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# HUMAN-MACHINE RELATIONSHIPS IN THE AUTOMATION INDUSTRY: ROBOTICS, ARTIFICIAL INTELLIGENCE AND AUTOMATION APPLICATIONS

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## ABSTRACT

*The interaction of robotics and artificial intelligence (AI) has profoundly impacted the automation industry. Integration of advanced technology to automation processes opens up new opportunities to achieve levels of quality and productivity not previously feasible. Automated processes are transforming more adjustable and smart systems, utilizing the capabilities of AI and intelligent robots to boost efficiency or reduce costs. AI-enabled robots also provide a safe working environment for operators while assisting people in processing massive amounts of data and making real-time decisions. This research aims to identify and explore these emerging phenomenon trends through a conceptual framework combining human and machine relations. While certain operations may be automated, applying new technology to activities will also enable the creation of new jobs, allowing flexibility for human operators to concentrate on creative problem solutions. Five propositions provide direction for research in this field, including (1) the continuing role of humans, (2) the enhancement of job-related skills, (3) the impacted labor market, (4) the effects on mental health, and (5) the role of trust. The study also provides managerial and research implications.*

**Keywords:** *Robotics, Artificial Intelligence, Cobot, Automation, Internet of Things.*

## INTRODUCTION

"Not Fired, Just Not Hired" was the caption of Time magazine's "The Automation Jobless" story (Time, 1961). Over the past two centuries, there have been regular predictions that new technology and automation will cause a significant loss of middle-class jobs (Autor, 2015). According to the World Economic Forum, technology will generate at least 12 million more employment by 2025 than it will eliminate, indicating that automation will ultimately benefit society (Nunes, 2021). Advances in robotics and AI can automate a wide range of human activities and dramatically reshape how people live and work in the coming decades (Smith and Anderson, 2017). Though much of today's automation occurs behind the scenes, technology is becoming more visible in people's daily lives. Everyday activities may soon use more technology than ever before. Automation impacts our lives daily through machine learning, AI, and robots, often without our awareness (Hughes Network Systems, 2018).

In a process known as "creative destruction," the emergence of robots has increased productivity, economic growth, and the creation of new employment in industries that do not yet exist. According to estimates, a 1% increase in the number of robots per worker in the industrial sector results in a 0.1% gain in production for the entire workforce (Cooper, 2017). A new era of automation is beginning due to advancements in robotics and AI, which enable machines to perform as well as or better than humans in various tasks, including those requiring cognitive ability. According to McKinsey Global Institute analysis of more than 2,000 labor activities spanning 800 jobs, over half of the tasks for which individuals are paid about \$16 trillion in salaries in the world economy have the capacity to be replaced by automation by adopting existing proven technologies (Chui et al., 2017). In contrast, the Global Gross Domestic Product (GDP) was around 81 trillion in 2017 (World Bank, 2022).

Integrating automation and business systems, which focuses on aligning all activities to the customer perspective, accelerates leveraging new digital technologies to improve efficiency and competitive position (Lydon, 2020). Innovations in the automation industry, driven by new technology like AI, are transforming how businesses manage repetitive tasks (Hecks, 2021). Now, automation involves a wide range of technologies - from complex machines like robot arms to relatively computer software that automates tasks such as data entry and processing by AI. The new technology that almost every business can take advantage of recent innovations is built for heavy industry and general business use. Technology is primarily a tool with no value if it does not align with strategy or improve operations as a whole (Deloitte Insights, 2020), so by using technological advancements, the factories need to be outfitted with smart sensors, embedded software, and robots that gather and analyze data to enable better decision making.

Working conditions and lifestyles have been significantly altered by modern industrial technology. The step into production technology, utterly different from the past, is called the industrial revolution. Fundamental changes such as the invention of machines and the adoption of factory systems in how people conducted business all played key parts in how the Industrial Revolution developed and influenced people's lives for generations to come (Ultius, 2013). The first revolution began with vast coal extraction and the major creation of the steam engine, which generated a new energy source. At the same time, the increase in steel demand, chemical synthesis, and communication systems like the telegraph and telephone were critical factors in the second industrial revolution. In the second half of the 20th century, people witnessed the third industrial revolution developing in the era of high levels of automation due to computers, robots, and programmable logic controllers ([Institute of Entrepreneurship Development, 2019](#)). The Internet of Things, cyber-physical systems, and information and communication technologies have all contributed to the fourth industrial revolution, which is now taking place in the 21st century. (David et al., 2022). From a commercial standpoint, the fourth industrial revolution's objective is to be able to mass-produce individualized items at low cost. To achieve this goal, it is required to redesign the manufacturing processes and increase factory productivity and efficiency by automation (Bonnaud et al., 2019).

The purpose of this research is to explore the emerging automation industry and the relationships created between humans and machines. Specifically, this paper will propose a conceptual framework emphasizing the crossovers among robotics, AI, and automation. It will



use an interaction pyramid to address and highlight human interactions with crossover points by mentioning significant aspects of the human function, while a Venn diagram will describe recent applications in the automation industry. The study will further identify newly generated tasks and how they impact human attitudes and social inequality while creating gender and wage gaps.

## LITERATURE REVIEW

The Oxford Dictionary defines automation as using machines to do work that was previously done by people. International Society of Automation (ISA) defines automation as "the creation and application of technology to monitor and control the production and delivery of products and services" (International Society of Automation, 2017). Automation is pre-programmed, a self-running system that performs specific tasks and precisely follows human instructions without making its own conclusions. At the same time, it allows people to monitor asset and production performance and simplify workflows by eliminating human process inefficiencies and delays to maintain lean, efficient, and productive operations (Foster, 2022). Automation not only comes with favorable effect costs, time, and production advantages but also can help decrease or eliminate three of the five primary causes of workplace accidents: contact with hazardous items, heavy lifting, and repetitive stress injuries, and lead to lowering the frequency of occupational injuries in manufacturing by up to 72%. (Universal Robot, 2019).

Although robotics and automation have many common elements, many possible distinctions exist. Robotics is concerned with systems that include sensors and actuators that function independently or semi-autonomously in collaboration with people (Goldberg, 2012). Robots are mainly used when tasks are either too complex for humans to perform well (e.g., the movement of heavy parts on an assembly line and other physical tasks), extremely repetitive, or both (Martin, 2021). Although robots offer many kinds of advantages to manufacturers, such as longer working hours, being able to work in dangerous conditions, and higher levels of accuracy and performance than employees, they threaten employees by taking over their jobs. According to Cooper's report (2017), each new industrial robot installed in the manufacturing sector since 2004 has displaced an average of 1.6 employees.

