and inspiring teams. Leaders who understand the emotions and motivations of their employees are better equipped to guide their teams through challenges and change, resulting in more adaptive and resilient organizations. Empathy also enhances communication,

contributing to improved employee well-being and overall organizational performance (Clark et al., 2019).

The challenge of teaching empathy in business education has been amplified by the shift to online learning formats. Natale and Libertella (2015) raised concerns about the potential erosion of interpersonal relationships in virtual classrooms, particularly in discussions surrounding ethical leadership and decision-making. The physical separation between students and instructors can make it more difficult to cultivate empathy, which often relies on face-to-face interactions and direct emotional engagement. To address this issue, innovative methods such as virtual immersion experiences have been introduced. Viswanathan et al. (2022) explored how virtual simulations designed to immerse business students in global contexts can foster empathy, particularly by allowing students to engage with diverse perspectives and cultural differences. This work indicated the importance of immersive experiences in fostering a deeper understanding of marginalized groups (Viswanathan et al., 2022).

Despite these advances, a gap remains between the importance of empathy in business education and the availability of effective tools to teach it. Simulation-based learning has emerged as a promising approach, offering students opportunities to practice empathetic decision-making in realistic, controlled environments (Kraiger et al., 2021). By replicating complex business scenarios, simulations allow students to engage with the emotional and ethical dimensions of leadership, encouraging them to consider the impact of their decisions on others. Siewiorek et al. (2012) highlighted the effectiveness of simulation-based learning in developing empathetic leadership, demonstrating that students who participate in simulations are better prepared to navigate the human dimensions of business.

In healthcare education, the need for empathy is even more pronounced, as empathetic providers directly influence patient outcomes and quality of care. Systematic reviews and meta-analyses have shown that empathy can be significantly enhanced through simulation-based learning, which immerses healthcare students in realistic scenarios that mimic patient interactions (Chua et al., 2021; Ozkara San et al., 2022). These activities not only help students develop clinical skills but also foster a deeper understanding of patients' experiences, emotions, and challenges. For example, simulations focused on caring for elderly patients have been successful in reducing ageist attitudes among healthcare providers, encouraging more compassionate and empathetic care (Chen et al., 2015). Such interventions are critical for preparing healthcare professionals to work with diverse patient populations, particularly as the global population ages.

Empathy is equally critical in other professional fields. In teacher education, empathy is essential for creating inclusive, supportive learning environments that meet the diverse needs of students. Teachers who demonstrate empathy are better equipped to understand their students' unique challenges, foster positive relationships, and promote engagement in the classroom (Yuyang et al., 2023). Empathy in teaching can be demonstrated through understanding students' personal and social contexts, responding with care and concern to their challenges, and implementing course policies that reflect flexibility and support while maintaining academic rigor (Meyers et al., 2019). Warren (2018) emphasized the importance of empathy in promoting social justice in education, noting that empathetic teachers are more likely to advocate for marginalized students and create equitable learning experiences. By understanding the lived experiences of their students, teachers can design more effective interventions and support systems, ultimately improving educational outcomes.

Simulation-based learning has also been adopted in teacher education to cultivate empathy, allowing future educators to practice classroom management and engage with students from diverse backgrounds in controlled settings. Cochran-Smith et al. (2016) discussed the role of empathy in teacher preparation programs, noting that simulations provide valuable opportunities for educators to reflect on their biases, assumptions, and communication styles. This reflective process is key to developing the kind of empathetic teaching practices that foster student success, particularly for those from marginalized or underrepresented communities (Warren, 2018).

Legal education has recognized the importance of empathy in preparing future lawyers to engage ethically and compassionately with their clients. Rhode (2020) argued that empathy is not just a moral imperative in legal practice but also a critical skill for achieving fair and just outcomes in cases involving vulnerable populations. Lawyers must be able to understand their clients' emotions, motivations, and challenges, particularly in cases involving complex social issues or traumatic experiences. Experiential learning methods, such as mock trials and client interviews, provide law students with opportunities to develop empathy in real-world scenarios, preparing them to serve as ethical and compassionate advocates (Lawton et al., 2022).

Despite the growing recognition of the need for empathy across higher education, the challenge remains in how to effectively teach and measure it (Cooper, 2011). Traditional methods of instruction, which often prioritize cognitive skills and knowledge acquisition, may not be sufficient for developing the emotional and interpersonal skills necessary for empathy (Cooper, 2011). This gap calls for the continued integration of innovative pedagogical approaches, such as simulation-based learning, role-playing, and immersive experiences, which

provide students with opportunities to practice empathy in real-world contexts (Ozkara San et al., 2022).

The need for empathy in higher education extends beyond individual disciplines and is critical for fostering inclusive, supportive learning environments (Cooper, 2011). As institutions become more diverse and the student population grows increasingly global, educators must ensure that students are equipped with the emotional intelligence and empathy needed to navigate complex social and cultural dynamics (Warrier et al., 2021). Empathy is not just a soft skill; it is a foundational element of ethical leadership, effective communication, and social responsibility (Cooper, 2011; Terrasi, 2015). As such, higher education must prioritize empathy development across curricula, ensuring that students leave their programs not only with technical skills but also with the capacity to lead with compassion and integrity (Cooper, 2011).

Empathy is a vital skill for success in an increasingly interconnected and diverse world (Clark et al., 2019). Whether in business, healthcare, law, or education, the ability to understand and respond to the emotions and experiences of others is essential for ethical decision-making, leadership, and social justice (Terrasi, 2015). Higher education plays a critical role in cultivating empathy, providing students with the tools and experiences necessary to navigate the complexities of human relationships and societal challenges (Murwani & Tohang, 2020; Terrasi, 2015). As higher education continues to evolve, particularly in response to technological advancements and the increasing demand for online learning, educators must remain committed to fostering empathy in their students (Cooper, 2011). Simulation-based learning, virtual immersion experiences, and other innovative methods offer promising pathways for developing the empathetic leaders and professionals of tomorrow (Natale & Libertella, 2015; Viswanathan et al., 2022).

Summary

Empathy has become an indispensable component of higher education, shaping the development of professionals across disciplines such as business, healthcare, law, and education. As the world becomes more interconnected, the ability to understand and respond to the emotions and experiences of others is critical for navigating social dynamics, fostering inclusive environments, and advancing ethical decision-making. Empathy is no longer considered a supplementary skill but a core attribute necessary for effective leadership, communication, and social responsibility in an increasingly diverse world. Higher education institutions, therefore, have a duty to cultivate empathy in students to prepare them for the complexities of their future professional roles.

In the field of business, empathy plays a central role in leadership, enhancing trust, collaboration, and innovation. Empathetic leaders are better equipped to navigate organizational dynamics and address the concerns of their employees, creating adaptive and resilient work environments. The shift to online learning, however, has posed challenges in fostering empathy, as physical separation limits interpersonal interactions that are key to its development. To address these challenges, innovative educational methods such as virtual simulations have been introduced, immersing students in realistic scenarios where they can engage with diverse perspectives and practice empathetic decision-making. Simulation-based learning, particularly, has shown promise in bridging the gap between theoretical knowledge and the emotional dimensions of leadership.

Healthcare education, where empathy directly impacts patient outcomes, has increasingly embraced simulation-based learning to foster empathy in students. Immersive experiences in realistic clinical scenarios allow students to engage more deeply with patients' emotions,

enhancing both their clinical skills and their understanding of patient care. These educational interventions are essential for preparing healthcare professionals to work effectively with diverse patient populations. Similarly, in teacher and legal education, empathy is critical for promoting social justice, creating inclusive learning environments, and advocating for marginalized communities. Experiential learning methods in these fields provide students with the tools to reflect on their biases, strengthen their emotional intelligence, and serve as compassionate and ethical professionals.

Despite the recognition of empathy's importance, traditional educational methods, which emphasize cognitive skills, often fall short in fostering the emotional and interpersonal capacities necessary for empathy. This shortfall underscores the need for continued innovation in pedagogy, such as the integration of role-playing, simulation-based learning, and immersive experiences that allow students to practice empathy in real-world contexts. Higher education must prioritize the development of empathy across all disciplines to ensure that future leaders and professionals are equipped not only with technical expertise but also with the emotional intelligence needed to lead with integrity and compassion in a rapidly evolving and diverse global landscape.

CHAPTER 3: METHODOLOGY

The focus of this study was the improvement of empathetic responses in business students managing and working with employees needing accommodation in the workplace, specifically using simulation as an educational tool. Simulation has played a significant role in business education by allowing students to learn through real-world experiences without the associated risks and costs. It has been used across various business disciplines, including finance, marketing, and operations management. Simulation helps develop critical skills such as thinking, problem-solving, decision making, and teamwork, and has been shown to enhance academic performance and engagement.

Simulation has a long history in business education and has proven to be an effective teaching tool. Active learning and simulation activities are valuable methods to engage students in the learning process and to develop critical thinking and decision-making skills. However, their use may be limited in certain business disciplines, such as human resources. It was my goal to address this gap by assessing and validating a simulation activity for creating more empathetic leaders. This chapter will introduce the research design of this study with a description of the sampling, data collection, and data analysis procedures.

Research Questions

This study was guided by Kolb's experiential learning model and by the following questions:

RQ1. To what extent does participation in an empathy simulation influence how undergraduate business students experience empathy toward disabled employees they may supervise in the future?

RQ2. What are the potential limitations and challenges of using simulations as a tool for improving empathy toward disabled employees in business students based on Kolb's experiential learning model?

RQ3. How do future business leaders perceive and reflect on their learning experiences from empathy simulations, and how do these reflections contribute to their development of empathy toward disabled employees?

Research Design and Rationale

This study employed a mixed-methods design to explore the key components of an effective simulation for improving empathy in business students using Kolb's experiential learning model. This approach integrated both quantitative and qualitative data collection methods to comprehensively address the research questions and ensure a robust analysis of the simulation's outcomes.

Quantitative data was gathered through pre- and post-simulation questionnaires designed to measure changes in participants' attitudes. The instruments included a 7-point Likert scale adapted from Chen et al. (2015), which evaluated empathy, attitudes toward aging, and perceptions of working with disabled employees. The use of standardized measures provided an objective assessment of attitudinal shifts, offering clear insights into the simulation's effectiveness. These questionnaires were administered through Qualtrics, ensuring a user-friendly and efficient data collection process. Deidentification protocols were followed by allowing participants to self-select subject numbers, maintaining confidentiality, and reducing response bias.

Qualitative data was collected through open-ended feedback prompts during the post-simulation questionnaire and observations during the debriefing sessions. These methods were

intended to uncover deeper insights into participants' experiences, including perceived limitations and challenges of the simulation. Participants' narratives helped identify barriers to empathy development and provided context for the quantitative findings. This qualitative component enriched the analysis by capturing nuances that numerical data alone could not provide.

The mixed-methods approach was selected to address the complexity of measuring empathy and the multifaceted nature of experiential learning. Quantitative data offer measurable and comparable outcomes, enabling the evaluation of attitude changes pre- and post-simulation. However, the addition of qualitative data provided a richer understanding of participants' experiences, allowing the study to identify potential gaps in the simulation design and contextualize the effectiveness of the intervention.

This design aligned with the study's purpose of not only assessing the impact of the simulation but also uncovering the key components and challenges inherent to this educational approach. By combining numerical data with descriptive feedback, the study provides actionable recommendations for developing empathy simulations that are both impactful and scalable in business education.

The study was conducted within a course led by Ms. Beth Ritter at the NCSU Poole College of Business. This setting allowed for a controlled environment where the simulation can be integrated seamlessly into the curriculum. The transition from the Coursera quiz feature used in the baseline study to Qualtrics enhanced the data collection process, offering greater flexibility and precision in capturing participant responses.

Collaborative Inquiry Partners

Collaborative inquiry partners were faculty members from the Poole College of Management at NCSU, who collaborated to facilitate research throughout the research process. These partners were crucial in providing insights, guidance, and expertise that enriched the research. They played a significant role in enhancing the quality and depth of the study by offering diverse perspectives, critical feedback, and specialized knowledge. Collaborative inquiry partners contributed to the rigor, validity, and relevance of the research by acting as sounding boards for ideas, assisting in refining methodologies, and providing access to resources and networks. They were present on study days and assisted in guiding the reflection phase of the Kolb model. They fostered a collaborative approach to this study and facilitated reflective discussions on research design and data interpretation (Baker et al., 2018).

Ms. Beth Ritter is a Professor of Practice in Human Resource Management in the Department of Management Innovation & Entrepreneurship at NCSU. Prior to joining NCSU, she was the Senior Vice President of Human Resources at Burt's Bees, where she led integration efforts following its acquisition by Clorox. She has also provided HR leadership for the global supply chain at Campbell Soup Company and the foods business at Nabisco Brands. Ritter holds an MBA from Old Dominion University and a BA in Labor Relations from The Pennsylvania State University. She is a certified compensation professional with World at Work and a certified practitioner in the Myers-Briggs Type Indicator (Ritter, 2020).

Dr. Paul W. Mulvey is an Alumni Distinguished Undergraduate Professor of Human Resource Management, a graduate faculty member, and the Faculty Director of the BSBA Undergraduate Program in the Department of Management Innovation & Entrepreneurship at NCSU. He earned his PhD in Labor and Human Resources from The Ohio State University. Dr.

Mulvey has extensive experience in reward systems, work teams, leadership, recruiting, and retention. His research has been featured in national media such as NPR and USA Today. He has also consulted and conducted research with over 60 organizations, presented at numerous national and international conferences, and published articles in management journals (Mulvey, 2019).

Context of the Study

NCSU was founded in 1887 as an agricultural and mechanical college with a mission to provide practical education for the "common man" (Salsi & Salsi, 2005). Beginning with just 52 students in its inaugural year, NC State has grown into one of the largest public universities in the state. As of 2022, it had an enrollment of over 36,000 students (NC State, 2022; Salsi & Salsi, 2005). The university's diverse undergraduate student population reflects the demographics of the institution's mission to serve North Carolina's communities. Approximately 70% of NC State's undergraduate students are North Carolina residents, while the remainder come from across the U.S. and over 100 countries. The student body is composed of 55% male and 45% female students, with about 30% identifying as racial or ethnic minorities, aligning closely with state and national demographic trends.

In 1970, the state's fragmented higher education system prompted efforts to consolidate into the University of North Carolina (UNC) system. This initiative culminated in 1971, uniting 16 institutions under a state-wide system of institutions, including NC State, the University of North Carolina at Chapel Hill, and other major public universities (UNC System, 2021). By 2021, the UNC system had an enrollment of 244,508 students, with approximately 14% attending NC State (UNC System, 2021).

Recognizing the importance of business and economics in a modernizing world, NCSU expanded its offerings in these fields early in its history. In 1990, the university founded the College of Management, which earned prestigious AACSB accreditation in 2000 (Poole College of Management, n.d.). In 2010, it was renamed the Poole College of Management, highlighting its focus on combining management education with NC State's strengths in STEM. The college consistently ranks in the top 100 undergraduate business programs nationwide (Poole College of Management, n.d.).

NC State has a strong commitment to diversity and inclusion. Alvin Headen became the university's first Black economics faculty member in 1986, followed by Lorraine Wright in 1992 (Shanahan, 2022). Wright helped establish the Poole College Chapter of the National Association of Black Accountants, and in 2013, the Black Business Student Association was founded to enhance the recruitment and involvement of minority students in business education (Shanahan, 2022). These efforts continue to shape the college's inclusive culture, ensuring that students from all backgrounds feel supported and prepared for success.

The Master of Business Administration program was ranked by Bloomberg Businessweek as number one in diversity and online interaction in 2021 (Poole College of Management, n.d.). Additionally, the undergraduate and graduate entrepreneurship programs were ranked first in the Southeast and 15th nationally by the Princeton Review and Entrepreneur magazine in 2021 (Smith, 2021). This history of quality business education and recent recognition for diversity and leadership makes Poole College of Management an ideal site for this research.