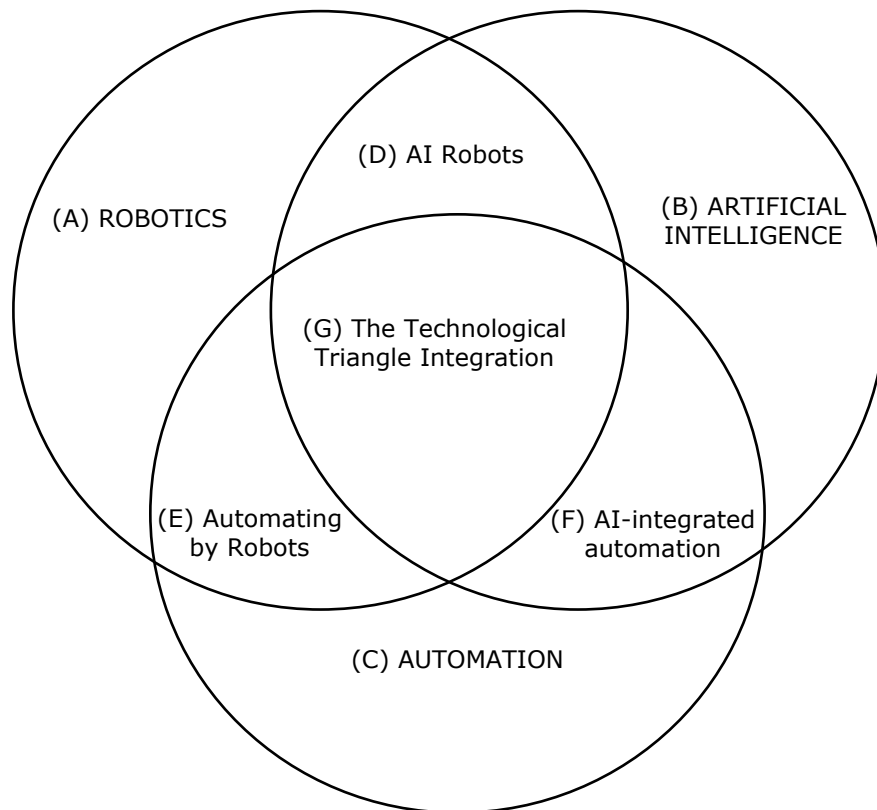
AI has a powerful displacement effect by replacing workers in tasks that they previously performed. It also assists specialists in analyzing conditions and arriving at a decision based on the learning from experience and information it acquires (Acemoglu and Restrepo, 2018). AI not only improves the effectiveness, speed, and precision of human efforts (Statistical Analysis System Institute, 2020) in cognitive tasks such as decision-making, problem-solving, memory, attention, and judgment but also enhances workplace safety by offering an automated approach to monitoring and mitigating injuries before they happen (Balakreshnan et al., 2020). A certain number of workplace injuries occur because workers do not wear Personal Protective Equipment (PPE). The cameras powered by AI can quickly spot workers wearing PPE such as safety glasses, ear protectors, gloves, and hard hats.

New automation technology has been developed for businesses to benefit from the latest industry innovations (Hecks, 2021). The automation industry jumped into a new stage powered by AI and robots. Recent integrations to this process brought fresh breath to automation, such as

machine learning, predictive maintenance, and product quality increased by robots. The application areas of the three sectors are briefly illustrated individually and in combination in terms of specific overlapping regions (Figure 1).

**Robotics (A)** integrates science, technology, and engineering, which involves robot construction, operation, and design. Robots are automated machines that can do specific activities quickly and precisely with little or no human assistance (Helfric, 2022). Robots have various levels of independence. Some are capable of working totally independently of human inference, while others require ongoing guidance to finish the task. Industrial robots, service robots, and cobots are the main application areas of robotics (Hickman et al., 2022).

**FIGURE 1 -  
ROBOTICS, AI AND AUTOMATION APPLICATIONS IN AUTOMATION INDUSTRY**



**Artificial Intelligence (B)** is the software that gives computers the capacity to carry out tasks often performed by human minds, such as perception, judgment, learning, and problem-solving (Jorge et al., 2020). Several forms of AI include analytical, functional, interactive, textual, and visual skills (Sarker, 2022). AI can be used to improve an application's intelligence

and functionality. AI has enormous potential to serve humans, such as analyzing more and deeper data, achieving incredible accuracy, and having progressive learning algorithms. AI skills such as understanding, decision-making, risk alerting, and investigation are in great demand across all industries, such as health, banking, public sector, and manufacturing (Statistical Analysis System Institute, 2020).

**Automation (C)** consists of many components, such as software, devices, and machines built to perform or control tasks with human interactions or fully autonomously. Automation uses technology to minimize the human effort required to achieve specific tasks by replacing or reducing labor. The fundamental principle here is that the work is still being accomplished but with less or no human effort as input (Mckay, 2019). The main application areas are continuous batch operations such as oil refining, manufacturing, and chemical industries, which require non-stop supervision and control. (Hickman et al., 2022).

Aside from regular robots, **AI robots (D)** have particular self-analyzing skills, which AI software embeds in robot systems by learning from their environment and experience. They can behave autonomously without human assistance, and onboard processing technology assists them in analyzing information and making an accurate judgment, whether that option is to move to avoid an oncoming obstacle, pick, or select accurately (Hickman et al., 2022). Integrating AI and robotics has enabled businesses to move beyond automation and use their robots to tackle increasingly complicated and high-level jobs in construction, security, customer service, and health care.

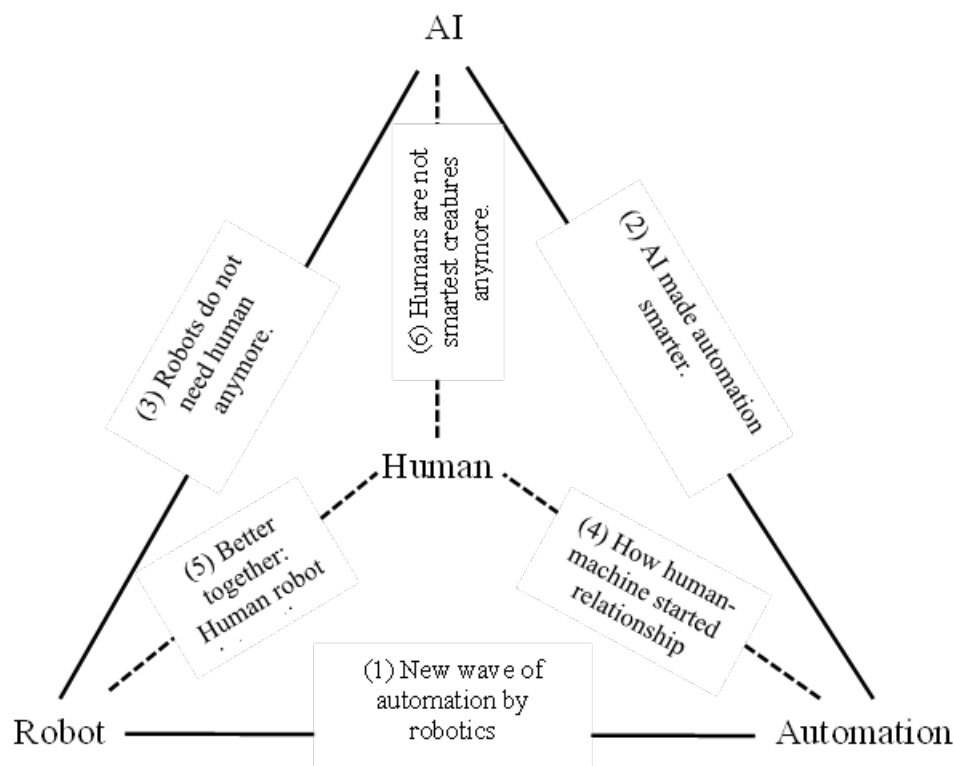
**The combination of robotics and automation (E)** is one of the most significant recent developments in the automation industry. The processes are automated using robotic arms and cobots that execute pre-programmed, repetitive activities safely and error-free (Hecks et al., 2021). There are generally two primary applications for robotics integration into the automation industry: industrial robotics and collaborative robotics. Industrial robots are used as multi-axis robotic arms for material cutting, handling, assembling, and painting. In contrast, collaborative robots involve deploying robots and other automation technologies alongside employees to execute tasks.