Population

The scope of this research centered on the deliberate selection of undergraduate business students at NCSU as the primary participants engaged in the planned simulation intervention. Moorer's (2009) findings underscored disparities between undergraduate and graduate business learners involved in service-learning activities, highlighting the potential for enhanced benefits among undergraduates, particularly through increased social and academic exposure. To ensure consistency and control over the experiences contributing to the study, the focus was exclusively limited to traditional undergraduate students. This delimitation aimed to mitigate confounding variables introduced by graduate or nontraditional undergraduate students' diverse backgrounds or prior experiences. The target for participant involvement in this study was to encompass up to 20 individuals, emphasizing the intent to gather a substantial sample size representative of traditional undergraduate business students at NCSU for robust data analysis and interpretation.

Sample and Sampling Procedures

This study used a convenience sampling strategy to recruit undergraduate business students enrolled in human resources courses at North Carolina State University's Poole College of Management. Convenience sampling was selected due to the accessibility of this population within the courses led by Ms. Beth Ritter and Dr. Paul Mulvey that specifically cover human resources legal topics. This approach aligned with the study's focus on exploring the development of empathy in future business leaders, as these students are likely to enter management roles where they will encounter diverse teams.

Recruitment Procedures

Participants were recruited through class participation as listed in the course syllabus by the instructors. Students were directed to a Qualtrics form to provide baseline data under a

randomly selected identifying number to ensure pre and post data can be connected. Aggregated demographic information, including age and gender will be collected by the instructors. No specific screening criteria were in place to exclude participants, but the study aimed to capture a range of perspectives to enhance the validity of the findings.

Sample Size and Recommendations

Based on qualitative research standards, a sample size of 20-30 participants was likely acceptable for the exploratory nature of this study (Creswell & Poth, 2015). This range may be sufficient to achieve data saturation, defined as the point at which no new themes or insights emerge from the data (Guest et al., 2006). Given the enrollment numbers in the targeted courses, this sample size is feasible and allows for in-depth analysis while maintaining manageability in data collection and analysis.

Ensuring Saturation

Saturation was monitored through the iterative analysis of qualitative data on the participant reflections and debriefing feedback. The study considered saturation reached when additional data no longer revealed new themes, variations, or insights related to the research questions. This approach aligned with the guidelines provided by Fusch and Ness (2015), emphasizing the importance of rich, detailed data collection and analysis.

By employing convenience sampling and focusing on saturation, this study ensured that the findings were both practical and meaningful for understanding the role of simulation in fostering empathy in business students. This strategy also aligned with the study's goal of exploring the impact of experiential learning within a specific educational context.

Ethical Considerations and Informed Consent

This research study was rigorously reviewed and approved by the East Carolina University & Medical Center Institutional Review Board (IRB) under protocol number 23-000828 (see Appendix A). The study adhered to ethical guidelines to ensure the protection and respect of participants. Participants were informed that their involvement was solely for research purposes related to the completion of the researcher's dissertation. To minimize the burden on participants and given the study's low-risk nature, all participants engaged in blinded data collection. Additionally, this active learning experience was a scheduled part of a university course. As such, the IRB determined that the study qualified for a waiver of informed consent as the research posed no more than minimal risk to participants, and any likelihood of discomfort was determined to be no greater than they might experience in daily life. Additionally, the study received secondary approval from the North Carolina State University (NCSU) IRB, confirming that it meets the institution's ethical standards.

To avoid any potential bias, participants were blinded to the study title before completing the questionnaires and engaging in the simulation activity. This approach helped to ensure that responses were as unbiased and authentic as possible. The research adhered to the standards set forth by the IRB throughout its course, ensuring the validity and reliability of the data collected while safeguarding the rights and well-being of all participants. To ensure voluntary and unbiased participation, no incentives or grade bonuses were offered (East Carolina University & Medical Center IRB, 2024). At the beginning of the exercise, students selected subject identifiers from numbered popsicle sticks for matching pre- and post-activity questionnaire data, ensuring confidentiality. These identifiers were kept anonymous from the PI, faculty advisor, and course instructor (NCSU IRB, 2024). In accordance with IRB guidelines, demographic data, like age

and gender, were collected and provided to the PI in an aggregated form, maintaining participant anonymity and confidentiality (East Carolina University & Medical Center IRB, 2024).

Instrumentation

The pre-/post-survey questionnaire administered in this study was a modified version of the Jefferson Scale of Empathy – Health Professions Scale (JSE-HPS) developed by Hojat et al. (2001). The original JSE consisted of 20 Likert scale questions ranging from “Strongly agree” to “Strongly disagree” to measure empathy specifically in healthcare contexts (see Appendices B and C). The scale includes both positively worded items, which are directly scored, and negatively worded items, which are reverse scored (Colliver et al., 2010). There are three versions of the JSE tailored for different target populations: the S-Version, designed to be used with medical students, the HP-Version, tailored to practicing health professionals, including physicians, nurses, dentists, and psychologists, and the HPS-Version, which was designed for the target audience of health professions students other than medical students.

Despite minor differences in wording for each version, the content remains consistent across versions. The JSE is widely recognized and used in medical education research as one of the most researched and utilized instruments in this field (Hojat, 2016). Its versatility is further evidenced by its translation into 56 languages and use in over 80 countries (Hojat, 2016). The JSE has demonstrated strong psychometric properties through extensive validation in numerous studies. It has been applied primarily to health professional students and practitioners both in the U.S. and internationally. The instrument has been successfully tested for validity and reliability (Hojat et al., 2018). Since the inception of the JSE-HPS, studies modified the tool to measure empathy in the healthcare profession and in healthcare education programs (Berg et al., 2015; Del Canale et al., 2012; Hojat et al., 2011; LaNoue & Roter, 2018). Its reliability and widespread

use make it a valuable tool for assessing and enhancing empathy within healthcare settings (Colliver et al., 201).

Basing a study on a previously validated survey tool offers several significant advantages. These include established reliability and validity, comparability with previous studies, and a widely accepted methodology. The use of such tools supports standardization and consistency, which aids in replication for future research and can enhance cross-cultural applicability.

By utilizing a survey instrument that has already undergone rigorous testing for reliability and validity, researchers can be confident that it accurately measures the constructs it is intended to assess. This approach saves time and resources that would otherwise be spent developing and validating a new survey. Validated survey tools enable easier comparison of results with existing literature, thus enhancing the ability to build upon prior findings, identify trends, and establish consistency or divergence in results across different populations or time periods (NCSU, 2022).

Established survey tools often receive recognition and acceptance within the academic and research community, which can increase the credibility of the study's findings (Shanahan, 2022). The use of a validated tool ensures standardization in data collection, reducing the risk of introducing bias or ambiguity into the questions and responses, thereby making the data easier to interpret and analyze (UNC System, 2021).

Replicating studies is a fundamental aspect of scientific research. By using a previously validated survey tool, other researchers can replicate the study more easily, contributing to the robustness and reliability of the research findings (Smith, 2021). Developing and validating a new survey instrument is often time-consuming and resource-intensive. Using a pre-validated

tool eliminates this need, allowing researchers to focus on core research objectives and analysis (Salsi & Salsi, 2005).

Many validated survey tools come with established norms or benchmark data, which researchers can use to compare their results with a broader population or specific reference group, providing context and deeper insights into the study outcomes (Chen et al., 2015). If a survey tool has been validated in multiple cultural contexts, it may have demonstrated cross-cultural applicability, facilitating comparative studies and broader conclusions about the constructs being measured (Rosa & Vianello, 2015).

Overall, basing this study on a previously validated survey tool with minor modifications enhances the scientific rigor and credibility of the research. It streamlines the research process, facilitates easier comparison with existing literature, and promotes the generation of reliable and comparable data, leveraging the work of previous researchers and contributing to the cumulative knowledge of the field.

The present study itself was modeled on a study by Chen et al. (2015) that investigated changes in empathy among pharmacy students following an age simulation game. Similar to that study, I administered the modified JSE-HPS survey before the simulation activity and again upon completion of the simulation to track change in empathy scores among undergraduate business students at NCSU. The modifications included the addition of two open-ended survey questions administered on the post-simulation questionnaire to better understand how future business leaders perceive and reflect on their learning experiences following the empathy simulations.

Procedures

In this study, Kolb's experiential learning model guided the creation of an empathy simulation designed for business students. This simulation involved students donning various sensory and mobility impairments - such as resistance to movement, blurred vision, filtered yellow sight, plugged ears, and taped fingers. These impairments were intended to simulate the challenges faced by individuals with disabilities or aging-related conditions. Participants performed tasks such as walking up steps, typing a transcription, and buttoning a shirt, with the impairments in place. These activities are detailed in Table 2. To evaluate the impact of the simulation, pre- and post-questionnaires, adapted from Chen et al. (2015), were used. These questionnaires assessed any changes in the students' attitudes toward working with older adults in business settings and provided insights into the effectiveness of the empathy simulation in fostering understanding and empathy. The study itself was conducted in three phases.

Phase I: Baseline Data Collection and Pilot Study

In the fall semester of 2021, baseline data was collected as part of an extra credit assignment for undergraduate business majors enrolled in the Human Resource Management (MIE 330) course. This initial study involved nine participants (n=9) and utilized pre- and post-assessment questionnaires adapted from Chen et al. (2015). Participants engaged in an "aging" simulation exercise designed to replicate the challenges faced by older adults. During the simulation, participants experienced movement resistance, blurred and filtered yellow vision, hearing impairment (with cotton balls), and restricted dexterity (with taped fingers). The exercise included simple tasks such as walking up steps, typing a transcription, and buttoning a shirt.

The participants who volunteered reported gaining a deeper understanding of the lived experiences of older adults and the challenges they encounter, including those faced by their

Table 2

Simulation Activities

Disability	Activity	Purpose
Dexterity	Tape splints on several fingers to limit the ability to use fingers effectively.	Musculoskeletal changes and health conditions like arthritis or Parkinson's Disease commonly lead to decreased dexterity (Chen et al., 2015).
Hearing	Cotton balls are placed in ears. Should be done before vision simulation in case ears are inadvertently covered.	Hearing loss occurs in 30% to 50% of older adults and can cause loneliness and depression. Decreases in effective communication and safety can both occur in the workplace (Chen et al., 2015).
Mobility	Knee and elbow joints are immobilized by using cellophane that is wrapped to cover the joint. This can go over clothing, and care should be taken not to restrict blood flow to the extremity by wrapping too tightly.	Musculoskeletal changes limit mobility in up to 40% of older adults (Ozkara San et al., 2022).
Touch	Surgical or latex gloves are worn to limit the sensitivity in the fingertips.	Skin sensitivity decreases with age causing challenges in distinguishing textures. Burns and cuts are more likely (Chen et al., 2015).
Vision	Students will wrap their heads with cellophane covering their eyes (assistance from classmates or leaders is allowed). Care is taken to prevent covering the nose or mouth. Yellow highlighter markers are used to lightly cover the cellophane where it covers the eyes.	Older people lose the ability to see smaller details or fine print, with the average 65-year-old having 20/70 vision (Chen et al., 2015; Ozkara San et al., 2022).

aging family members. The design of this baseline study serves as the foundation for the proposed research in Phase II, which will be conducted under the supervision of Ms. Beth Ritter, faculty members within NCSU's Poole College. This baseline data informed the design of the Phase I pilot.

Data for the Phase I pilot were then collected on March 20, 2023, when I served as a guest lecturer in the section on workplace accommodations in Ms. Ritter's Spring 2023 Employment Relations course (MIE 432) with human resources–concentration business students. Due to the time constraints of the 90-minute session, only dexterity and mobility simulations were performed. To assess changes in empathy levels among participants before and after a simulation activity, a paired samples t-test was conducted. This statistical method is appropriate for comparing two related groups—specifically, the same participants measured at two different time points (pre- and post-simulation). The paired samples t-test evaluates whether there is a statistically significant difference in the mean empathy scores between the two time points, indicating potential changes in empathy as a result of the simulation intervention.

The data consisted of empathy scores collected using a standardized empathy scale (Chen et al., 2015) administered prior to the simulation and immediately following the activity. The assumption of normality was assessed and verified through visual inspection of Q-Q plots and the Shapiro-Wilk test. The paired t-test then compared the mean pre-simulation empathy scores to the mean post-simulation scores, producing a t-statistic, degrees of freedom (df), and a p-value to determine the significance of the observed differences. A statistically significant result ($p < 0.05$) would suggest that the simulation activity had a measurable effect on participants' empathy levels.

Phase I: Pilot Study Results

Phase I began our examination of the effects of an empathy simulation on business students' attitudes toward working with older adults in business settings. The proposed study will use Kolb's experiential learning model to create an empathy simulation for business students. The simulation involves students being "dressed" to experience movement resistance, blurred vision, filtered yellow sight, plugged ears, and taped fingers before performing simple tasks. Pre- and post-questionnaires, modified from Chen et al. (2015), was used to measure the effects of the simulation on the students' attitudes toward working with older adults.

The pilot informed us of numerous protocol development needs including the difference between online and in-person timing of activities, the need to solely focus on physical limitations (excluding sensory simulations), and the limitations of topics discussed while “dressing” to ensure a consistent experience for all subjects. No statistical analysis was performed on the pilot data however qualitative questions were added to the post-simulation questionnaire.

Phase II

Phase II replicated the methods of Phase I, incorporating corrections for identified challenges. Due to time constraints, Phase II took place in Spring 2025. In this research, the development of an empathy simulation for business students is grounded in Kolb's experiential learning model. The simulation required students to experience various sensory and mobility impairments, such as restricted movement, blurred vision, yellow-tinted vision, muffled hearing, and limited dexterity. These challenges aimed to replicate the difficulties encountered by individuals with disabilities or age-related conditions. Participants engaged in activities like ascending stairs, typing a document, and buttoning a shirt while experiencing these impairments. A detailed overview of these activities can be found in Table 2.

The purpose of this simulation study was to explore the key components of an effective simulation for improving empathy in business students using Kolb's experiential learning model. The design mirrored the study by Chen et al. (2015) originally conducted with pharmacy students, now assessing its applicability to undergraduate business students. Participants for this study were undergraduate business majors at NCSU. Following IRB guidelines, they were classified as adults (aged 18 and older) and were normal participant volunteers (East Carolina University & Medical Center IRB, 2024). To avoid any influence on grades or academic experiences, participants were not drawn from courses taught by the principal investigator (PI) or faculty advisor (NCSU IRB, 2024).

The study takes the place of a scheduled didactic session of their course. The students were informed of the study and purpose of the data in the class session only after the data was collected to avoid bias in responses (NCSU IRB, 2024). Make-up experiences were allowed for anyone not participating, but this was not needed as all participants elected to participate on the day the simulation was administered.

To ensure voluntary and unbiased participation, no incentives or grade bonuses were offered (East Carolina University & Medical Center IRB, 2025). At the beginning of the exercise, students selected subject identifiers from numbered popsicle sticks for matching pre- and post-activity questionnaire data, ensuring confidentiality. These identifiers were kept anonymous from the PI, faculty advisor, and course instructor (East Carolina University & Medical Center IRB, 2025). Following IRB guidelines, demographic data like age and gender will be collected and provided to the PI in an aggregated form, maintaining participant anonymity and confidentiality (East Carolina University & Medical Center IRB, 2025).

In addition to implementing the simulation experience with undergraduate business students, Phase II involved all data collection through the administration of the pre-/post-simulation questionnaires. The pre- and post-simulation questionnaires, adapted from Chen et al. (2015), measured shifts in students' attitudes toward interacting with older adults in business contexts, offering valuable insights into how well the empathy simulation promoted understanding and compassion. The post-questionnaire was modified to include two additional qualitative design questions. These questions were modeled on the Dickerson (2021) simulation-based study and were designed to better understand how undergraduate business students perceive their learning as part of the simulation experience. Figure 1 offers a comprehensive timeline of the simulation intervention in Phase II and Appendix E further breaks down the guided discussion and debriefing method.