Merging automation with AI capabilities to improve process outcomes creates **AI-integrated automation (F)**. This combination is trained and requires less human effort to impact the process while it provides cognitive input to individuals, augmenting their analytical powers, and does not require professional guidance (Jorge et al., 2020). Predictability and consistency, facts-based decision-making, and operational efficiency are significant advantages of this automation. The combination of AI and automation contributes to the business in many application areas, such as brand management, software testing and development, customer service, and handling batch operations (Sarmah, 2019).

The intersection of AI, robotics, and automation forms **the technological triangle (G) integration**. This integration optimizes workflow operations by enhancing efficiency, lowering risks, and providing superior quality products at a reduced cost by using AI robots (IBM Cloud Education, 2021). AI not only contributes to the integration by embedding in robotic systems but also by effectively redesigning entire automated processes and providing access to major control components.

Entry of AI and robots into the automation industry generated new approaches, increased flexibility, and expanded opportunities. New waves of mechanization also changed humans' role in this process. Robotics and cognitive machines capture the tasks that humans previously performed. With the advent of the new era of automation, the Robot-Automation-AI model needs another dimension: the Human. Managers and technology developers must consider the emerging relationships among all four dimensions. The critical aspects of human-machine relationships are illustrated in Figure 2. These aspects are briefly explained below.

**FIGURE 2**  
**HUMAN AND MACHINE RELATIONSHIPS IN THE AUTOMATION INDUSTRY**



**(1) New wave of automation by robotics.** Robots brought new breaths to the automation industry, such as boosting productivity and cutting labor costs (Tilley, 2017). While building automation systems, robots' capabilities should be taken into account. According to Tilley (2017), a successful automation strategy requires good decisions to automate activities at each level, from simple programmable logic controllers to highly sophisticated robots.

**(2) AI made automation smarter.** Automation systems become safer, less faulty, and more operative. Thanks to AI applications in control systems, based on data and program systems, it can diagnose, control, and predict outcomes (Bryan, 1997). Safety issues have become necessary for manufacturers by integrating the Internet of Things (IoT) into automation systems (Dawson, 2018). When constructing a line of defense against hackers in manufacturing,

AI may be a helpful tool for recognizing and learning patterns continuously for any deviations (Amit et al., 2019).

**(3) Robots do not need humans anymore.** Due to self-learning, robots keep improving to handle their assigned processes better. Robots controlled by AI can learn from their surroundings and past experiences and expand their capabilities based on that information. AI-based robots are not only used in hazardous environments such as chemical and radioactive factory mining, which are dangerous for human workers, but also in designing and producing goods according to customers' desires (Helfric, 2022).

**(4) How human-machine relationship started.** Initially, people began to automate tasks to decrease manpower requirements, reduce the cost of operation, and monitor the whole process. Supervisory Control and Data Acquisition systems were built to control and monitor spot devices, measure, and be aware of all kinds of alarms (Li et al., 2017). Thanks to these types of systems, operators could determine the cause of issues, prevent loss of production, and achieve product quality.

**(5) Better together: Human-robot interactions.** The increased use of human-robot collaboration in manufacturing means enhanced safety, reliability, and more streamlined processes. To execute manufacturing operations on work parts, such as pick-and-place, assembling, screwing, or inspection, humans, and robots may share a workspace depending on the scenarios. There is no doubt that while building the manufacturing processes, kinds of collaborations such as independent, supportive, or sequential scenarios should be considered (El Zaatari et al., 2019).

**(6) Humans are not the smartest creatures anymore.** AI compensates for humans' weaknesses and limitations by enhancing precision, accuracy, and attention to their efforts (Kazutoshi, 2018). AI helps humans by creating a safer workplace and analyzing big data in manufacturing. As Jorge et al. (2020) mentioned, AI has the potential to analyze massive volumes of complicated manufacturing data such as operation, environmental, measurement, and process data. By quickly analyzing large amounts of data, humans can expand their vision of the manufacturing process by forecasting possible faults and improving quality and productivity.

Without a doubt, machines will eventually be able to complete all necessary activities without the assistance of humans. According to a report by McKinsey (Manyika et al., 2016), 59% of all industrial tasks, including product packing, material loading on machinery for production, welding, and equipment maintenance, can be automated. Management of people and functions requiring experience in planning, creativity, or judgment are examples of less automatable activities. Empathy and contextual understanding skills are generally tough to automate because machines cannot interpret emotions reliably well. Emotional intelligence is necessary for many professions, including those requiring critical thinking, inventive problem-solving, flexibility, and cognitive judgment. (Trompert, 2021).

Cobots, or computer-controlled robotic devices, are technologies developed that can enable complicated and flexible production processes with human assistance (El Zaatari et al., 2019). The strength and endurance of robots are combined with the adaptability and decision-making of human participants in human-robot interaction (Djuric et al., 2016). Humans naturally use a combination of body language and hand gestures, voice commands, and visual interfaces to

contribute to this interaction. Cobots have become more intelligent and highly skilled by working alongside humans than their predecessors.

Compared to people, AI-driven applications have a faster execution speed, greater operational capacity, and exactness while being profoundly large in dreary and monotonous positions. However, the human role has not disappeared in AI-powered automation systems yet. According to Cuomo (2021), "IBM keeps the human impact of automation at the core of every strategy." World Robotics reports in 2021 by the International Federation of Robotics that 3 million robots are working globally (Guerry et al., 2021). In contrast, roughly two-thirds of the workforce is employed in tasks that may potentially be automated with the application of recently developed technology (Manyika et al., 2017). Although Industry 4.0 impacted manufacturing by creating smart factories, human workers dominate the manufacturing labor force, performing more than 72% of factory tasks (Hu et al., 2018). At every level of the production process, automation will lead to improved processes. However, it is still crucial that human involvement is required to react, decide how data should be used for optimal efficiency, and handle problems as they arise.

*P1: Humans continue to play essential roles in the era of automation with their emotional intelligence, cognitive judgment, and mental adaptability, although technological innovations impact the role of humans in the automation industry by changing workplaces or reshaping their tasks.*

According to Acemoglu and Restrepo (2018), there is a balance among automation, eliminating people's jobs and labor demand by creating new tasks. Hence, the human workforce that performs physical tasks and analyzes data to increase productivity and quality decreases. In contrast, new jobs generate modern labor demand, like trainers to train using machines, operators to control semi-autonomous robots, and supporters to repair, calibrate, or fix automated machines. As Foster (2022) mentioned, the potential unemployment threat to humans because of automation may transform essential opportunities for improving workers' career paths.

Undoubtedly, new types of jobs affected workers' skill demand while increasing social and cognitive skills and decreasing physical and manual skills. According to Schwabe and Castellacci's estimation (2020), if the automation industry's impact on the labor market increases, workers' skills will reshape according to new technology opportunities. Higher-skilled employees benefit from automation, whereas low-skilled individuals who cannot adapt to the latest industry's outcomes will suffer. McKinsey Global Institute (2018) showed that the number of employees who work as machine feeders or packaging machine operators, which need physical and manual skills, could decrease twice while occupations demanding cognitive and emotional skills will grow with Industry 4.0 disrupting production functions in factories (Bughin et al., 2018).

Professionals in the labor market need to update their abilities promptly throughout their jobs to keep up with changing circumstances (Norton, 2017). Due to the "Skill Revolution," simultaneously, businesses are ramping up their requirement so that their human workforce can undertake new and complex functions with new types of tasks generated (Foster, 2019). Humans

need to focus not only on improving their skills to carry out the functions or activities that cannot be automated or done by robots but also on interacting with automation and gaining the new skills required for machine integration. Regarding skill types in manufacturing and production, the workforce analysis shows that old-fashioned physical and manual abilities will be replaced by managing machines, high learnability, and complex problem-solving skills (Manpower Group, 2019).

*P<sub>2</sub>: The new wave of the automation industry forces employees to enhance their job-related skills to meet the requirements of businesses to perform newly generated tasks.*

While advanced improvements in the automation industry stimulate economic growth, generate opportunities, and raise the standard of living, they may also pose or solve severe issues for individuals and communities, such as growing inequality and job displacement (Mckay et al., 2019). New automation trends create opportunities for high-skilled workers with advanced technical, academic, and interpersonal skills, negatively impacting low-skilled individuals by paying less or threatening job loss. Due to job polarization by automation, employment opportunities and wages between (un)skilled individuals are impacted significantly (Schwabe and Castellacci, 2020). Latest automation technologies will lead to job loss in repetitive task occupations such as assembly line or switchboard operators because of being automated tasks, whereas it may have a more favorable impact on highly skilled people by raising labor demand, earnings, and attractiveness of their activities.

Potential threats have been explained by Acemoglu and Restrepo (2018) that taking away humans' job via automating task lead to the decomposition of wages, the slow adaptation of labor demand, and even decreased profitability gained from automation. By receiving the financial benefits from automation, high-skilled and educated people work in high-wage positions due to high demand from the labor market, whereas the employees who execute the tasks that could be automated or done by robots are low-paid. Furthermore, the occupations requiring low skill are the most risky because these positions consist of repetitive and automatable tasks with more automation potential.

Income polarization by automation will likely tend to change educational requirements because higher degrees of education will likely be required for a more significant percentage of employment in the future. While skill requirements for jobs increase globally, the necessity of advanced degrees for the labor market will increase, and at the same time, occupations with lower educational requirements will decline (Manyika et al., 2017). In considering unequal educational opportunities for everyone, wage polarization may increase in the professions affected by automation.

Regarding gender, the new automation age impacts labor markets unequally by creating opportunities and threats. According to McKinsey Global Institute research, women may, on average, lose their jobs to automation less frequently than males, and given their current employment status, they may also be marginally more likely to fill openings for new positions (Madgavkar et al., 2019a). Automation can potentially cover the gender gap in the workplace by

creating new jobs. According to Harvard Business Review, they estimate that women will be able to be hired to newly generated positions more than men by 2030 due to removing sharply divided gender lines in occupations and sectors by automation (Madgavkar et al., 2019b).

*P<sub>3</sub>: Recent automation technologies impacting the labor market and nature of employment as follows:*

*P<sub>3a</sub>: They create more high-skill jobs than low-skill ones by disrupting occupation balance and adapting to future employment needs and educational requirements.*

*P<sub>3b</sub>: They accelerate income inequality by widening the wage gap based on humans' current job-related skills.*

*P<sub>3c</sub>: They close the gender gap by expanding gender-specific opportunities while impacting gender-based occupations.*

After the latest automation technologies take out repetitive, dull, mundane tasks at employees' workplaces, the jobs that require creativity, innovation, and emotional skills were left to humans. Darino et al. (2019) believe that employees have more control over their daily lives and a higher sense of authority and mission over their efforts, so this process increases their motivation. As automation reduces the workload of humans, it gives employees more time to concentrate on unique and creative activities. According to Smartsheet's automation impact in the workplace report (2017), wasted time is reduced, and human error is eliminated. Automation also leads to more exciting and valuable tasks by focusing on a curious and highly valuable part of employees' jobs.

Depending on psychological and social aspects, automation may contribute to alleviating workplace stress by taking pressure off workers and reducing the possibility of human errors (Wani et al., 2018). Employees are alerted and made clearly aware of their duties due to the automated process, allowing them to work in a more comfortable environment. Furthermore, workers' stress at the workplace is positively impacted due to more challenging tasks getting easier, such as managing machines or tools being easy to use by humans and operating or collaborating with robots. According to Nazareno and Schiff (2021), the workforce becomes more manageable due to making jobs more straightforward through automation, leading to stress being down.

AI's advent into the automation industry also demonstrated its influence on people's mental health. According to Lie and Wei (2022), when implementing AI-powered automation in manufacturing, a reduction is witnessed in workers' psychological depression. Due to the developed workplace automation, such as reducing workloads, boosting work efficiency, and providing a safe environment for workers, employees' well-being and mental health are positively impacted (Li and Wei, 2022). However, in terms of human-robot collaboration, Lu et al. (2022) mentioned that workers may feel more stressed because of low safety awareness, which is associated with humans' mental health while showing possible methods for assessing mental stress and safety awareness during robot collaboration.



*P4: Automation has mixed impacts on workers' mental health and could increase motivation at the workplace by eliminating or reshaping the work activities of humans.*

One of the crucial aspects in the automation industry is trusting machines by humans from the quality, precision, judgment, and fairness perspectives. Humans' confidence level and willingness to act according to suggestions, orders, and decisions made by automation or AI show trust in machines (Hancock et al., 2011). Hoff and Masooda (2015) evaluate human-automation trust from three perspectives. Those include executing task performance by automation, operator understanding while using automation, and establishing the designer's purpose for an automated system. Trust issues are especially crucial in Safety Instrumented Systems used in hazardous processes and help avoid accidents and consequent losses because a designer's carelessness while building an automation system or operator error can be costly for the entire process in emergency cases. Explaining the system's range of applications and purposes to the end-user clearly and simply and eliminating design errors and unforeseen variances help to increase trustworthiness between humans and automation (Lee and See, 2004).