Phase III

The final phase of this study involved the analysis of data collected in Phase II. As a mixed-methods research design, data analysis examined the quantitative and qualitative data provided by participants on the pre-/post-simulation questionnaires. The quantitative data provided in response to the 15 Likert Scale questions was analyzed to response to Research Question 1 and explored the extent to which participation in the simulation influenced change in responses to the modified version of Chen et al. (2015) pre-/post-questionnaires. The Likert scale data was coded and compared using descriptive statistics to track change in empathy before and after the simulation experience. Then, inferential statistics in the form of a paired-sample t-test was used to determine if the differences between pre- and post-test scores were statistically significant. This statistical analysis allowed for a thorough examination of the impact of the simulation on empathy levels.

Research question 2, which investigates the potential limitations of using simulations as a

Day Prior to Activity	Pre-Activity	Participant Number	Pre-Activity Questionnaire	Introduction of Activity
Request participants wear or bring with them a shirt to be buttoned and unbuttoned during the simulation activity	Lay out materials to be used for simulation	Participants pick up a popsicle stick with a number on it. This serves as deidentification and identifier for pre/ post questionnaires	Participants log into Qualtrics and complete the survey. They enter self-assigned popsicle stick numbers to maintain data congruency	Begin PowerPoint describing what participants do with the supplies.

Activity/ Guided Discussion	Post-Activity Questionnaire	Post-Activity Leadership Debrief	Data Security
Continue PowerPoint and have participants do the steps. Ask open ended guided discussion questions	Participants log into Qualtrics and complete the survey	Leadership team makes notes on successes, challenges, lessons learned, etc.	Log in to confirm data is backed up appropriately

Figure 1. Simulation intervention procedures

tool for improving empathy among undergraduate business students, was answered through both the qualitative questionnaire questions (see Appendices B and C), my observations during the simulation recorded in an analytical memo, and student responses during the post-simulation debriefing sessions. These methods were intended to uncover deeper insights into participants' experiences, including perceived limitations and challenges of the simulation. Participants' narratives helped identify barriers to empathy development and provided context for the quantitative findings. This qualitative component enriched the analysis by capturing nuances that numerical data alone cannot provide. The qualitative questions assessing student impressions added to the post-simulation questionnaire are added to address this question.

Finally, the third research question explored how students perceive their learning experience as part of the simulation. This question was addressed through an analysis of the qualitative questions assessing student impressions added to the post-simulation questionnaire. For all qualitative analyses, NVivo was utilized in this study as a tool for data management and organization, facilitating the efficient handling of qualitative data collected from participant responses. While NVivo offers capabilities for preliminary coding, its primary use in this study was to organize and categorize data for subsequent in-depth analysis. Qualitative data, including open-ended responses and reflections captured through the Qualtrics platform, were exported in a compatible format and imported into NVivo. Once imported, the software was used to create nodes and themes that grouped related participant responses. This organizational process aided in identifying patterns and key insights, streamlining the workflow for manual coding and deeper thematic analysis conducted outside the software. By leveraging NVivo's strengths in data structuring, the study ensured an organized and systematic approach to qualitative data handling.

The initial coding framework, presented in Table 3, included a set of predefined codes designed to capture emergent themes from the qualitative data. These codes were developed based on anticipated response patterns, encompassing key areas such as perspective shifts, engagement in the simulation, assumptions challenged, and practical applications to future management roles. Additionally, themes related to empathy in leadership, small-scale accommodations, personal connections, and broader social responsibility were incorporated to reflect the depth of student insights.

This structured coding approach ensures that the analysis remains focused and methodical while allowing for flexibility in identifying additional themes that may emerge from the data. The use of NVivo enhanced transparency and consistency in the organization of qualitative findings, supporting a robust interpretation of student reflections on their simulation experience. Table 3 presents the qualitative coding scheme, outlining the initial codes, their descriptions, and representative examples from the data.

Inquiry Design Rigor

To ensure the robustness and credibility of this study, the inquiry design rigor was structured around several key principles: alignment, relevance, fidelity, and reflection.

Alignment: The study maintained a clear alignment between its research questions, objectives, and methodologies. The use of Kolb's experiential learning model as a guiding framework ensured that the design of the empathy simulation directly corresponded to the intended learning outcomes. This coherence helped establish a focused inquiry that accurately measured the effects of the simulation on empathy levels among business students.

Relevance: The selected population—undergraduate business majors at North Carolina State University—was highly relevant to the study's goals. By focusing on this specific group,

Table 3

Qualitative Coding Scheme

Code	Description	Example
PER	Perspective Shift	Mention of a change in understanding
ENG	Engagement	References to and/or the offering of advice related to being fully present in the simulation or disengaged and removed from the experience
ASC	Assumptions Challenged	Recognition of previously held biases
APP	Practical Application	Articulation of how the experience applies to future management roles
EMP	Empathy in Leadership	Connection of inclusivity and management and/or leadership
SMA	Small Changes, Big Impact	Awareness of minor or small-scale accommodations and their potential impact
CON	Personal Connection	Mention of family, friends, or personal experiences
CAC	Campus Accessibility	Reference to experiences with disabled peers in school settings
WAW	Workplace Awareness	Reference to job-related experiences with inclusion
AGE	Perspective Shift on Aging	Changing views on elderly individuals
EDV	Empathy Development	Reported increase in emotional understanding
CHI	Challenges in Inclusion	Mention of barriers or lack of accessibility
SOC	Social Responsibility	Recognition of the need for change

the research aimed to produce findings that are meaningful and applicable within the context of business education. The simulation design incorporated real-world scenarios that resonated with students' future professional environments, enhancing the practical significance of the findings.

Fidelity: The fidelity of the simulation was carefully considered to ensure that the activities accurately replicated the experiences associated with aging and physical movement disabilities. By employing a variety of sensory and mobility impairments, the simulation provided participants with a genuine understanding of the challenges faced by individuals in these demographics. Additionally, the use of validated pre- and post-test surveys served to uphold the integrity of the data collection process.

Reflection: Ongoing reflection was integral to the inquiry process. Participants were encouraged to engage in reflective discussions following the simulation, allowing them to process their experiences and articulate their insights regarding empathy. This reflection not only enriched the participants' learning but also provided qualitative data that complemented the quantitative findings from the surveys. My reflections were captured as notes from the discussion.

Ethical Considerations

Adhering to ethical guidelines is essential for maintaining the integrity of the research. While the study qualified for a waiver of informed consent, I introduced the study and explained how data would be connected and analyzed to ensure that they understood the purpose of the study and their rights. I also explained how the blinded data collection worked to protect their confidentiality. The study prioritized participant confidentiality, with all data anonymized and reported in aggregate form. By integrating these principles into the inquiry design, this study

aimed to rigorously assess the impact of empathy simulation on business students, contributing valuable insights into the effectiveness of experiential learning approaches in higher education.

Delimitations, Limitations, and Assumptions

The study focused specifically on students within NCSU's Poole College of Management, which may limit the generalizability of the findings to a broader population. Additionally, the research concentrated solely on measuring empathy, without delving into the underlying causes or mechanisms that drive empathy-related behaviors. Variations in empathy levels across different departments within the college were not extensively examined.

There are several limitations to consider. The sample size was limited, which could affect the generalizability of the results. The duration of the simulation means that tracking long-term changes in empathy was not feasible. Furthermore, since the study was conducted at a single institution, the findings may not apply to students outside NCSU's Poole College of Management. Lastly, the reliance on self-reported data may have introduced response bias.

Several assumptions underpin this study. It was assumed that participants provided honest and accurate responses in the pre- and post-test surveys. Additionally, the simulation was expected to effectively replicate the experiences associated with aging or living with a disability. Finally, it was assumed that the validated survey tool accurately measured any changes in empathy levels.

These delimitations and limitations were crucial for refining the study's scope and ensuring its relevance within the specified academic context. These limitations should be considered when interpreting the study results and assessing their applicability to broader contexts. There were also limitations in the development of the quantitative method on which

this trial is based. The concerns expressed here were negligible in the data analysis, however, they may not be in this new study population (see Tables 4 and 5).

Role of the Researcher

My journey as a medical educator and HR professional spans over 30 years, weaving together a rich tapestry of experiences that uniquely qualify me to undertake this study. My personal connection to the issues at hand runs deep: as a member of the aging workforce and through my spouse's disability, I have witnessed firsthand the critical importance of effective workplace accommodations. This connection fuels my passion for advocating for supportive systems that empower individuals with disabilities and older adults.

My personal bias in performing this active learning exercise with multiple other learner demographics leads me to believe that this participant population will gain a deeper understanding of workplace accommodations. I believe this experiential learning exercise will reinforce their understanding of the legal ramifications on their future employers for failing to engage in an adequate interactive process. My collaborative inquiry partners offer their perspectives on the evaluation of the simulation to aid in mitigating the impact of my biases on this work.

In my role of teaching undergraduate students in business, health administration, and engineering, I see a glimmer of hope for the future. These students represent the next generation of managers, and I am dedicated to equipping them with the understanding and skills necessary to foster inclusive workplaces. My experience leading teams that include individuals older than myself has allowed me to mentor many through transitions into retirement and new career paths. This has reinforced my belief in the value of diversity, not just as a statistic but as a vital element of a thriving organizational culture.

Table 4

Limitations and Potential Impacts

Limitation	Potential Impact
Sample size	One PDSA cycle may be restricted to HR-concentrated participants (est. $n \leq 30$), limiting generalizability. Two PDSA cycles would include a broader range of business majors (est. $n \leq 100$), improving generalizability. A small sample size challenges the robustness of quantitative results.
Subject demographics	Participants may vary significantly in age, affecting empathy due to differing levels of life experience. As young adults are still undergoing brain development, their responses may be influenced by ongoing cognitive changes. Hendy (2021) highlighted that web-based simulation activities might affect genders differently.
Prior exposure	Students with prior experience with aging or disabled populations might not show a significant change in empathetic responses, potentially skewing results.
Intrinsic motivation	Variation in intrinsic motivation levels among students can influence their engagement with the simulation. Rogmans and Abaza (2019) found that engagement levels in simulation-based activities were influenced by the learner's intrinsic motivation.

Table 5

Assumptions & Rationale

Assumption	Rationale
Participant engagement	Participants are expected to engage actively in the simulation and discussions about the experiences of aging and disabled individuals. Honesty and lack of bias in responses are anticipated to ensure accurate data collection.
Simulation is effective	Simulation-based training is recognized as an effective tool for enhancing skills and knowledge, as supported by Abildgren et al. (2022) and Salas et al. (2009).
Safety	Simulation provides a safe and controlled environment for learners to practice without real-world risks, according to Alinier & Oriot (2022), Braunstein et al. (2022), and Salas et al. (2009).
Competency	Simulation is used to assess and evaluate competency in various skills, as outlined by Isaak et al. (2018) and Huang et al. (2022).
Complex scenarios	Simulation effectively replicates rare or complex scenarios that are not easily encountered in real life, as noted by Isaak et al. (2018), Merica (2012), and Maijanen (2020).
Real-world situations	Simulation helps learners grasp the complexities of real-world situations, as demonstrated by Brazil et al. (2023), Martinelli et al. (2018), Lainema & Nurmi (2006), and Sundararajan (2021).
Process improvement	Simulation is a valuable tool for testing and refining strategies and processes, as highlighted by Brazil et al. (2023) and Faria et al. (2008).

Ultimately, my commitment to this research is rooted in my desire to raise awareness among future leaders in higher education and entrepreneurship. I aim to create a lasting impact, ensuring that the voices of those who are aging or living with disabilities are not only heard but also actively integrated into the fabric of our workplaces. By fostering empathy and understanding, we can build a more inclusive future for all.

Summary

This study evaluated a tool designed to enhance empathetic responses among healthcare students toward aging and disabled populations. Utilizing simulation-based learning, which has proven effective in various business disciplines, students gained practical experience in a risk-free environment. Guided by Kolb's experiential learning model, this research sought to understand:

RQ1. To what extent does participation in an empathy simulation influence how undergraduate business students experience empathy toward disabled employees they may supervise in the future?

RQ2. What are the potential limitations and challenges of using simulations as a tool for improving empathy toward disabled employees in business students based on Kolb's experiential learning model?

RQ3. How do future business leaders perceive and reflect on their learning experiences from empathy simulations, and how do these reflections contribute to their development of empathy toward disabled employees?

The study employed pre- and post-activity surveys using a 7-point Likert scale, adapted from Chen et al. (2015), and addressed potential limitations in simulation implementation. The research, conducted under protocol number 23-000828, received ethical approval from the East

Carolina University & Medical Center IRB and secondary approval from the NCSU IRB before commencing. Written consent was waived due to the low-risk nature of the study, and participants will be blinded to the study title to avoid bias.

Participants were undergraduate business majors at NCSU, not enrolled in courses taught by myself or my faculty advisor, and participation was voluntary with no incentives offered. Data confidentiality was maintained through aggregated demographic reporting and deidentification of subject numbers. The methodology and simulation exercise used in Phase II mirrored those of the baseline study conducted in Fall 2021, with data analyzed through descriptive and inferential statistics.

This study focused on enhancing business students' empathy for employees requiring workplace accommodation by leveraging simulation as an educational strategy. Phase I sought to assess changes in empathy levels through pre- and post-simulation evaluations while also investigating the simulation's potential to cultivate empathetic leadership in business contexts. Recognizing challenges such as limited sample size, diverse participant demographics, and varying levels of intrinsic motivation, the research aimed to address gaps in understanding workplace accommodations. By doing so, it promoted more inclusive management practices and fostered greater diversity in organizational leadership.

CHAPTER 4: QUALITATIVE AND QUANTATIVE RESULTS

The focus of this study was the improvement of empathetic responses in business students managing and working with employees needing accommodation in the workplace, specifically using simulation as an educational tool. The study addressed a critical gap in existing literature by offering an effective method for cultivating empathy in future business leaders. While similar studies have been conducted with pharmacy students (Chen et al., 2015), no prior study has explored how to develop empathy among business students. This gap was significant because the absence of empathetic leadership often perpetuates organizational costs, including lower employee engagement, higher turnover, and diminished workplace inclusivity. By combining practical and academic perspectives, this research not only contributed to the theoretical understanding of empathy development but also provided actionable insights for organizations aiming to foster inclusive and adaptive management practices.

To address the research questions, the study employed a mixed-methods design structured with three iterative phases. Data collection involved pre- and post-survey questionnaires with quantitative data modeled after Chen et al. (2015)'s JSE-HPS survey, with references to clinicians adapted to focus on managers. Additional qualitative questions were added to understand the value perceived by the participants as they prepared to enter the workforce. In this study, the Plan-Do-Study-Act (PDSA) cycles served as a systematic and iterative method for continuous learning and enhancement (Deming, 1986). This structured four-step model facilitates ongoing process improvements by testing, implementing, and refining changes to achieve desired outcomes (Taylor et al., 2014).

This chapter presents the findings of the study, including a brief description of the pilot study, data collection procedures, the data analysis process, and participant demographics.

Research Questions

The following research questions guided the study:

1. What are the key components of an effective empathy simulation for business students using Kolb's experiential learning model?
2. What are the potential limitations and challenges of using simulations as a tool for improving empathy toward disabled employees in business students?
3. How do future business leaders perceive and reflect on their learning experiences from empathy simulations, and how do these reflections contribute to their development of empathy?

Pilot Study

The pilot study involved nine undergraduate business students who participated in a prototype simulation as part of an introductory human resources course. The simulation replicated challenges faced by disabled and aging employees, such as limited mobility, sensory impairments, and physical resistance (Chen et al., 2015). Participants' feedback highlighted areas for improvement, including clearer instructions and greater alignment of activities with workplace scenarios. Based on this feedback, the adjustments described in Chapter 3 of this document, such as the focus on physical limitations, were made to ensure the simulation's relevance and usability for the full study. Additionally, the pilot study identified technical difficulties in simulation execution, which were addressed by refining the structure and duration of activities.

Data Collection

Data were collected over one academic semester, Spring 2025, from participants recruited in an undergraduate business course at NC State University's Poole College of

Management. The final sample included students who met the inclusion criteria and completed all required study components. These criteria included that participants must be at least 18 years old and proficient in English with access to a device with internet connectivity to complete the study. Before the study, Institutional Review Board (IRB) waivers were obtained from both East Carolina University and North Carolina State University to ensure compliance with ethical research standards (see Appendix A). These waivers allowed the study to proceed without requiring individual consent from participants, streamlining the research process while maintaining ethical oversight. By securing these approvals, the study was able to focus on data collection and analysis within the approved guidelines.

To maintain consistency in information delivery and timing throughout the simulation, a standardized PowerPoint presentation was developed (see Appendix D). This presentation ensured that all learners received uniform instructions, reducing variability in how the simulation was introduced and conducted. The use of a standardized format also reinforced key learning objectives and improved the overall structure of the activity.

Study participation language, as approved by the ECU IRB, was incorporated into both the pre- and post-activity presentations (see Appendix D). This language was presented on designated slides to inform participants about their involvement in the study. Including this information in multiple phases of the activity helped reinforce transparency and ethical compliance.

Before the class session began, the course instructor read a prepared script to learners, as outlined in the slides on Appendix D. The script was designed to orient participants to the simulation, clarify expectations, and ensure they were fully prepared for the learning experience.

By providing clear instructions in advance, the study aimed to create a structured and effective simulation environment.

To ensure consistency in the simulation, the PowerPoint presentation was launched before the arrival of the first participant. This approach allowed for a seamless transition into the activity and ensured that all participants received the same preliminary instructions. By setting up the presentation in advance, the study maintained a standardized experience across all sessions.

To facilitate deidentification of data, numbered sticks were placed on a table for participants to select upon arrival. This method allowed participants to anonymously associate their data with a unique identifier anonymously, preserving confidentiality while enabling tracking throughout the study. Self-selection of numbers also ensured a randomized assignment process, reducing potential bias in participant identification.

All materials required for the simulation were strategically placed on desks in the classroom before the session. These materials included button-down shirts and a step stool, which were essential for the completion of the activity. By organizing the necessary items in advance, the study minimized disruptions and allowed participants to focus fully on the simulation experience.

On the day of the study, the data collection process consisted of three stages:

1. Pre-Simulation Questionnaire: Captured baseline empathy levels using a validated empathy scale tailored to workplace contexts (see Appendix B).
2. Simulation Participation: Students engaged in activities simulating physical impairments, including sensory limitations and dexterity challenges, emphasizing the difficulties disabled employees may face in the workplace.

3. Post-Simulation Questionnaire: Combined Likert-scale questions measuring empathy with open-ended qualitative questions designed to capture students' reflections on the experience (see Appendix C).

Adjustments to the original plan included offering flexible scheduling for simulation sessions to accommodate student availability and ensure maximum participation. However, all participants attended the study on the scheduled day.

The PowerPoint presentation concluded with the ECU IRB-approved post-study language, ensuring that participants received the necessary information regarding the study's completion (see Appendix D). This step reinforced ethical research practices by providing transparency about the study's objectives and data handling. By including this language at the end of the session, participants were reminded of their role in the research and any follow-up procedures.

Following the simulation, the classroom was carefully reset to its original configuration. This ensured that the learning environment remained organized and prepared for subsequent activities. Restoring the space also helped maintain a professional and structured setting for future participants or classes using the room.

Deidentified demographic data were collected from the course instructor to support analysis while maintaining participant confidentiality. Additionally, notes and personal reflections were drafted to capture observations and insights from the simulation. These reflections provided qualitative context to the collected data, enriching the overall findings of the study.

To facilitate data analysis, all Qualtrics survey responses were exported to Excel. This process allowed for efficient organization and examination of participant feedback. By

structuring the data in Excel, the research team could systematically analyze trends, correlations, and key takeaways from the simulation.

Data Analysis

The data analysis process integrated both quantitative and qualitative methods, focusing on:

1. Quantitative Analysis: Pre- and post-simulation questionnaire data were analyzed using paired t-tests in SPSS to identify statistically significant changes in empathy scores.

These results directly address research questions 1 and 2.

2. Qualitative Analysis: Responses to open-ended questions in the post-simulation questionnaire were thematically coded in NVivo. Codes were derived inductively, aligning with Kolb's experiential learning model to identify key insights from students' reflections. These responses inform research question 3.

The qualitative data from the study were analyzed using a thematic analysis approach guided by a codebook method. The responses to the open-ended questions were systematically reviewed and categorized into distinct themes through an iterative coding process. First, the data were read multiple times to ensure familiarity with the content. Initial codes were generated by identifying recurring words, phrases, and concepts that reflected key ideas in the participants' responses.

The coding process followed an inductive approach, allowing themes to emerge naturally from the data rather than being pre-defined. Each response was labeled with one or more codes representing the underlying concepts. Similar codes were grouped to form broader categories, and patterns across the data were identified. The emergent themes were then refined and organized into overarching categories that captured the core messages conveyed by the participants.

Table 6

Qualitative Codebook Codes and Examples

Code Name	Code Definition	Example Quotes	Researcher Notes
Empathy and Compassion	Expressions of empathy, compassion, and emotional understanding toward individuals with disabilities or aging-related challenges.	"Place yourself in others' shoes every day to gain more perspective on life and in your career path." "Place yourself in others' shoes every day to gain more perspective on life and in your career path."	Demonstrates how personal connections shape empathy.
Family or Friend Experience (Child Code)	Personal experiences with family members or friends with disabilities or age-related conditions.	"I have a close friend who has epilepsy. It made my friend group really start to understand and change some of what we were doing so she could be healthy as much as possible."	Sub-theme of personal experiences.
Professional Experience (Child Code)	Experiences with disabled or aging individuals in a work or volunteer setting.	"At Walmart, I worked with tons of older individuals. Sometimes I feel bad for them, but at the same time, it can be irritating when they do not work as well as others."	Sub-theme of personal experiences.
Patience and Flexibility	Calls for being patient, flexible, and understanding with individuals who may have different needs or face limitations.	"Walking, driving, thinking, speaking, etc. Just giving them more patience and grace is key." "I have worked with older individuals where learning technology was a challenge. Patience was the best way to handle those situations."	Emphasizes adaptive management practices.

Table 6 (continued)

Code Name	Code Definition	Example Quotes	Researcher Notes
Legal and Procedural Knowledge	References to laws, policies, and procedures related to disability rights and accommodations	"Learn about the ADA laws before graduating for the sake of your role as HR, but also for your role as an employee." "It was interesting to see the legal process and the side of the employer and employee during the ADA situation at my internship."	Highlights legal literacy and procedural awareness.
Representation and Inclusion	Emphasis on the need for representation, inclusion, and consideration of diverse perspectives.	"Having more representation can help employers and the company make decisions that include them." "All points of view are important when making the company better."	Reflects diversity, equity, and inclusion (DEI) principles.
Caution and Skepticism	Expressions of cautiousness or skepticism regarding accommodation requests or potential exploitation of policies.	"It's important to recognize others' issues and try your best to help them, but don't be fooled by someone with ill intentions." "Employees feel more valued with empathetic management but be sure not to be taken advantage of. Make sure stories aren't fabricated; look into the facts and approach situations with care."	Balances empathy with accountability.
Practical Advice for Future Managers	Suggestions or advice offered to future HR professionals on handling disability accommodation and workplace empathy.	"Try to be understanding and respectful to what employees might be going through, even if it is something you have not experienced yourself." "Listen and understand before you jump into actions." "Ask for help!"	Practical guidance for HR practice.

To ensure consistency, the coded data were reviewed to confirm that all responses were categorized accurately and comprehensively. Representative quotes were selected to illustrate each theme, providing direct evidence of participants' perspectives. This structured codebook method facilitated the systematic organization and interpretation of the qualitative data, ensuring the findings were both transparent and reproducible. The mixed-methods approach allowed for a comprehensive examination of the impact of the simulation, combining numerical trends with narrative insights.

Demographics

The study included 19 participants with diverse demographic characteristics. The majority of the participants were female (89%), while 11% were male (see Figure 2). In terms of academic standing, 21% were juniors, and 79% were seniors (see Figure 3). All participants were enrolled in the Human Resources (HR) concentration course.

The ethnic composition of the sample consisted of one individual of Indian descent, one African American participant, and 17 Caucasian participants. The ages of the participants ranged from 20 to 22 years old. Specifically, three participants were 20 years old, 14 participants were 21 years old, and two participants were 22 years old. The average age of the group was approximately 21 years.

Regarding prior experience with disability, 74% of participants reported previous exposure or interactions with individuals with disabilities, either in professional or personal contexts. Their experiences ranged from working with elderly individuals and people with physical or cognitive impairments to having family members or friends with disabilities. Several participants also referenced workplace experiences involving accommodations and empathy for disabled colleagues or customers.

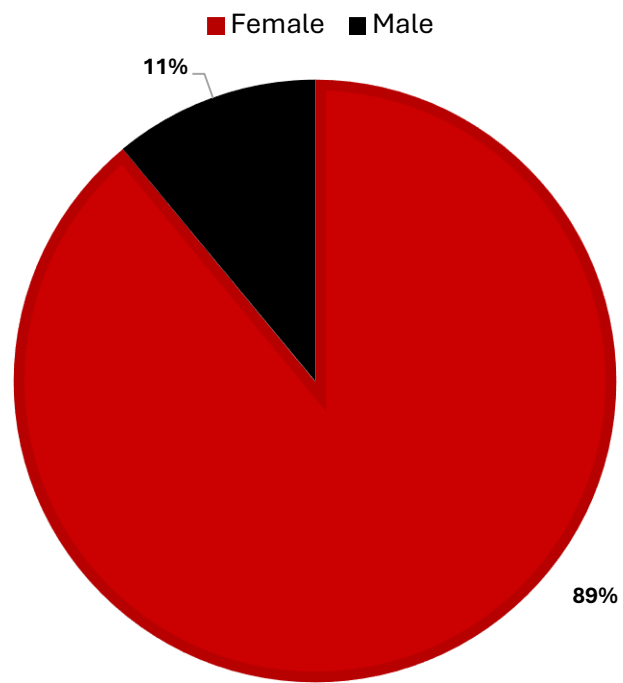


Figure 2. Participant gender demographics

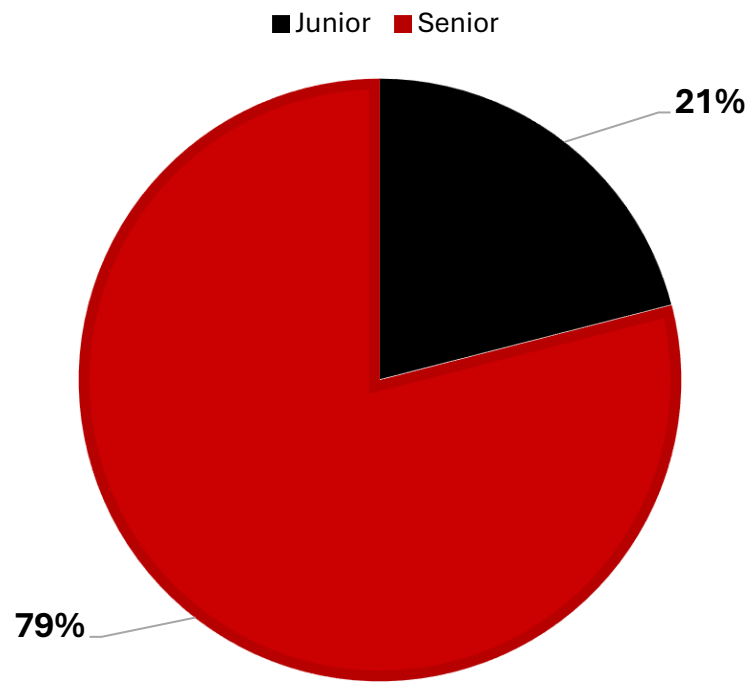


Figure 3. Participant class standing

Data Analysis of Research Questions

Research Question 1

What are the key components of an effective empathy simulation for business students using Kolb's experiential learning model?

The findings from this study indicate that an effective empathy simulation for business students, guided by Kolb's experiential learning model, incorporates several key components: immersive experiential activities, guided reflective opportunities, and structured debriefing. The quantitative data demonstrate that the simulation significantly enhanced participants' overall empathy. A paired t-test comparing pre- and post-simulation empathy scores revealed a statistically significant increase ($p = 0.015$), with the mean score rising from 5.25 (SD = 0.16) pre-simulation to 5.40 (SD = 0.26) post-simulation. While this result confirms the simulation's overall effectiveness, individual question-level analysis did not yield statistically significant changes, suggesting that the empathy improvement was more general rather than specific to individual empathy dimensions (see Table 7).

The simulation's effectiveness is closely tied to its alignment with Kolb's experiential learning cycle, which includes concrete experience, reflective observation, abstract conceptualization, and active experimentation. The immersive nature of the simulation—requiring students to assume the perspectives of employees with disabilities and make managerial decisions based on limited information—created authentic experiences. These activities provided learners with a tangible context for empathy development, making the abstract concept of workplace accommodations more relatable.

Equally important to the simulation's success were the structured reflective opportunities built into the design. Students engaged in guided reflection both during and after the simulation,

Table 7

Pre-/Post Modified Jefferson Scale of Empathy Assessment Data						
Question		M	SD	df	t Stat	P
Is it necessary for a manager to be able to comprehend someone else's experiences?	Pre	6.42	0.48	18	-1.84	0.08
	Post	6.58	0.26			
I am able to express my understanding of someone's feelings.	Pre	6.00	0.44	18	-1.00	0.33
	Post	6.11	0.43			
I am able to comprehend someone else's experiences.	Pre	5.89	0.43	18	-1.46	0.16
	Post	6.11	0.43			
I will not allow myself to be influenced by someone's feelings when determining the best accommodations.	Pre	3.58	1.37	18	-1.30	0.21
	Post	3.89	2.88			
It is necessary for a manager to be able to express an understanding of someone's feelings.	Pre	6.16	0.58	18	0.44	0.67
	Post	6.11	0.32			
It is necessary for a manager to be able to value someone else's point of view.	Pre	6.53	0.59	18	0.00	1.00
	Post	6.53	0.47			
I believe that caring is essential to building a strong relationship with employees.	Pre	6.42	0.59	18	0.44	0.67
	Post	6.37	0.47			
I am able to view the world from another person's perspective.	Pre	5.84	0.81	18	-0.62	0.54
	Post	5.95	0.72			
Considering someone's feelings is not necessary to provide leadership.	Pre	2.16	1.03	18	-1.14	0.27
	Post	2.58	3.37			

Table 7 (continued)

Question		M	SD	df	t Stat	P
I am able to value someone else's point of view.	Pre	6.26	0.20	18	1.00	0.33
	Post	6.16	0.36			
I have difficulty identifying with someone else's feelings.	Pre	2.32	1.34	18	-1.52	0.14
	Post	2.84	3.25			
To build a strong relationship with employees, it is essential for a manager to be caring.	Pre	6.05	0.61	18	-1.71	0.10
	Post	6.26	0.32			
It is necessary for a manager to be able to view the world from another person's perspective.	Pre	5.53	0.82	18	-1.46	0.16
	Post	5.68	0.54			
A manager should not be influenced by someone's feelings when determining the best treatment.	Pre	3.68	3.23	18	-0.49	0.63
	Post	3.79	3.40			

which allowed them to process their experiences and connect them to managerial empathy. The debriefing process encouraged learners to articulate their emotional and cognitive reactions, fostering deeper insight into the complexities of managerial decision-making and its impact on employees.

The results further indicated that effective empathy simulations should challenge learners to engage with difficult managerial decisions involving human emotions and workplace dynamics. Although individual survey items did not show statistically significant gains, qualitative feedback revealed that participants found the simulation compelling and thought-provoking. This underscores the importance of qualitative reflection and discussion in solidifying the empathy gains experienced through simulation.