Trust became more vital after integrating AI into the automation industry because decisions are no longer made within pre-programming rules but are made according to the learning process based on experience and feedback (Glikson and Woolley, 2020). Humans have not discovered the full potential of AI in the automation industry yet, and there are still unpredictable matters. AI-based robots are more capable of learning than humans, so the automation sector's future may be unexpected for individuals. The unpredictability of AI is explained by Yampolskiy (2020) that even though we know the system's end goals, we cannot accurately and consistently forecast the precise steps an intelligent system will take to accomplish its goals. If AI's entry data may be improper or unfair, then automation outcomes will be impacted negatively by corrupted robots' responses and behaviors. Although 100% safe AI will always be a pipe dream due to AI's unpredictable nature, we can still work toward safer AI since we can foresee some aspects of the AI we create (Yampolskiy, 2020).

Building trust is a dynamic process and depends on the performance and purpose of the AI from reliability, usability, collaboration, or interpretability perspectives (Siau and Wang, 2018). Because of an inadequate explanation, people may not always realize why an AI system makes a particular action, which may lead to doubt about the accuracy of outcomes by humans. Intelligent machines for the automation industry, frequently built on machine learning over massive data, may include inconsistencies and unjust or incorrect choices buried in the training data (Guidotti et al., 2019). Regulations need to be developed to build trustworthy AI by always being controlled by humans, using transparent data and algorithms, and avoiding unintentional bias (Joshi, 2019).

*P5: Trusting machines controlled by AI in the automation industries becomes more complicated and unsafe, while the results of processes and actions by intelligent machines have been growing less predictable and understandable by humans.*

## MANAGERIAL IMPLICATIONS

Businesses that currently utilize robots will probably employ them even more as the cost and complexity of automating jobs using robots decrease (Tilley, 2017). Robot installations rapidly expand because of reduced machine costs and increased demand for produced goods (Cooper, 2017). The process is accelerated because robots quickly become more capable than human labor (Cooper, 2017). The new era of automation provides significant opportunities for businesses to increase productivity using robots. Managers are expected to understand how they must utilize robots efficiently and suitably in the automation industry, such as making volume higher, defining appropriate activities to automate, and increasing profit margins. To build automation systems, robotics solutions must be applied according to businesses' long-term strategies regarding quality, cost, accuracy, and safety measures. Moreover, due to rapid changes in robotizations, managers also need to consider the easy integration with future technologies, increasing global competition, and implications for the workplace and society (Cooper, 2017).

AI-powered automation transforms employees into superhumans by effectively empowering them to utilize their talent and effort (Cuomo, 2021). Many businesses are learning about the advantages of AI and the multiple ways it may provide intelligence, boost efficiency, and discover opportunities in the automation industry. Although AI has a wide range of capabilities, its inappropriate implementation may prevent businesses from achieving their expected goals. Bringing a new level of accuracy to automation by AI, companies may analyze a lot of data while spending less time than expected to increase production systems, predict possible faults in the processes, and improve machine vision (Sarmah, 2019). Considering the unpredictability of AI in decision-making, managers need to integrate human interactions with their emotional intelligence into the cognitive processes to improve accuracy levels and understand better causes and effects.

The technological revolution in the automation industry not only provided benefits such as higher production volumes and decreased labor costs but also altered humans' role and workforce. When businesses build automated systems, they need to keep the balance between automation productivity and human efficiency. The negative impact of technology on the human workforce may lead to a decline in overall business profit. By understanding how automation affects employees, jobs, and wages, managers may assist workers in adapting to these changes and contributing to the benefits of increased productivity that new technology will bring. According to Chui et al. (2016), developing machines to understand human performance and decrease adverse effects on the workforce is a breakthrough the company needs for technological improvements. Figuring out automation from a human performance perspective, such as employees interacting with their professions and connecting individuals with technology, may inspire managers to think about executing machines efficiently.

Although human-machine collaboration is not a novel concept, how machine and human interactions are utilized together must be improved according to changing human roles by modern automation technologies. While including human factor automation systems within the latest technologies, businesses must establish collaboration scenarios between machine and

human jobs regarding communication, optimization, and safety measures (El Zaatari et al., 2019). Robots can expand people's physical reach in terms of strength, durability, and speed as a benefit of this partnership (El Zaatari et al., 2019), while employees contribute to this combination with agility, decision-making, and creativity. Regarding safety measures in human interactions with robot applications, managers must consider risk assessment and safety concepts. Movement sequences and planned collaboration space are counted as significant safety measurements to determine appropriate robot systems. Integrating robots into the automation process optimizes the task balance between humans and robots' activities, and safety requirements need to be implemented to achieve higher production and efficiency (Djuric et al., 2016).

Managers should understand how the workforce is structured inside their businesses as job-related skills evolve (Bughin et al., 2018). Companies may have trouble hiring talented workers for appropriate openings because newly hired workers leisurely adapt to the latest technology and need high training to use technology. Businesses must reevaluate and restructure their organizational structures and work methodologies to fully utilize the new technology by focusing on talented employees while redesigning business processes (Bughin et al., 2018). However, businesses must foster a learning culture, give career counseling, and provide quick, targeted upskilling opportunities to compete in the skills revolution (Manpower, 2019). Due to the technological transformation of the automation industry, managers need to balance performance skills and newly generated tasks by providing appropriate software and applications to employees, learning programs, or training to maximize productivity and efficiency.

While businesses take advantage of automation systems, they must first adopt these applications with an awareness of how technological benefits impact employee behavior. In order to increase employee engagement and performance, which will eventually lead to improved work performance and personal well-being, businesses need to pay close attention to how employees' sentiments of competence, autonomy, and relatedness are changing due to automated tasks (Darino et al., 2019). Consequently, in terms of automating tasks, businesses need to start with dull, mundane activities at the workplace. To help employees feel less worried, managers can also convey the significant benefits of automation, such as lightening their work and taking them away from mundane tasks. Employees who fear losing their jobs may harm the corporation through internal conflicts and even willfully destroy current workplace equipment (Wani et al., 2018).

## **RESEARCH IMPLICATIONS**

Businesses will likely be fully outfitted with these modern technologies, such as AI, machine learning, and collaborative robots, which would entirely replace traditional systems (Sarmah, 2019). Not only having smart machines and robots in the factories but also building production lines, choosing appropriate tools and equipment in automating activities, and designing the processes play an essential role in adopting new technology to automation systems in manufacturing (Cooper, 2017). Using different forms of AI and robotics applications in automation systems can be focused on specific issues, such as worker safety, cybersecurity, and

keeping up and leveraging modern technologies to improve the intelligence and capabilities of manufacturing processes (Sarker, 2022). To maximize productivity, safety, and quality, these issues must be addressed by choosing appropriate tasks to automate and enhance adopted recent technology applications. Further research could elaborate the search for new engineering designs by AI implications in manufacturing, identify key strategies for businesses, and find solutions such as more effective production lines, protection against cyberattacks, and support a healthier work environment for the challenges.

The conceptual model presented in Figure 2 illustrates human-machine relations in the new era of the automation industry by emphasizing workers' connections and interactions with each application. Future research could also shed light on new challenges in these interactions, such as supporting and getting along with each other and reshaping humans' roles according to applied new technologies. Adopting advanced technology must be easily understandable to enhance human functions and maximize interactions with appropriate guiding instructions and training. Robotics and AI integration will make the automation process more complex for humans to comprehend and utilize (Sarmah, 2019) to increase productivity and efficiency. Therefore, the matter is taken into account from machines' perspective and from humans' comprehension and utilization viewpoint. A brain-computer interface that unites people and machines can dramatically improve human capabilities and produce a "species" more potent than humans (Tencent Research Institute, 2020). Future research needs to investigate how interactions between humans and machines can be improved, and potential challenges can be minimized while implementing new technologies in the automation industry.

Integrating automation with human skills will force businesses to produce new talent strategies to help drive their growth and profitability (Manpower, 2019). The research has provided information about the importance of reshaping professional skills within the labor market to satisfy the requirements of advanced technology (Bughin et al., 2018). Further studies are needed to examine how to define skill strategies for building talent within businesses according to emerging new technology and developing people for high-growth roles (Manpower, 2019). Depending on how quickly automation and AI are used, strategies might result in structural adjustments inside the businesses and changes needed for organizational agility and adaptability (Bughin et al., 2018). Companies may benefit from educational institutions concentrating their curricula on the talents that will be in demand in the future. At the same time, industrial associations may assist them in developing more robust talent pipelines in specific industries to locate the capabilities they need (Bughin et al., 2018). Regarding business strategies, further works must include elaborated descriptions of the most effective method of assessing humans' potential and assigning individuals to the appropriate roles while adopting new technology.

When applying AI to automation, AI may be utilized to make machines smarter besides analyzing data so that it can be used as a tool for managing and evaluating humans in the workplace. Further research may provide detailed information about human well-being by gathering and examining a variety of data points by AI about a person who interacts with machines during work. Depending on humans' reactions to autonomous and smart devices, automation may strain workers and create psychological problems in the workplace (Li and Wei,

2022). AI may be created and crafted considering employees' psychological needs to lessen their workloads and enhance their physical and mental welfare (Li and Wei, 2022). Moreover, AI may evaluate mood using customized input data or emotional well-being technologies to identify whether workers require environmental encouragement or physical comfort (Croman, 2018). More research is also needed to evaluate humans' mental health, such as emotional, psychological, and social well-being, focusing on human data and examining performance based on machine productivity and efficiency.

The research could be extended to make AI transparent and eliminate its unpredictability. In terms of future research, the decisions made by AI need to be analyzed for long-term outcomes by clarifying strategy formulations by intelligent machines. Humans need to comprehend the reasons behind the automation system's behavior and if it will conform to the expectations of the system to assure the safety of a machine learning system by AI (Rudner and Toner, 2021). "As machines learn, they may develop unforeseen strategies at rates that baffle their programmers" (Yampolskiy, 2019, p.1). Although outcomes by AI in the automation industry are highly reliable, human predictability of actions and processes is declining as machines grow more intelligent. Transparency reports for the decision-making process by AI, as well as imposing specific constraints on AI systems, may aid in the development of eliminating the unpredictability of AI (Joshi, 2019). However, further research is needed while exploring constraints to intelligent machines and restraining AI functions to clarify decision processes and understand how this process would affect accuracy and performance.

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# ANTECEDENTS OF CULTURAL INTELLIGENCE OF UNIVERSITY FACULTY AND STAFF: IDENTIFYING DIRECTIONS FOR CULTURAL INTELLIGENCE DEVELOPMENT IN HIGHER EDUCATION

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## ABSTRACT

*This study tested the cultural intelligence (CQ) of 306 university employees using the 20-item Cultural Intelligence (CQ) scale (Van Dyne, Ang, and Koh, 2008) at a small private university located in the Pacific Northwest. Our study yielded yet another confirmation of the statistical reliability of the Cultural Intelligence (CQ) scale and of its subscales. Consistently with our hypotheses younger ( $\leq 46$  years old) employees demonstrated higher cultural intelligence compared to their senior co-workers. Likewise, the data supports the view that employees who frequently and closely interact with the diverse populations of students had higher cultural intelligence levels compared to the employees who maintain limited contact with the students.*

**Keywords:** *cultural intelligence (CQ), higher education, age cohorts, experience-based cultural intelligence development.*

## INTRODUCTION

The pressing need to make American universities better prepared for dealing with a greater degree of diversity on their campuses stems from both within the increasingly diverse American society and from the growing demand for high-quality college education that comes from the scores of prospective international students. In the college context, the challenge of diversity, which is generally defined as exposure to multiple frames of reference and opinions, usually presents itself through the needs of ethnically and culturally diverse student populations (Judkins and LaHurd, 1999). Indeed, the U.S. Census of 2020 documented a historical shift in the composition of the American population: the share of children who were born to racial and ethnic minorities for the first time exceeded 50 percent (United States Census Bureau, 2020). The changing demographics of American society also sends a signal that higher education institutions need to become more culturally savvy to effectively attract and better serve multicultural student populations. As Kenneth Johnson, a senior demographer at the Carsey Institute pointed out, this coming change would represent an opportunity for more Americans to embrace diversity while children and educational institutions will be in the vanguard of this change (Siek and Sterling, 2012). At the same time as the number of young American citizens

who bring more varied cultural traditions to the campuses continues to increase, the number of international students admitted to American campuses also climbs as the dangers of COVID-19 pandemic subside.

The resulting presence of a more diverse and multicultural population of students is already felt at schools and at universities. As Triandis (2006) states, cultural differences might stem from a variety of distinctions, including language, ethnicity, religion, politics, social class, and many other attributes. He further notes that, without knowledge of other cultures and without intercultural experience, all humans are ethnocentric and unable to effectively build relationships with people from other cultures that they will encounter in the globalized workplace. Cross-cultural tensions between various stakeholder groups are inevitable in the process and successful resolution of those requires "...ongoing development of skills in cross-cultural collaboration that enable appreciation of respective partner challenges, the negotiation of effective outcomes, the shifting of traditional mind-sets to embrace a broader stakeholder culture, and the operationalizing of agreed ways forward" (Bolton and Nie, 2010, pp. 702-703). DiTomasio et al. (1998) echo this opinion by stating that "success in the global economy requires cultural competence with diverse populations of employees, customers, and other stakeholders and an understanding of competitors (p. 5)."