Overall, the study highlighted that the key components of an effective empathy simulation for business students include immersive experiential activities that mirror real-world managerial challenges, structured opportunities for reflection, and meaningful debriefing. The alignment with Kolb's experiential learning cycle ensured that students not only experienced empathy but also engaged in reflective and abstract learning processes, enabling them to apply empathetic leadership skills in future managerial roles.

Research Question 2

What are the potential limitations and challenges of using simulations as a tool for improving empathy toward disabled employees in business students?

While this study demonstrated the effectiveness of simulations in fostering empathy toward disabled employees, participant feedback reveals several limitations and challenges. One primary challenge was the variability in individual responses to the simulation experience. Although the overall empathy scores showed a statistically significant increase, qualitative data

suggests that the impact was not uniformly distributed. Some students deeply connected with the experience, while others perceived it as a task-oriented exercise. For example, one participant advised future students to “place yourself in others’ shoes every day to gain more perspective on life and in your career path,” demonstrating a meaningful shift in empathy. However, others viewed the exercise more pragmatically, stating that managers should “be skeptical if there is a valid reason to be” when accommodating disabilities. This range of responses highlights the challenge of ensuring consistent emotional engagement across participants.

Another limitation was the potential for surface-level learning. Although many students described the simulation as eye-opening, some responses revealed a more transactional or compliance-based perspective. One student emphasized the legal aspects, advising their peers to “learn about ADA laws before graduating for the sake of your role as HR, but also for your role as an employee.” While legal literacy is valuable, it may indicate a focus on procedural compliance rather than genuine empathy. Similarly, another participant suggested that “it is important to value and accommodate employees even if it is costly because the repercussions if you do not accommodate them can be even more costly.” While this statement underscores the business rationale for inclusion, it also reflects a potential emphasis on risk mitigation over genuine compassion.

The study highlights the inherent difficulty of fully replicating the lived experiences of individuals with disabilities. Although the simulation introduced realistic workplace challenges, some students acknowledged that it could not capture the ongoing struggles faced by disabled individuals. One participant remarked, “You don’t notice how much the disabled struggle until it’s pointed out,” demonstrating the simulation’s effectiveness in raising awareness. However, another participant noted, “Unless you’ve gone through something, you never know how it

affects their daily life,” highlighting the gap between simulated and real-world experiences. This suggests that while simulations can enhance empathy, they may not fully bridge the experiential gap between participants and individuals with disabilities.

Practical challenges related to time constraints and resource availability also emerged. The effectiveness of the simulation relied heavily on the quality of the reflective debriefing. Some students expressed the need for more time and deeper discussions, while others recognized the complexity of managing accommodations. One participant observed, “Accommodations are a complex situation, and it is a manager's job to decide on accommodations as well as keep documents for them and the reasons they are needed.” This comment underscores the necessity of embedding detailed discussions on both empathy and legal processes into the learning experience, which can be time-intensive.

Personal experiences influenced the simulation’s effectiveness. Several participants who had personal connections to individuals with disabilities described a heightened emotional impact. One student reflected on their grandfather’s stroke, stating, “It’s been hard watching him go through it and it has definitely made me more empathetic towards people going through similar struggles.” Another participant with experience working at a rehabilitation unit noted, “I have a ton of empathy for the elderly and the disabled and their struggles with everyday living conditions.” In contrast, participants without prior exposure sometimes struggled to connect as deeply, highlighting the challenge of ensuring consistent emotional engagement.

Overall, while this study confirms that simulations are a valuable tool for fostering empathy, several limitations were evident. Variability in participant responses, the potential for surface-level learning, and the difficulty of fully replicating authentic disability experiences highlight the need for supplementary educational strategies. Incorporating personal narratives,

direct interactions with disabled individuals, and more extensive debriefing sessions could strengthen the long-term empathy gains and ensure a more consistent and meaningful learning experience.

Research Question 3

How do future business leaders perceive and reflect on their learning experiences from empathy simulations, and how do these reflections contribute to their development of empathy?

The reflections of future business leaders on their empathy simulation experiences reveal a transformative impact on their understanding of disability and accommodation, as well as their broader approach to empathy in the workplace. Through these simulations, participants articulated a deeper awareness of the challenges faced by individuals with disabilities and a recognition of the managerial responsibility to foster inclusive environments. One participant advised, “Place yourself in others’ shoes every day to gain more perspective on life and in your career path,” highlighting how the simulation encouraged a lasting mindset of empathy beyond the classroom. Another participant emphasized the practical application of empathy in business settings by noting, “It is important to value and accommodate employees even if it is costly because the repercussions if you do not accommodate them can be even more costly.” This reflection demonstrates how the simulation cultivated not only compassion but also a nuanced understanding of the legal and financial implications of accommodation.

Participants also shared personal experiences that shaped their reflections, drawing parallels between simulation and real-life encounters. One learner reflected on a family member’s post-stroke struggles, stating, “It’s been hard watching him go through it and it has definitely made me more empathetic towards people going through similar struggles.” This connection between personal experiences and the simulated scenarios reinforced the emotional

impact of the learning activity. Similarly, another participant shared how the simulation made them recognize the pervasive but often invisible struggles of individuals with disabilities: “You don’t notice how much the disabled struggle until it’s pointed out.” This sentiment underscores the power of experiential learning to unveil hidden biases and foster deeper sensitivity to others’ experiences.

The reflections also revealed participants’ increased recognition of the complexity of workplace accommodations. One learner expressed that “accommodations are a complex situation, and it is a manager’s job to decide on accommodations as well as keep documents for them and the reasons they are needed.” This demonstrates that the simulation effectively highlighted both the human and administrative dimensions of disability accommodation, preparing future leaders to navigate these responsibilities with empathy and diligence.

Participants frequently emphasized the importance of patience, open communication, and grace when working with individuals who have disabilities or age-related limitations. One learner shared their experience of working with older employees, stating, “Just giving them more patience and grace is key.” Another participant noted, “Listen and understand before you jump into actions,” signaling a shift toward more thoughtful and empathetic managerial decision-making.

Overall, the reflections indicate that empathy simulations fostered a profound awareness of the lived experiences of individuals with disabilities and reinforced the importance of compassionate leadership. The participants’ narratives suggest that this experiential learning not only cultivated emotional empathy but also enhanced their practical understanding of inclusive management practices, preparing them to be more compassionate and effective business leaders.

The qualitative data gathered from both simulation feedback and personal/professional experience reflections reveal several overarching themes that highlight the students' evolving perspectives on empathy, accommodations, and inclusive management practices. By synthesizing the themes from both sets of qualitative responses, clear patterns emerged regarding the impact of experiential learning and real-world exposure on students' empathy and managerial outlook.

Theme 1. Empathy and Compassion as Core Takeaways

A prominent theme across both qualitative datasets was the development of empathy and compassion. Responses from the simulation exercise frequently emphasized the emotional impact of "walking in someone else's shoes," with students expressing increased sensitivity toward the struggles of employees with disabilities. Similarly, participants reflecting on personal or professional experiences with aging or disabled individuals highlighted how witnessing these challenges firsthand fostered a deeper sense of compassion. Stories of family members facing mobility issues, dementia, or workplace accommodations often prompted students to express a heightened appreciation for patience and kindness in managerial practices.

Many students described how the simulation exercise prompted a meaningful shift in their perspective on disability and aging. By temporarily experiencing physical or cognitive limitations, they gained a greater appreciation for the daily struggles faced by individuals with disabilities. One student captured this realization by stating: "Place yourself in others' shoes every day to gain more perspective on life and in your career path."

Others echoed this sentiment, noting that even brief exposure to simulated challenges increased their capacity for empathy: "To take other people's feelings/abilities into consideration

even if you don't deal with those issues on a daily basis," and "Try to be understanding because unless you've gone through something, you never know how it affects their daily life."

These reflections illustrate how simulation-based learning can foster a deeper sense of compassion, encouraging future managers to approach employee accommodation requests with more sensitivity and patience. In addition to the simulation, many students drew from personal experiences with family members or colleagues who had disabilities or were aging. These real-world encounters further reinforced their empathy and shaped their views on inclusive management practices. For instance, one student recounted how their father's accident transformed their perspective on workplace accommodations:

My dad got into a wreck and was severely concussed and broke a bone in his wrist. He was out of work until he was healed from the concussion but still was in a cast and sling. His work allowed him to wear clothes that did not require a button down and elastic pants until he could button up his shirts again.

Another student described how witnessing their grandfather's post-stroke struggles made them more patient and compassionate:

My grandpa had a stroke about 2 years ago and he is still struggling with his walking, and he is unable to use his right hand for anything. It's been hard watching him go through it, and it has definitely made me more empathetic towards people going through similar struggles.

Others shared experiences working with aging individuals or those with disabilities, emphasizing how these encounters taught them to prioritize patience and understanding: "I have worked with several older individuals where learning our technologies has been a challenge.

Patience has been the best way to handle those situations. In addition, trying to explain those things in terms they understand."

Another student had a similar experience but emphasized that this could be challenging in the workforce: "At Walmart, I have worked with tons of older individuals and sometimes I feel bad for them, but at the same time, it can be irritating when they do not work as well as others."

These personal anecdotes reveal how direct experiences with disability and aging shape students' attitudes, making them more compassionate and considerate in their professional outlook. While empathy was a central takeaway, several students also acknowledged the complexity of managing disability accommodations. They recognized that while compassion is essential, employers must balance empathy with practical decision-making. One student noted: "It is important to value and accommodate employees even if it is costly because the repercussions if you do not accommodate them can be even more costly."

Another reflected on the need for empathy while maintaining a degree of discernment: "Employees feel more valued with more empathetic management but be sure to not be taken advantage of as well. Make sure stories aren't fabricated; look into the facts and approach situations with care."

These responses highlight students' growing awareness of the dual responsibility managers hold—to foster an empathetic workplace while ensuring fair and effective decision-making. The consistent reflections from students demonstrate that both simulated and real-world exposure significantly enhance empathy and emotional intelligence. Whether through personal stories, workplace experiences, or the simulation itself, learners expressed a deepened sense of compassion and a stronger commitment to inclusive leadership. Student insights capture this lasting impact: "I would advise [future students] to care and have empathy for their employees

when they ask for an accommodation." From another: "Just be caring of everyone. You never know what they're going through. Always have open and honest communication."

These reflections underscore the transformative power of experiential learning in fostering more compassionate and socially responsible future managers. This reflection extended beyond the individual students' experience. During the simulation and within their qualitative responses, students began to openly grapple with their positionality in an organization and their responsibility to ensure equitable policies for present and future colleagues. They noted the importance of exploring different perspectives and how broadening their understanding of another's experience was a step toward personal and professional growth.

Theme 2. Perspective-taking and Experiential Growth

Both datasets revealed a strong emphasis on the value of perspective-taking, with students describing how the simulation and their personal experiences encouraged them to adopt alternative viewpoints. The simulation feedback highlighted how the exercise made students more mindful of the daily realities of living with a disability, fostering a deeper understanding of the accommodations and support employees might require. One student noted, "To take other people's feeling/abilities into consideration even if you don't deal with those issues on a daily basis. Also, if someone comes to you with a disability or an injury to at least enter the interaction phase." This illustrates how the experience encouraged learners to engage with empathy rather than avoidance. Another participant reflected, "Place yourself in others' shoes every day to gain more perspective on life and in your career path," underscoring the transformative power of simulated experiences in cultivating compassionate leadership.

The personal and professional experiences shared by students further reinforced the importance of perspective-taking. Many described how witnessing or directly supporting

individuals with disabilities profoundly shaped their empathy and inclusivity. For example, one participant recounted:

My dad got into a wreck and was severely concussed and broke a bone in his wrist. He was out of work until he was healed from the concussion but still was in a cast and sling, and his work allowed him to wear clothes that did not require a button-down and elastic pants until he could button up his shirts again.

This account reflects how exposure to real-world accommodations can influence learners' awareness of the flexibility required to support employees effectively. Another student shared, "I have a close friend who has epilepsy. It made my friend group really start to understand and change some of what we were doing so she could be healthy as much as possible." Responses like these demonstrated how personal relationships can foster empathy and promote behavior changes that prioritize inclusivity.

Across both datasets, learners expressed a growing recognition of the complexities of accommodation and the need for managers to act with empathy and fairness. One student advised, "It is important to value and accommodate employees even if it is costly because the repercussions if you do not accommodate them can be even more costly." This pragmatic perspective highlights how the simulation not only encouraged compassion but also reinforced the legal and business imperatives of accessibility. Another student emphasized the balance of empathy and diligence, stating, "Employees feel more valued with more empathetic management, but be sure to not be taken advantage of as well and make sure stories aren't fabricated; look into the facts and approach situations with care." This reflects a nuanced understanding of disability accommodation, recognizing the need for both compassion and managerial discernment.

The experiential growth fostered through both the simulation and real-life exposure resulted in learners becoming more attuned to the struggles faced by individuals with disabilities. The simulation, in particular, provided a safe but impactful environment for students to practice perspective-taking, while their personal experiences grounded these insights in reality. As one student succinctly stated, “Try to be understanding because unless you’ve gone through something, you never know how it affects their daily life.” This comment encapsulates the core of this theme that experiential growth through perspective-taking leads to more compassionate and thoughtful future managers. Furthermore, the emphasis on experiential growth and learning highlighted how students were beginning to think about the nuance of navigating accommodations within the workplace and how they might balance empathy with practical logistics in the future.

Theme 3. Balancing Empathy with Pragmatism

A nuanced theme of balancing empathy with pragmatism emerged clearly in both datasets, highlighting students' evolving understanding of disability management. While many advocated for compassionate and accommodating management practices, they also demonstrated an awareness of the need for caution, fairness, and accountability. This theme reflects a growing managerial maturity as students recognized that while empathy is essential, it must be tempered with practical considerations, such as legal compliance, operational realities, and the potential for misuse of accommodations.

Several students directly expressed this balance by acknowledging the importance of being empathetic while remaining discerning. One participant advised, “I would advise [future students] to care and have empathy for their employees when they ask for an accommodation. However, it is okay to be skeptical if there is a valid reason to be.” This statement captures the

complexity of managerial decision-making, where empathy must coexist with a duty to protect the organization from potential exploitation. Another student echoed this sentiment, stating, “Employees feel more valued with more empathetic management, but be sure to not be taken advantage of as well and make sure stories aren’t fabricated; look into the facts and approach situations with care.” This reflects a pragmatic recognition that while compassion fosters trust, managers must still verify claims and maintain appropriate oversight.

The simulation experience also encouraged students to consider the financial and operational implications of accommodations. One participant emphasized the importance of balancing cost with compassion, noting, “It is important to value and accommodate employees even if it is costly because the repercussions if you do not accommodate them can be even more costly.” This statement reveals an understanding of the potential legal and reputational risks of failing to provide reasonable accommodations while also recognizing that supporting employees can ultimately benefit the organization.

Beyond the simulation, students’ reflections on real-world experiences further illustrated this theme. One participant shared an experience from their healthcare internship, where an employee was initially granted an accommodation but was later found unable to perform the essential functions of the job. They reflected, “It was interesting to see the legal process and the side of the employer and employee.” This first-hand exposure to the complexities of ADA compliance revealed the challenges managers face when balancing fairness with operational demands.

One student's experience working at Walmart offers a particularly candid reflection on this balance. They described their mixed feelings about working alongside older colleagues, stating, “At Walmart, I have worked with tons of older individuals, and sometimes I feel bad for

them, but at the same time, it can be irritating when they do not work as well as others.” This honest admission captures the internal tension managers may face when empathy for aging or disabled employees conflicts with the practical frustrations of managing productivity. The student’s ability to recognize both their compassion and their irritation reveals a nuanced awareness of the challenges inherent in fostering inclusive workplaces. Rather than simply expressing sympathy, the student’s reflection demonstrates a deeper grappling with the realities of workforce diversity—acknowledging that while patience and accommodation are important, they can sometimes come into conflict with the operational demands of the business. This type of reflection signals an emerging managerial maturity, as students begin to confront the complexities of balancing fairness with efficiency in real-world settings.

Ultimately, this theme underscores the students’ evolving managerial sophistication. Their reflections reveal an understanding that while empathy is essential in creating inclusive workplaces, it must be paired with accountability, due diligence, and a clear grasp of legal and operational considerations. The ability to hold space for both compassion and pragmatism reflects a maturing perspective on the realities of managing disability accommodations in the workplace.

Both sets of responses underscore the importance of communication and collaboration in managing disability accommodations. In the simulation feedback, students frequently emphasized the value of open dialogue, listening, and seeking help when needed. Similarly, reflections on professional experiences revealed that students who had worked in healthcare or customer service environments recognized the importance of clear communication in supporting individuals with disabilities. This theme highlights students’ growing recognition of collaborative problem-solving as a key component of effective and inclusive management.

Thematic analysis of the combined qualitative data reveals that both simulated and real-world experiences significantly contribute to students' empathy development, perspective-taking abilities, and understanding of accommodation practices. The recurring themes of empathy, inclusivity, and communication highlight the effectiveness of experiential learning in preparing future managers to create supportive, legally compliant, and compassionate workplaces. The presence of balanced empathy responses further indicates that students are internalizing the complexity of disability management, recognizing the need for both compassion and operational practicality

Integration of Findings

The learners in this study provided thoughtful reflections on the impact of the simulation experience, highlighting how it deepened their understanding of disability, accommodation, and the importance of empathy in management roles. Many students expressed a newfound awareness of the challenges individuals with disabilities face, with one learner sharing, “It makes me think how uninclusive things are around us. You don’t notice how much the disabled struggle until it’s pointed out.” This sentiment was echoed by another who stated, “Try to be understanding because unless you’ve gone through something, you never know how it affects their daily life.” These comments reflect how the simulation encouraged learners to consider the lived experiences of others and develop a more compassionate perspective.

Students also emphasized the importance of empathy and adaptability in the workplace. One participant advised future students to “be accommodating and help out others. Don’t be afraid to ask for help.” Another reflected on the dual responsibility of being compassionate while maintaining fairness, stating, “Employees feel more valued with more empathetic management, but be sure to not be taken advantage of as well and make sure stories aren’t fabricated; look into

the facts and approach situations with care.” This demonstrates that learners recognized the complexity of balancing empathy with effective management practices.

Several students made connections to personal experiences, further illustrating how the simulation reinforced empathy. As discussed earlier, one shared:

My grandpa had a stroke about two years ago and he is still struggling with his walking, and he is unable to use his right hand for anything. It’s been hard watching him go through it and it has definitely made me more empathetic towards people going through similar struggles.

Others reflected on professional encounters, such as a student who worked with blind individuals at the Disability Resources Office, stating, “It definitely makes me feel more empathetic because it is so hard for them to just do daily life.” These reflections reveal that students drew upon their personal and professional experiences to internalize the lessons from the simulation.

The learners also highlighted the need for greater disability awareness in the workplace. One participant emphasized the importance of legal knowledge, stating, “Learn about the ADA laws before graduating for the sake of your role as HR, but also for your role as an employee.” Another underscored the responsibility of managers, sharing, “That accommodations are a complex situation, and it is a manager's job to decide on accommodations as well as keep documents for them and the reasons they are needed.” These comments demonstrate that students not only gained empathy but also practical insights into the legal and procedural aspects of accommodation.

Overall, the learners’ reflections indicate that the simulation successfully fostered empathy, increased awareness of disability-related challenges, and enhanced their understanding

of the complexities of workplace accommodations. Their comments reveal a recognition of the value of compassionate management and the need for both empathy and diligence in supporting employees with disabilities.

The combination of quantitative and qualitative results illustrates the efficacy of simulation-based learning in fostering empathy. The statistically significant increase in empathy scores is supported by rich narrative data, which contextualizes these changes and highlights the potential for real-world application.

Summary

The findings of this study demonstrate that simulation-based learning is an effective tool for enhancing empathy among business students. Participants reported a heightened awareness of the challenges faced by disabled employees, indicating that the immersive nature of the simulation fostered a deeper, more personal connection to these experiences. Many students expressed a shift in perspective, recognizing the importance of workplace accommodation and inclusive management practices in ways they had not previously considered.

Beyond simply understanding these challenges, participants also conveyed a readiness to apply their insights into future professional settings. Their reflections suggested a commitment to fostering more inclusive workplaces, with some students explicitly acknowledging how the exercise reshaped their approach to leadership and human resource management. This outcome highlights the potential for simulation-based learning to influence not only student attitudes but also long-term professional behaviors.

Chapter 5 will further interpret these findings within the broader context of existing literature on empathy development, experiential learning, and disability inclusion in business education. It will explore the implications for practice, considering how simulation-based

methods might be integrated into managerial training and organizational development programs. The chapter will also address the study's limitations, such as potential biases in self-reported data and constraints related to sample size. Finally, recommendations for future research will be discussed, including the need for longitudinal studies to assess the lasting impact of simulation experiences on students' professional decision-making and workplace behaviors.

CHAPTER 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents the summary of the study's key findings, offers interpretations of the results, and provides recommendations for practice and future research. The focus of practice, as established in earlier chapters, evaluates the effectiveness of simulation to improve empathy in business students. This study specifically explored how simulation-based learning experiences influence students' ability to understand and relate to the experiences of others, particularly in workplace contexts. The preceding chapters detailed the research questions, methodology, and data analysis, offering insights into how simulation impacts empathy development and the potential long-term benefits for future business leaders.

A summary of the findings begins first and highlights the core outcomes derived from the study. Following this, the interpretation of the findings offers a broader analysis, contextualizing the results against existing literature and theoretical frameworks. The chapter then discusses the implications for practice, with an emphasis on strategies to enhance empathy-driven education. Additionally, implications for equity are explored, particularly regarding how simulation can foster more inclusive and empathetic leadership practices. The chapter concludes with specific recommendations for both practice and future research, along with a reflective commentary on leadership insights gained throughout the study.

Summary of the Findings

The study produced several key findings regarding the impact of simulation on fostering empathy in business students. The results demonstrate that simulation-based learning is an effective tool for promoting compassionate leadership, increasing awareness of disability-related challenges, and equipping students with practical skills for managing accommodation and inclusion.

The data revealed a statistically significant increase in empathy scores among participants following the simulation experience. Students reported a deeper understanding of the challenges individuals with disabilities face. For example, one learner reflected, “It makes me think how uninclusive things are around us. You don’t notice how much the disabled struggle until it’s pointed out.” This shift in perspective was echoed by another participant, who stated, “Try to be understanding because unless you’ve gone through something, you never know how it affects their daily life.” The qualitative reflections further demonstrate that students internalized the lessons from the simulation, expressing greater compassion and sensitivity toward disability-related issues. Many participants shared personal anecdotes, such as one who described how the experience made them reflect on their grandfather’s stroke: “It’s been hard watching him go through it, and it has definitely made me more empathetic towards people going through similar struggles.”

The simulation also influenced students’ perspectives on workplace accommodations and the legal responsibilities of managers. Several participants emphasized the importance of understanding ADA laws and ensuring proper documentation of accommodations. One student noted, “Learn about the ADA laws before graduating for the sake of your role as HR, but also for your role as an employee.” This demonstrates that the simulation not only enhanced empathy but also increased students’ awareness of the legal and procedural dimensions of disability inclusion. Students recognized the complexity of balancing empathy with effective management practices. One participant advised, “Employees feel more valued with more empathetic management, but be sure to not be taken advantage of as well and make sure stories aren’t fabricated; look into the facts and approach situations with care.” This reflects the nuanced understanding students gained regarding compassionate yet practical leadership.

Beyond immediate empathy gains, the study found that students recognized the value of applying empathy in their future managerial roles. For instance, participants highlighted the importance of adaptability and offering support in the workplace. One student advised, “Be accommodating and help out others. Don’t be afraid to ask for help,” illustrating their commitment to fostering a supportive organizational culture. The combination of quantitative and qualitative results illustrates the efficacy of simulation-based learning in fostering empathy. The statistically significant increase in empathy scores is supported by rich narrative data, which contextualizes these changes and highlights the potential for real-world application.

The study demonstrates that simulation is a powerful pedagogical tool for enhancing empathy, increasing awareness of disability-related challenges, and preparing future business leaders to manage inclusively and compassionately. The subsequent sections will delve into the interpretation of these findings, their implications for practice, and recommendations for future improvements.

Interpretation of the Findings

The findings of this study contribute to the existing body of knowledge on empathy development in business education, confirming and extending the research presented in Chapter 2. The results support the premise that simulation-based education effectively enhances empathy in business students, reinforcing the applicability of Kolb’s experiential learning theory as a guiding framework. The study also highlights meaningful social justice and equity implications, particularly regarding disability inclusion and multigenerational workforce considerations.

Confirmation of Existing Knowledge

The results of this study confirm prior research asserting that simulation-based education is an effective tool for fostering empathy (Bearman et al., 2015). Participants demonstrated

increased empathetic awareness and sensitivity after engaging in the simulated experiences, consistent with findings from medical education, where simulations are regularly used to develop patient-centered communication skills (Albin et al., 2023; Hubbard et al., 2022). The alignment between this study's results and healthcare-based empathy research underscores the transferability of simulation as a pedagogical approach to business education.

The findings align with Baker's (2017) assertion that experiential learning strategies, such as perspective-taking exercises, can enhance students' ability to understand and respond to the needs of marginalized groups. By placing students in simulated scenarios that mirror real-world disability or workplace challenges, this study confirms that simulations foster both cognitive and affective empathy—skills critical for ethical decision-making and inclusive management.

While previous research primarily explored empathy simulation in healthcare and social sciences, this study extends the application of empathy-driven simulation to business education. Unlike Bearman et al. (2015), who found that empathy gains in healthcare simulations were sometimes superficial or performative, this study reveals evidence of genuine attitudinal shifts among participants. The reflective debriefing process, consistent with Kolb's model, encouraged students to translate their experiences into actionable insights, suggesting that empathy gains were not only transient but also integrated into participants' broader managerial mindset.

This study builds on Dwyer and Azevedo's (2016) findings regarding multigenerational workforce empathy by introducing disability-focused simulations. The findings indicate that simulations targeting disability inclusion can reduce biases and foster awareness of accommodation needs—extending existing knowledge on empathy-building strategies in

business curricula. This reinforces the potential of simulation to prepare future managers for diverse and inclusive workplace environments.

Interpretation Through Kolb's Experiential Learning Theory

Kolb's experiential learning theory (1984) serves as the conceptual framework for this study, providing a lens through which the findings can be interpreted. The results demonstrate that each stage of Kolb's learning cycle—concrete experience, reflective observation, abstract conceptualization, and active experimentation—played a significant role in empathy development. The structured simulation experience enabled participants to progress through the full learning cycle, reinforcing the transformative potential of experiential learning in fostering empathy among business students.

The concrete experience stage was initiated through simulated scenarios, which provided participants with direct exposure to complex workplace challenges. Students engaged in a scenario where they managed an employee with a disability, requiring them to navigate reasonable accommodation requests while balancing operational needs. This hands-on engagement allowed participants to feel the weight of managerial decisions and the human impact of their choices. The realism of the simulation, including role-play interactions and the need for immediate decision-making, aligned with Kolb's emphasis on learning through direct engagement. By immersing students in authentic workplace situations, the concrete experience served as a foundation for developing a deeper emotional connection to the lived experiences of employees.

The reflective observation stage occurred during the structured post-simulation debriefings. Participants were encouraged to critically examine their emotional reactions, decision-making processes, and the implications of their choices. In their written reflections,

students frequently expressed surprise at how difficult it was to balance empathy with business demands, highlighting the internal conflict they experienced. This stage facilitated deeper empathy by prompting students to consider the personal and professional realities faced by employees in diverse circumstances. For instance, one student noted in their reflection that they had never considered how small policy changes could significantly impact employees with disabilities, demonstrating the reflective observation process in action.

During the abstract conceptualization stage, participants translated their reflections into broader insights about management practices, disability inclusion, and social equity. Through guided class discussions, they identified key takeaways, such as the importance of flexible leadership approaches and the need for more inclusive organizational policies. For example, several students articulated new perspectives on how empathy-driven leadership could enhance employee retention and job satisfaction. This stage reinforced the transfer of empathetic experiences to managerial decision-making, as students moved from specific simulation interactions to generalized principles applicable in real-world business contexts.

The active experimentation stage was evident in participants' reported intentions to apply their enhanced empathy skills in future leadership roles. Several students expressed a desire to adopt more inclusive management practices, such as incorporating empathy checks into their performance evaluations or seeking employee feedback more actively. Others described plans to reconsider their approach to multigenerational team dynamics by being more aware of age-related biases. This aligns with Kolb's notion of experiential learning as a catalyst for practical application, demonstrating how the simulation experience empowered students to implement empathetic leadership behaviors in their future careers.

The Human Resources Frame and Empathy Development in Business Education

Bolman and Deal's human resources frame (2017) offers a valuable lens through which to interpret the outcomes of this study, highlighting how simulation-based empathy training supports the development of compassionate and people-centered leadership skills in future managers. The human resources frame emphasizes the importance of valuing individuals within organizations, recognizing that employees are not merely resources but the heart of the enterprise. This perspective underscores the need for managers to prioritize employee well-being, foster collaboration, and align organizational goals with human needs. The findings of this study demonstrate that empathy simulations are a powerful tool for achieving these objectives as they enable students to engage with the emotional and practical realities of managing diverse teams.

The study's concrete experience stage, in which participants engaged in simulated scenarios, directly supports the human resources frame by immersing students in realistic workplace challenges. These experiences—such as managing accommodations for employees with disabilities or addressing generational differences—allowed students to step into the shoes of employees, fostering emotional connection and deeper understanding. By confronting the human side of organizational decisions, participants moved beyond a purely transactional view of management and began to appreciate the personal impact of inclusive leadership. This outcome aligns with the human resources frame's emphasis on seeing employees as individuals with needs, emotions, and lived experiences rather than as mere productivity units.

The reflective observation and abstract conceptualization stages further reinforce the alignment between the study's outcomes and the human resources frame. Through guided debriefings and discussions, participants processed their emotional responses and identified the

broader organizational implications of empathy-driven leadership. The study found that participants developed a more nuanced understanding of how compassionate management practices—such as actively listening to employees, accommodating diverse needs, and fostering psychological safety—can enhance employee morale, retention, and overall well-being. This mirrors Bolman and Deal’s assertion that organizations thrive when they create environments where employees feel valued and supported. The study’s outcomes highlight that empathy is not merely a personal virtue but a strategic managerial competency that contributes to healthier and more effective workplaces.

The study’s active experimentation stage revealed that participants intended to apply their empathy skills in real-world settings, a finding that directly reflects the human resources frame’s focus on human-centered leadership. Participants reported plans to adopt more inclusive hiring practices, advocate for workplace accessibility, and promote collaboration across diverse teams. This demonstrates how simulation-based learning can translate into practical managerial behaviors that prioritize employee needs. The study’s outcomes suggest that integrating empathy simulations into business education can produce managers who are not only skilled in strategic decision-making but also adept at fostering supportive, people-focused organizational cultures.

Ultimately, this study validates the relevance of the human resources frame in modern business education. By equipping students with empathy and emotional intelligence, simulation-based training prepares them to lead with compassion and authenticity. The study’s outcomes support the notion that effective managers must balance organizational objectives with human needs, creating workplaces where individuals feel valued, respected, and empowered to contribute. As businesses increasingly recognize the link between employee well-being and

organizational success, developing empathetic leaders through experiential learning will be essential for building resilient, inclusive, and high-performing teams.

Overall, the study's findings demonstrate the effectiveness of Kolb's experiential learning theory as a framework for cultivating empathy in business education. By guiding participants through the four stages of learning, the simulation not only deepened their understanding of workplace diversity and inclusion but also equipped them with practical empathy skills that could influence their future management practices.