Universities' admissions programs aimed at diversifying the student body represent only one facet of the efforts required to manage diversity on campus and would be insufficient if they are not integrated with a range of other efforts (Crawley and Crawley, 2009). Facing the rising tide of multiculturalism on campuses, American universities' will have to invest into developing their intercultural capabilities at the organizational level to successfully appeal to and work with more culturally diverse populations.

Although this study uses the data from the United States and strives to make contributions that primarily apply to American universities, the trend described above is not unique to the United States. Globalization and diversity of resident populations are common factors across many regions of the world. Academic researchers and administrators from countries ranging from Australia (Bolton and Nie, 2010; Marginson, 2000) to China (Wang, 2013) proclaim the imperative for their schools to rethink and rework their administrative practices, curricula, and pedagogies in light of the ongoing internalization of higher education. To facilitate their preparedness for working with culturally diverse populations, universities need both a solid theoretical foundation for designing their intercultural training programs and a reliable measurement instrument for monitoring their progress.

While embracing diversity generally provides a rich payoff for organizations in the form of increased productivity, creativity, and overall financial performance (e.g., Giambatista and Bhappu, 2010; Nielsen, and Nielsen, 2013; Barta, Kleiner, and Neumann, 2012), lack of organizational preparedness for increased cultural diversity presents significant obstacles to reaching organization's objectives (Jehn and Mannix, 2001; Jehn, Northcraft, and Neale, 1999; Chua, 2013; Giambatista and Bhappu, 2010). Diversity within organizations by itself does not guarantee productive interaction and collaboration between members. For instance, a large-scale study of diverse student populations (Carey et. al, 2022) has shown that cross-race and cross-class interactions were happening less frequently than expected, and students experienced less

satisfaction and perspective-taking in cross-race and cross-class interactions compared to same-race and same-class interactions. However, cross-group interaction that took place did predict better academic performance for the underrepresented racial groups and for the students from lower social economic group backgrounds (Carey et. al, 2022). This suggests that simply increasing the diversity of organizations is not enough. Fostering cross-group communication and collaboration is needed to create an inclusive climate within organizations. Development of employees' cultural intelligence (CQ) capabilities might provide a "golden key" to achieving this result. Empirical research provides evidence of a positive relationship between employees' cultural intelligence (CQ) and performance. For example, Fujimoto and Presbitero (2020) have demonstrated a positive relationship between perceived supervisor CQ and intercultural cooperation within an organization. Zhang et al. (2022) found evidence of positive effects of CQ on knowledge management in multinational corporations.

Despite the widely acknowledged importance of developing intercultural competence for ensuring universities' ongoing success, research on preparing university staff, faculty, and other higher education stakeholders for performing their duties in the increasingly culturally diverse world is still relatively scarce.

This study strives to make a contribution by investigating the influencing factors as well as consequences of developing intercultural competence by the faculty and staff members of a small private university in the Northwest of the United States. We use the Cultural Intelligence framework (Earley & Ang, 2003) as the theoretical foundation for our study.

### **CULTURAL INTELLIGENCE (CQ)**

Cultural intelligence is defined as "an individual's capability to function and manage effectively in culturally diverse settings" (Ang and VanDyne, 2008, p. 3). Cultural intelligence (CQ) is conceptualized as one of the aspects of general intelligence, along with emotional intelligence (Mayer and Salovey, 1993) and social intelligence (Thorndike and Stein, 1937). Cultural intelligence is not a personality trait (although certain personality traits were shown to be the precursors of higher cultural intelligence), but a skill that can be developed by any psychologically healthy adult who has the motivation and the opportunity to learn (Ang & Van Dyne, 2008). Comparing CQ to the other constructs related to individual intercultural capabilities, Ang & Van Dyne (2008) point out that CQ stands out as a "cleaner" construct which is grounded in multiple intelligence theories and consistently conceptualizes cultural intelligence as a set of capabilities, while many other measurement instruments mix ability and non-ability characteristics. The cultural intelligence approach to intercultural training on campus has the advantage of starting with a comprehensive assessment of an individual's intercultural strengths and weaknesses and allows for designing a training program that will address this individual's intercultural weaknesses while playing off their strengths (Earley, Ang, and Tan, 2006).

Cultural intelligence (CQ) can be analyzed along four dimensions: meta-cognitive, cognitive, motivational, and behavioral. According to Ang and Van Dyne (2008), metacognitive CQ reflects the mental capability to acquire and understand cultural knowledge. Cognitive CQ reflects general knowledge about cultures and cultural practices. Motivational CQ reflects

individual capacity to direct energy toward learning about and functioning in cross-cultural situations. Behavioral CQ reflects a person's ability to acquire and use news interaction skills that are needed in a new culture (Ang and Van Dyne, 2008, p. 3).

As we pointed out earlier, one of the distinguishing characteristics of the Cultural Intelligence framework is that it views CQ not as a personality trait but rather as a capability that is developed over time and can be improved with experience and education. This experience-based view of CQ suggests that experience, rather than age, would be associated with greater cultural intelligence.

Even though it appears that with age, individuals have a chance to develop greater cultural intelligence, making age an antecedent of cultural intelligence (Ang and Van Dyne, 2008), this study seeks to explore the possibility of the generational effects that might modify or even counter the effect of age on cultural intelligence. Specifically, we propose that older age does not automatically translate into greater individual cultural intelligence. Rather, the accumulation of intercultural skills will occur only if an individual has a motivation and an opportunity (through frequent and prolonged contact) to interact with the representatives of other cultures. Development of cultural intelligence, as discussed earlier, requires the accumulation of specific knowledge and skills as well as the development of a specific mindset. Earley and Mosakowski (2004) called it the "...interaction of head, heart, and body (p. 142)." "Head" means not just the accumulation of factual knowledge about the beliefs and customs of foreign cultures but also the development of effective learning strategies for dealing with every new culture that an individual encounters (Earley & Mosakowski, 2004). "Body" means that a culturally savvy individual has a repertoire of behaviors, actions, and demeanor that will allow them to develop a good rapport with the representatives of a different culture. Finally, "heart" means that an intercultural competent individual will believe in their own efficacy of dealing with foreign cultures and maintain a high level of enthusiasm and motivation to apply their cultural knowledge to action even despite the possible setbacks and temporary failures (Earley & Mosakowski, 2004).

Segmentation by age cohorts has been a popular way to study consumers for decades. The concept of an age cohort is based on the assumption that attitudes and behaviors of all people born over the same period of time will be shaped by the same "big events." Major economic booms and recessions, milestone events such as the astronauts landing on the Moon, the Vietnam War, the "hippy era" etc. are viewed as such cohort-shaping events.

We reasoned that although a more advanced age generally provides greater opportunities to acquire more knowledge and develop greater social intelligence, a more advanced age does not automatically translate into greater cultural intelligence. As American society becomes more racially and culturally diverse and as the acceptance of multiculturalism becomes more mainstream, younger people whose period of socialization occurred during these more recent "multicultural" years actually may have a greater chance to develop their capability to deal with intercultural situations relative to older age cohorts. Younger people may be likely to be more motivated to become culturally competent because they found themselves interacting with the people from other racial and ethnic groups during their formative years and envisioned the

practical need for developing intercultural capabilities (hence, being motivated to develop their intercultural skills).