Implications Beyond the Data

Although the study demonstrates the effectiveness of simulation in fostering empathy, its findings also highlight areas where further action is necessary. One key area is the need for policy-level change. While empathy education can enhance managerial sensitivity and influence individual behaviors, it must be paired with robust organizational policies to create meaningful and sustainable workplace equity. Empathy alone cannot rectify systemic inequities or the inconsistent application of inclusive practices. For example, while participants in this study reported increased awareness of disability inclusion, their future effectiveness as empathetic leaders will be limited without supportive policies that promote accessibility, reasonable accommodations, and anti-discrimination practices. Integrating empathy training with policy reforms—such as revising hiring practices, enhancing employee support programs, or enforcing bias-mitigation measures—would strengthen the real-world impact of such educational interventions.

Another area for further exploration is the longitudinal impact of simulation-based empathy training. This study captured the immediate effects of the simulation experience, demonstrating its capacity to enhance empathy in the short term. However, it did not measure the

long-term retention or practical application of empathy skills. Future research should examine whether the empathy gains observed in this study persist over time and influence actual managerial behaviors. Longitudinal studies could track participants' decision-making, leadership practices, and organizational impact months or even years after the initial simulation. Additionally, incorporating follow-up assessments, such as interviews with participants' colleagues or subordinates, could provide valuable insights into whether empathy-driven leadership behaviors translate into improved employee experiences and workplace cultures.

The study also reveals an opportunity to expand the concept of intersectional empathy. While this research focused primarily on disability and aging, future simulations could incorporate additional dimensions of diversity, such as race, gender, sexual orientation, or socioeconomic status. Addressing multiple intersecting identities would offer a more comprehensive exploration of workplace equity and the complex realities employees face. For instance, a future simulation could depict the compounded challenges of navigating a workplace as both an individual with a disability and a member of a racial minority group. By exposing participants to more nuanced and multifaceted scenarios, educators could deepen their understanding of intersectional empathy and better prepare future managers to lead inclusively in increasingly diverse organizational settings.

Over time, management programs have recognized the critical role of empathy, emotional intelligence, and human-centered leadership in building effective organizations. This evolution aligns with the growing emphasis on diversity, equity, and inclusion (DEI) in business education. Modern programs now include curricula on ethical leadership, corporate social responsibility, and employee well-being, preparing graduates to lead in ways that prioritize both

financial performance and organizational culture (Carroll & Buchholtz, 2014; Thomas & Ely, 1996).

For this study, which explores the use of simulation to enhance empathy in business students, the historical and evolving role of management programs is highly relevant. While traditional programs have long emphasized technical and analytical skills, there is a growing recognition of the need for empathy and relational competence as essential leadership qualities. This shift reflects the increasing demand for people-centered management approaches, particularly in sectors such as healthcare, where empathetic leadership is directly linked to patient safety, staff retention, and overall organizational effectiveness.

The integration of simulation-based learning in management programs offers a practical and experiential approach to fostering empathy. By immersing students in realistic workplace scenarios, these simulations help future managers experience the perspectives of employees, clients, or marginalized groups, enhancing their emotional intelligence and capacity for compassionate decision-making. This aligns with Kolb's experiential learning theory, which underscores the value of learning through experience and reflection, making simulation an effective pedagogical tool for cultivating empathy.

Limitations of the Study

While this study offers meaningful insights into the use of simulation to enhance empathy in business students, it is important to acknowledge its limitations regarding generalizability, trustworthiness, validity, and reliability. These limitations arose from both the study's design and the practical constraints of its execution.

One notable limitation is the generalizability of the findings. The study was conducted with a relatively small sample of business students that were HR concentration learners from a

single academic institution. While the qualitative reflections and quantitative empathy score changes provide valuable insights, the findings may not be fully representative of the broader population of business students or professionals. Differences in demographics, educational backgrounds, or prior exposure to empathy-building experiences could influence the degree of impact. Therefore, caution should be exercised when applying the results to other academic or professional contexts, particularly those with different cultural, geographic, or industry-specific factors.

Another limitation relates to trustworthiness, specifically regarding the participants' self-reported reflections. While the qualitative data provided rich, meaningful insights, self-reported experiences are inherently subjective. Students' written reflections may have been influenced by social desirability bias, with some participants potentially expressing more empathetic responses due to perceived expectations rather than genuine attitudinal change. The absence of direct observational data on participants' behaviors following the simulation limits the ability to assess whether the empathy gains translated into real-world applications.

In terms of validity, the use of a pre- and post-simulation empathy assessment posed certain constraints. Although the instrument employed was a validated measure of empathy, short-term assessments may not capture the enduring impact of the simulation experience. Empathy is a complex, evolving construct, and the study's timeframe did not allow for longitudinal measurement. As a result, the study captures immediate changes in empathy but does not provide insights into the long-term retention or practical application of empathetic behaviors. A follow-up assessment conducted weeks or months after the intervention would have strengthened the validity of the findings by evaluating whether the empathy gains were sustained over time.

Reliability is also limited by the variability in participants' prior experiences and emotional responses. While the simulation was standardized, individual differences in how students engaged with and interpreted the experience may have influenced the results. For example, students with personal connections to individuals with disabilities may have been more emotionally affected by the simulation, potentially amplifying their empathy scores. Conversely, students with limited exposure to such experiences may have demonstrated smaller gains. This variability introduces potential inconsistencies in the data, reducing the overall reliability of empathy score changes as a universal outcome.

The study's reliance on a single simulation scenario is a methodological limitation. While the scenario was carefully designed to evoke empathy, the use of a single context limits the breadth of empathetic experiences explored. Prior studies in different spaces (i.e., healthcare) explored more than just mobility challenges and were conducted over a greater time frame. Future studies incorporating multiple, diverse simulation scenarios representing a range of marginalized or underrepresented groups would enhance the study's reliability and generalizability. Expanding the scope of simulation experiences would provide a more comprehensive understanding of how empathy is cultivated across different contexts.

Despite these limitations, the study offers meaningful contributions to the field of business education by demonstrating the potential for simulation to foster empathy in future managers. However, the identified constraints highlight the need for further research with larger, more diverse samples, longitudinal assessments, and multi-scenario interventions to strengthen the validity, reliability, and generalizability of the findings.

Implications of the Findings for Practice

Empathy has become an essential competency in higher education, particularly in disciplines such as business, healthcare, and education, where leaders must navigate complex social dynamics and foster inclusive environments. In business education, empathy is increasingly recognized as a vital leadership skill that drives organizational trust, employee engagement, and ethical decision-making. Empathetic leaders are more effective in managing diverse teams, resolving conflicts, and promoting workplace well-being (Clark et al., 2019).

The challenge of teaching empathy in higher education, however, has been exacerbated by the shift to online learning and the limitations of traditional classroom instruction. Simulation-based learning offers a solution by immersing students in realistic, emotionally engaging scenarios. Through role-play, decision-making exercises, and experiential learning, simulations enable students to experience the consequences of their actions, fostering emotional insight and empathy.

This study builds upon this growing emphasis on empathy education by evaluating the effectiveness of simulation in cultivating empathy in business students. By applying Kolb's experiential learning model, this research explores how simulated scenarios—designed to mirror complex, real-world business challenges—can enhance students' ability to understand and respond to the experiences of employees. This focus on empathy education in business programs addresses a critical gap, equipping future managers with the skills necessary to lead with compassion, foster inclusive workplace cultures, and navigate the human dimensions of organizational leadership.

This study's focus on empathy development through simulation-based learning aligns with broader trends in higher education. The application of simulation for fostering empathy,

particularly in leadership training, has gained increasing attention. Simulations designed to represent diverse workplace experiences, such as managing employees with disabilities or addressing ethical dilemmas, enable learners to experience multiple perspectives in a controlled environment. This approach fosters emotional intelligence, reflective decision-making, and the ability to lead with compassion—skills that are essential in today’s workforce. This study contributes to this growing body of literature by examining how simulations can specifically enhance empathy in future business leaders, addressing a critical competency gap in traditional management education.

Impact on the Workforce

Management programs have a profound impact on the workforce by shaping leaders who drive organizational success through informed decision-making, strategic problem-solving, and effective team management. Graduates of these programs frequently occupy leadership positions across various industries, including healthcare, finance, and education, where they apply their skills to optimize operations and foster innovation. The evolution of management education, with its increasing emphasis on experiential learning and practical application, has better prepared graduates to address the complex challenges of today’s dynamic, global business environment (Mintzberg, 2004).

One of the most significant developments in management education has been the integration of business ethics, particularly influenced by the work of the Ford Foundation. In the 1950s, the Ford Foundation promoted the idea that economic well-being does not inherently guarantee human welfare but is essential to achieving it (Berle & Means, 1967). This perspective reshaped business education by embedding ethical leadership into curricula, highlighting the broader social impacts of business decisions. As a result, management programs increasingly

emphasized corporate social responsibility (CSR), fostering a generation of leaders committed to balancing profit with ethical practices and social accountability (Carroll & Buchholtz, 2014).

The impact of management programs on the workforce extends beyond technical competencies to include soft skills, such as empathy, communication, and adaptability. Contemporary programs increasingly adopt experiential learning strategies—such as internships, consulting projects, and simulations—to bridge the gap between theory and practice, ensuring that graduates are workplace-ready (Mintzberg, 2004). These practical experiences enhance students' abilities to navigate real-world challenges, collaborate effectively, and respond to diverse stakeholder needs.

In the context of this study, the evolving focus on empathy in management programs is particularly relevant. As organizations prioritize diversity, equity, and inclusion (DEI), empathetic leadership has become a sought-after competency. Management graduates are now expected to lead with compassion, making empathy an essential leadership trait for fostering inclusive, adaptive, and ethical workplace cultures. Simulation-based learning, as explored in this context, offers a valuable method for cultivating empathy by immersing students in realistic, complex scenarios where they must consider multiple stakeholder perspectives. This approach prepares future managers to engage more thoughtfully with their teams, ultimately shaping a more compassionate and effective workforce.

By incorporating empathy-focused simulations into management education, graduates will be better equipped to lead with compassion and adaptability. This could translate into tangible workplace benefits, such as improved employee retention, increased trust and psychological safety, and enhanced customer satisfaction. For example, empathetic leadership in healthcare settings has been linked to lower staff turnover and better patient outcomes (Shanafelt

et al., 2019). Thus, the integration of empathy education could yield both humanistic and performance-related advantages.

Implications of the Findings for Equity

The study's findings highlight the potential of simulation-based education to promote social justice and equity in business education. By directly engaging students with scenarios related to disability, aging, and workplace inclusion, the simulations fostered empathy for historically marginalized groups. This outcome supports Cesnales et al.'s (2020) argument that fostering empathy for older and disabled populations can drive workforce innovation and inclusion.

The study reveals that simulation can expose students to the lived realities of employees requiring accommodations under the Americans with Disabilities Act (ADA) or facing challenges associated with the Family and Medical Leave Act (FMLA). This suggests that empathy-driven simulation can play a role in preparing future managers to navigate legal compliance with greater sensitivity and fairness, reducing the likelihood of discrimination and fostering more equitable workplace environments.

Recommendations for Practice

Management programs have played a pivotal role in shaping the modern workforce, not only by imparting technical business acumen but also by fostering the leadership and interpersonal skills necessary for effective organizational management. These programs, which encompass a wide range of educational offerings from undergraduate degrees to executive training, have evolved significantly over the past century. Their influence extends beyond the immediate confines of business and into virtually every sector of the economy, positioning them as essential for developing leadership, driving innovation, and ensuring organizational success.

The historical roots of management education, dating back to vocational schools in the 1600s and formalized through institutions such as the Wharton School (1881) and Harvard Business School (1908), reflect the growing need for structured managerial training as industries expanded and professionalized (Khurana, 2007; Lehman, 1930). Early management programs were primarily focused on core business principles such as economics, accounting, and operations, equipping graduates with the skills necessary to manage large-scale industrial enterprises. However, as business environments became more complex, management education broadened to include leadership, organizational behavior, and strategic decision-making, addressing the human dimensions of business alongside technical competencies (Augier & March, 2011).

In the contemporary landscape, management programs are increasingly tasked with preparing graduates to lead diverse, multi-generational, and global teams. The inclusion of empathy-focused simulations equips future managers with the skills necessary to navigate complex interpersonal dynamics, foster psychological safety, and create inclusive work environments. As organizations prioritize employee well-being and belonging, graduates with enhanced empathy skills will be better positioned to lead with compassion and effectiveness, contributing to both employee satisfaction and organizational performance.

By incorporating empathy-focused simulation exercises, this study addresses a critical gap in traditional management education. It highlights how experiential learning approaches can cultivate essential soft skills, ensuring that graduates are not only competent in business strategy but also equipped to lead with empathy, emotional intelligence, and inclusivity—qualities that are increasingly recognized as essential for modern managers.

Recommendations for Future Study

Future research following this work should consider several key areas to further explore and enhance the impact of simulation-based learning in business and management education. One important avenue is conducting longitudinal studies to examine whether the competencies gained through simulations are retained over time and applied in real-world contexts. This would help assess the long-term effectiveness of simulation-based training. Additionally, comparative studies between traditional learning methods and simulation-based learning across various business disciplines would provide valuable insights into the relative effectiveness of simulations in developing specific skills, such as leadership, decision-making, and problem-solving.

Research could also explore how simulations can be customized to cater to different learning preferences, backgrounds, or career stages, offering a more personalized and inclusive approach to training. With the rise of virtual reality (VR) and augmented reality (AR), investigating how these emerging technologies can enhance the realism and interactivity of business simulations would be beneficial for improving learner engagement and outcomes. Furthermore, studies on the impact of simulations on emotional intelligence, empathy, and social skills would be valuable, particularly given the growing emphasis on leadership and interpersonal competencies in business education.

Cross-disciplinary research that examines the transferability of simulation techniques from fields like healthcare to business could provide valuable insights into best practices and shared strategies. Additionally, understanding how cultural and contextual factors influence the effectiveness of simulations, especially in global business settings, would help create more adaptable and inclusive training programs. Investigating the role of real-time feedback and assessment mechanisms within simulations would offer a deeper understanding of how these

elements contribute to skill development and learner engagement. Together, these areas of future study could significantly advance the application and effectiveness of simulation-based learning in business education.

In addition to its application in business and management education, simulation-based learning has great potential for the continuing education of higher education leaders. For example, simulations that immerse leaders in scenarios requiring empathy and understanding of accessibility issues can provide valuable perspective. Historical examples, such as the simulations conducted by leaders after the passage of the Americans with Disabilities Act (ADA), where they used crutches or wheelchairs to experience physical access challenges firsthand, highlight the impact of experiential learning on fostering a deeper understanding of inclusivity. By using simulation, higher education leaders can gain insights into the experiences of individuals with disabilities, which can inform more thoughtful decisions about campus infrastructure, policy, and classroom design. Incorporating these types of simulations into leadership development programs could further enhance the ability of higher education leaders to foster inclusive, accessible environments that meet the needs of all students, faculty, and staff. This approach could also encourage leaders to think more critically about the broader implications of their decisions on diverse populations, ultimately leading to more informed and compassionate leadership.

Conclusions

The summary, conclusions, and recommendations presented in this chapter focus on the effectiveness of simulation-based learning in improving empathy in business students. The study highlights the positive impact of simulations on students' ability to understand and relate to the experiences of others, particularly in the workplace. Key findings indicate a significant increase

in empathy scores after engaging in simulation exercises, which were further supported by qualitative data reflecting students' deeper understanding of disability-related challenges and workplace accommodation issues. The study also explored students' heightened awareness of the legal and procedural aspects of disability inclusion and the importance of balancing empathy with effective management practices. Overall, simulation emerged as a powerful tool for fostering compassionate leadership, preparing students to navigate the complexities of diverse and inclusive workplaces.

The interpretation of these findings confirms and extends existing knowledge on empathy development, particularly in business education. The results align with prior research on the effectiveness of simulation-based education, reinforcing its value in promoting empathy. The study builds on earlier work by demonstrating how simulations designed to address disability inclusion can help reduce biases and foster greater awareness of accommodation needs. Furthermore, Kolb's experiential learning theory was central to understanding how simulation-based learning contributes to empathy development, with each stage of the learning cycle—concrete experience, reflective observation, abstract conceptualization, and active experimentation—playing a crucial role in shaping students' empathetic skills.

For practice, the study underscores the need for empathy-driven education in business programs, emphasizing the importance of incorporating simulation-based learning to enhance leadership competencies. In light of the growing recognition of the role of empathy in effective leadership, it is essential for future managers to be equipped with the tools to foster inclusive, compassionate work environments. The study also highlights the implications for equity, demonstrating how simulations can contribute to more inclusive leadership practices by addressing issues like disability inclusion and multigenerational workforce dynamics.

Looking ahead, the study suggests several areas for future research. Longitudinal studies could explore the long-term impact of simulation-based empathy training, assessing whether the skills gained are retained and applied in real-world managerial settings. Additionally, future studies could investigate the role of simulation in addressing other dimensions of diversity, such as race, gender, or socioeconomic status, to further promote equity and inclusion. Exploring the intersection of empathy with organizational policy is another important area, as well as examining how simulation can be adapted for use in higher education leadership training. These areas of study will provide valuable insights into how simulation-based learning can continue to evolve and contribute to the development of empathetic, effective business leaders.

Scholarly Practitioner Reflections on Leadership

As a scholarly practitioner, this study has reinforced my belief in the transformative power of empathy in leadership. Throughout my career in healthcare, education, and business management, I have witnessed firsthand how compassionate leadership can positively impact organizational culture, employee well-being, and overall performance. This research has deepened my understanding of empathy not only as a desirable leadership trait but as a skill that can be intentionally cultivated through experiential learning. The findings confirm that empathy is not an abstract concept—it is a tangible, learnable competency that strengthens workplace relationships and promotes inclusive, people-centered decision-making. This has profound implications for how we prepare future managers and leaders, particularly in industries where human-centered care and service delivery are paramount.

One of the most meaningful insights from this study is the realization that empathy-driven leadership is essential for fostering equitable and inclusive workplaces. In today's increasingly diverse and complex organizations, leaders must possess the ability to understand

and relate to the lived experiences of their employees, clients, and stakeholders. The simulation-based learning experiences in this study demonstrated that placing individuals in the perspective of marginalized or vulnerable groups can profoundly shift their worldview. This underscores the importance of integrating empathy-building strategies into leadership development programs, as it equips future managers with the emotional intelligence needed to lead with fairness, compassion, and cultural competence.

This research has highlighted the interconnectedness of empathy and ethical leadership. Empathy not only enhances interpersonal relationships but also strengthens a leader's capacity for moral reasoning and ethical decision-making. The qualitative reflections from students revealed how the simulation experience made them more aware of the challenges faced by individuals with disabilities and the ethical responsibility of managers to ensure equitable treatment. This reinforces the notion that empathetic leadership is a catalyst for fostering justice, dignity, and respect in organizational practices. As a scholarly practitioner, this realization strengthens my commitment to promoting leadership development approaches that emphasize both emotional and ethical competencies.

The study also illuminated the practical challenges of cultivating empathy in educational settings. While simulation proved to be a powerful pedagogical tool, it was evident that empathy development requires intentionality and ongoing reinforcement. One-time interventions, while impactful, may not be sufficient to sustain long-term empathetic behaviors. This calls for continuous, iterative learning experiences that challenge students to apply empathy in varied and increasingly complex workplace scenarios. As a practitioner, this insight reinforces the need for longitudinal training models that embed empathy education across curricula, ensuring that future

leaders develop the consistency and depth of compassion required for sustainable, inclusive leadership.

The study has reaffirmed my own leadership philosophy—one grounded in empathy, authenticity, and lifelong learning. As a scholar and practitioner, I am inspired to continue advocating for empathy-driven leadership in both academic and professional contexts. The findings of this study have equipped me with evidence-based insights that I will carry forward into my teaching, leadership training, and organizational development initiatives. I am committed to promoting the integration of simulation-based learning as a standard practice in business education, recognizing its capacity to develop emotionally intelligent, ethical, and inclusive leaders. This study has not only contributed to the academic discourse on empathy in leadership but has also strengthened my resolve to be an advocate for compassionate, equity-driven leadership in every facet of my work.

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APPENDIX A: INSTITUTIONAL REVIEW BOARD APPROVAL LETTER



EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board
Willis Building · Mail Stop 682
600 Moye Boulevard · Greenville, NC 27834
Office **252-744-2914** · Fax **252-744-2284** ·
rede.ecu.edu/umcirb/

Notification of Exempt Certification

From: Social/Behavioral IRB
To: [Gene Hobbs](#)
CC: [Heidi Puckett](#)
Date: 3/3/2025
Re: [UMCIRB 23-000828](#)
Empathetic Managers - Disabilities

I am pleased to inform you that your research submission has been certified as exempt on 3/3/2025. This study is eligible for Exempt Certification under category # 1.

It is your responsibility to ensure that this research is conducted in the manner reported in your application and/or protocol, as well as being consistent with the ethical principles of the Belmont Report and your profession.

This research study does not require any additional interaction with the UMCIRB unless there are proposed changes to this study. Any change, prior to implementing that change, must be submitted to the UMCIRB for review and approval. The UMCIRB will determine if the change impacts the eligibility of the research for exempt status. If more substantive review is required, you will be notified within five business days.

Document	Description
gh-final_updated_proposal.docx(0.01)	Study Protocol or Grant Application
Hobbs_IRB_questionnaire.docx(0.01)	Surveys and Questionnaires
Hobbs_IRB_questionnaire_v2.docx(0.01)	Surveys and Questionnaires
Participation_Script_v2.txt.pdf(0.03)	Recruitment Documents/Scripts
Survey-Consent-Hobbs_FINAL.doc(0.02)	Consent Forms

For research studies where a waiver or alteration of HIPAA Authorization has been approved, the IRB states that each of the waiver criteria in 45 CFR 164.512(i)(1)(i)(A) and (2)(i) through (v) have been met. Additionally, the elements of PHI to be collected as described in items 1 and 2 of the Application for Waiver of Authorization have been determined to be the minimal necessary for the specified research.

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

APPENDIX B: PRE-SIMULATION QUESTIONNAIRE

1. Is it necessary for a manager to be able to comprehend someone else's experiences?
2. I am able to express my understanding of someone's feelings.
3. I am able to comprehend someone else's experiences.
4. I will not allow myself to be influenced by someone's feelings when determining the best accommodations.
5. It is necessary for a manager to be able to express an understanding of someone's feelings.
6. It is necessary for a manager to be able to value someone else's point of view.
7. I believe that caring is essential to building a strong relationship with employees.
8. I am able to view the world from another person's perspective.
9. Considering someone's feelings is not necessary to provide leadership.
10. I am able to value someone else's point of view.
11. I have difficulty identifying with someone else's feelings.
12. To build a strong relationship with employees, it is essential for a manager to be caring.
13. It is necessary for a manager to be able to identify with someone else's feelings.
14. It is necessary for a manager to be able to view the world from another person's perspective.
15. A manager should not be influenced by someone's feelings when determining the best treatment.

Note: Questions modified from Chen et al. (2015).

APPENDIX C: POST-SIMULATION QUESTIONNAIRE

1. Is it necessary for a manager to be able to comprehend someone else's experiences?
2. I am able to express my understanding of someone's feelings.
3. I am able to comprehend someone else's experiences.
4. I will not allow myself to be influenced by someone's feelings when determining the best accommodations.
5. It is necessary for a manager to be able to express an understanding of someone's feelings.
6. It is necessary for a manager to be able to value someone else's point of view.
7. I believe that caring is essential to building a strong relationship with employees.
8. I am able to view the world from another person's perspective.
9. Considering someone's feelings is not necessary to provide leadership.
10. I am able to value someone else's point of view.
11. I have difficulty identifying with someone else's feelings.
12. To build a strong relationship with employees, it is essential for a manager to be caring.
13. It is necessary for a manager to be able to identify with someone else's feelings.
14. It is necessary for a manager to be able to view the world from another person's perspective.
15. A manager should not be influenced by someone's feelings when determining the best treatment.
16. Based on what you learned from today's simulation, what advice would you give to future students?

17. Can you describe any personal or professional experiences you have had with aging or disabled individuals? How, if at all, have these experiences influenced your perspectives on empathy and inclusion?

Note: Questions modified from Chen et al. (2015).

APPENDIX D: POWERPOINT PRESENTATION FOR SIMULATION



Hands On Laws for Employment (HOLE)

You are being invited to participate in a research project entitled, Hands On Laws for Employment (HOLE). If you agree to take part in this research, you will be asked to complete a questionnaire before and after the simulation activity. Your responses will be kept confidential and no data will be released or used with your identification attached as no identifying information was collected. Your participation in the research is **voluntary**. We **will not** be able to pay you for the time you volunteer while being in this study. There is **no penalty for not taking part** in this research study. Please call Gene Hobbs at 919-880-6963 for any research related questions or the University & Medical Center Institutional Review Board (UMCIRB) at 252-744-2914 for questions about your rights as a research participant.

Pick Up Supplies & Grab a Seat

- Select a stick with a number
- Make sure you have the following:
 - Scissors
 - Eight sticks
 - 1 roll of 2" wrap
 - 1 roll of 4" wrap



3

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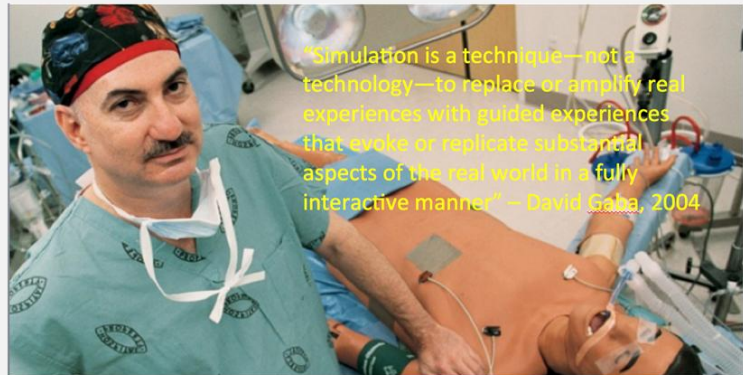
Pre-Simulation Survey



https://unc.az1.qualtrics.com/jfe/form/SV_eLrSQ8PQsqKIWia

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What is a Simulation?



"Simulation is a technique—not a technology—to replace or amplify real experiences with guided experiences that evoke or replicate substantial aspects of the real world in a fully interactive manner" — David Gaba, 2004

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What is Suspension of Disbelief?

Suspension of disbelief is the avoidance—often described as willing—of critical thinking and logic in understanding something that is unreal or impossible in reality, such as something in a work of speculative fiction, in order to believe it for the sake of enjoying its narrative.

Wikipedia 6

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Elbows

- Wrap your Elbows
- At least 3 wraps



Dominant Hand First

- Wrap your fingers, starting with your index finger
- Stick is wrapped to the top of the finger
- Not so tight you cut off blood flow



Non-Dominant Hand

- Wrap your fingers, starting with your index finger
- Stick is wrapped to the top of the finger
- Not so tight you cut off blood flow



Aging

- Musculoskeletal changes limit mobility in up to 40% of older adults
- Musculoskeletal changes and health conditions like arthritis or Parkinson's Disease commonly led to decreased dexterity
- Skin sensitivity decreases with age causing challenges in distinguishing textures. Burns and cuts are more likely
- Older people lose the ability to see smaller details or fine print, with the average 65-year-old having 20/70 vision

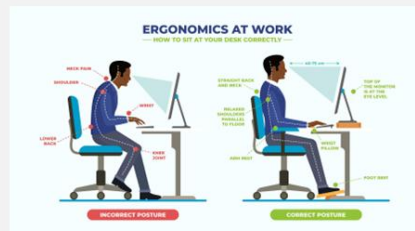
Knees

- Wrap your knees with the wider wrap
- At least 3 wraps



Let's Get Moving

- Scissors
 - How was it with limited mobility?
- Button & Unbutton a Shirt
- Typing
- Walking around
- Stair Climbing
- Thoughts on Ergonomic Design?



<https://www.freepik.com/free-photos-vectors/workstation-ergonomics> 12

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Have you ever broken a bone?

**Lots of
Challenges to
Consider**

Accidental	Traumatic Brain Injury, Spinal Cord Injury, Amputation, Burn Injuries, Hearing or Vision Loss
Age-related	Memory Impairment, Dementia, Alzheimer's Disease, Osteoarthritis, Age-related Macular Degeneration (AMD)
Intellectual	Down Syndrome, Fragile X Syndrome
Learning	Attention Deficit Hyperactivity Disorder (ADHD), Dyslexia, Dyscalculia, Dysgraphia, Auditory Processing Disorder (APD)
Medical/ Mental Health	Epilepsy, PTSD, Depression, Anxiety Disorders, Bipolar Disorder, Obsessive-Compulsive Disorder (OCD)

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Do you have older family members?

Cost of Accommodations?

- Accommodation survey information has been collected by the Job Accommodation Network (JAN) under a contract with the U.S. Department of Labor's Office of Disability Employment Policy and conducted by researchers at the West Virginia University (JAN, 2022).
- Of the 1,029 surveys with cost information collected from 2004 to 2019, 56% of the surveys reported that the accommodation cost was **zero (\$0)** while the remaining 44% only cost **\$500** to implement (JAN, 2022).
- Ninety-nine percent of the accommodations provided were a one-time cost while **1% carried an annual cost** (JAN, 2022).
- In 19% of employment discrimination defense settlements, the average cost was **\$125,000** and required more than 200 days without resolution in 446 closed claims reports (Hiscox, 2016).

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Let's get cleaned up

**Post-
Simulation
Survey**



https://unc.az1.qualtrics.com/jfe/form/SV_cYfWeYdOWEpvps2 18

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Hands On Laws for Employment (HOLE)

Thank you for participating in a **research** study titled “Development of Empathetic Managers to Support Disabled Employees Utilizing Simulation-Based Learning” being conducted by Gene Hobbs, MBA, CHSE, a doctoral candidate at East Carolina University in the Education Leadership department. The previous research title was altered to ensure responses were not influenced during the simulation process and questionnaire completion. It is hoped that this information will assist us to better understand a mechanism for improvement of empathetic responses in business students managing and working with employees needing accommodations in the workplace, specifically using simulation as an educational tool.

Your responses will be kept confidential and no data will be released or used with your identification attached as no identifying information was collected. Your participation in the research is **voluntary**. We **will not** be able to pay you for the time you volunteer while being in this study. There is **no penalty for not taking part** in this research study. Please call Gene Hobbs at 919-880-6963 for any research related questions or the University & Medical Center Institutional Review Board (UMCIRB) at 252-744-2914 for questions about your rights as a research participant.

APPENDIX E: SIMULATION GUIDED DISCUSSION AND DEBRIEFING

Due to time constraints and the need to maximize engagement within a limited session, the simulation experience was immediately followed by a guided discussion that adhered closely to the structured prompts outlined in Appendix D. These prompts were designed to connect participants' direct experience with broader issues of empathy, inclusion, and problem-solving. For example, following the shirt-buttoning activity, facilitators asked, "How did it feel to do that with your fingers emulating stiffness?" and "What could we do to accommodate someone if their uniform requires a certain style like the shirts you used?" These questions prompted participants to reflect on their emotional responses and consider real-world adaptations, grounding the learning experience in both personal insight and workplace relevance. The guided discussion was intentionally focused, efficient, and aligned with learning objectives, allowing for meaningful conversation even within a compressed timeframe.

The debriefing phase utilized a plus/delta approach to maintain momentum while encouraging constructive feedback and personal reflection. In this method, participants were asked to identify "pluses" (aspects of the experience that went well or were impactful) and "deltas" (opportunities for change or improvement, both in the activity and in future professional practice). This format provided a quick yet effective way to consolidate learning, highlight takeaways, and generate ideas for improvement. By prioritizing clarity and simplicity, the plus/delta debriefing allowed all voices to be heard and respected, reinforcing psychological safety while also encouraging action-oriented thinking.