*H1: Younger respondents will score higher on cultural intelligence compared to the older respondents.*

Young adults typically are at the leading edge of social change and are interested in the world, how it works, and their place in it (Bonnie, Stroud, and Breiner, 2014) They also generally display more accepting attitudes than their elders toward cultural behavioral norms that are different than their own (Mintz, 2021).

We reason that cultural experience might be developed not only with age but with greater exposure to intercultural interactions, through the process of experiential learning. Kolb (1984) defined experiential learning as the process of creating knowledge through the transformation of experience. Upon the completion of an individual's formal education, experiential learning often becomes the dominant source of learning of social skills such as CQ. In fact, Morrison and Brantner (1992) estimate that experience accounts for up to 70 percent of individual development. Work environments, such as in higher education, provide broad opportunities for social interactions and, therefore, for experiential learning. A number of studies (Li et al., 2013; Mosakowski et al., 2013; Gupta et al., 2013) provide evidence of essentially spontaneous development of cross-cultural capabilities as a result of exposure to cross-cultural situations (e.g., working overseas as an expatriate manager). Dealing with more diverse social contacts as well as with people from different ethnic backgrounds likely produces both the context and the incentive to develop one's intercultural capabilities.

Low ethnic and racial diversity is prevalent in the community where our study was conducted. The student body of the university where our data were collected is more diverse than the general population in the area. Hence, we reason that the employees who closely and frequently interact with the students as part of their daily duties at work will have a better chance to enhance their cultural intelligence, compared to the employees who mostly interact with the other employees and with the surrounding community. We set the formal hypothesis:

*H2: Employees who frequently and closely interact with the students will have higher cultural intelligence scores compared to the employees who maintain limited contact with the students.*

Earley and Peterson (2004) explain that a 'broad foundation of knowledge about cultures and societies...covering topics such as economic systems, religious, and political institutions, social relationships, and so forth' needs to be in place to allow for the effective interpretation of intercultural situations and for acquiring CQ-related cognitive skills.

As an additional research objective, this study seeks to explore the reliability of CQ Scale (Van Dyne, Ang, and Koh, 2008) when used specifically for assessing the employees' cultural intelligence at a higher education institution.

*RQ1: Does CQ Scale generate acceptable levels of statistical reliability and is it suitable for assessing employees' levels of cultural intelligence at a higher education institution?*

## METHODOLOGY

### Participants and Procedure

The data were collected in a small religiously affiliated private university in the Pacific Northwest of the United States. The data collection for this study was done using the opportunity to “piggyback” on a university-wide campus climate survey. An invitation to participate in the online campus climate survey was sent to the staff and faculty via a university-wide e-mail. The questions pertaining to this study were presented to the participants along with a range of unrelated questions gauging respondents’ attitudes to university policies, university mission, as well as measuring the perception of the overall psychological climate on campus. Due to the large number of questions, it was unlikely that the respondents could guess the hypotheses and the purpose of this survey. The participants had to follow the link to the third-party website where they could answer the questions of the online survey at any time during the week-long data collection timeframe. To maximize the response rate, the organizers of the survey, including one of the co-authors, sent two reminder e-mails urging the faculty and staff to participate. The incentive to participate was a chance to win an iPad. The response rate in this survey was 56 percent which resulted in 306 usable surveys.

The respondents could opt out of answering any of the questions of the survey which resulted in the varying sample size for each measured variable. On average, for each of the demographic variables reported below, between 8 percent and 10.5 percent of respondents did not give an answer: different people skipped different questions. However, the percent of missing data remained fairly consistent across the whole range of demographic questions. The percentages reported in Table 1 were calculated with the exclusion of the missing data.

The information about age, function performed at work (e.g., academic, administrative staff, etc.), number of years employed by the university, gender, race/ethnicity, and education was collected from the participants. The respondents’ term of service at the university ranged from 1 month to 35 years, with the average of 9.1 years. The other measured characteristics of the sample are summarized in Table 1.

**Table 1: Demographic characteristics of the sample**

<b>Demographic variable</b>	<b>Number of respondents</b>	<b>Percentages</b>
<b><i>Gender</i></b>		
Female	195	63.7
Male	82	26.8
<b><i>Age</i></b>		
25 and under	8	2.8
25-35	62	22.1
36-46	71	25.4
47-65	127	45.4
66 and older	12	4.3
<b><i>Race</i></b>		
White	248	90.5
Multiracial	14	5.1
Hispanic/Latino	4	1.5
Asian	4	1.5
American Indian	2	.7
African American	2	.7
<b><i>Education</i></b>		
High school or less	10	3.6
Some college	34	12.1
Associate degree	19	6.8
Bachelor's degree	103	36.8
Graduate or postgraduate degree	114	40.7
<b><i>Disability status</i></b>		
Not disabled	264	95.3
Disabled	13	4.7
<b><i>Sexual orientation</i></b>		
Heterosexual	271	97.1
LGBT	8	2.6
<b><i>Religion</i></b>		
Catholic	97	36.3
Protestant	59	22.1
Other Christian	49	18.4
Buddhist	3	1.1
Latter Day Saints (LDS)	2	.7
Jewish	1	.4
No organized religion	36	13.5
Atheist or agnostic	20	7.4

Women comprised the majority of the respondents (63.7 percent, see Table 1). While racial diversity was not a characteristic trait of our sample (90.5 percent of respondents described themselves as Caucasian), cultural diversity of our respondents likely stemmed from the variety

of the religious traditions they were adhering to as well as from the differences in their education, sexual orientation, and life experiences (e.g., age range).

Table 2 breaks down the participants by their job status (managerial vs. non-managerial positions) and by the type of the work they performed for the university.

**Table 2: Work-related characteristics of the sample**

<i>Job status</i>		
Managerial positions (manager, director, or supervisor)	93	33.6
Non-managerial positions	184	66.4
<i>University divisions</i>		
Administration, planning & finance	94	35.7
Academics	80	30.3
Student life	46	17.4
Athletics	14	5.3

The 20-item CQ scale (Van Dyne, Ang, and Koh, 2008) was used to assess the respondents' ability to manage cross-cultural situations in their personal and professional lives. The scale consists of four subscales: metacognitive, cognitive, motivational, and behavioral, corresponding to the four dimensions of cultural intelligence.

## RESULTS

### Reliability of Measures

All subscales of the CQ Scale have demonstrated sufficient reliability in our sample. Cronbach alphas for all subscales exceeded the generally recommended minimum level of .7 (Nunnally, 1978). The means, standard deviations, and Cronbach alpha coefficients for each subscale and for the composite CQ scale are reported in Table 3.

**Table 3: The means, standard deviations, and Cronbach alpha coefficients for the Cultural Intelligence (CQ) Scale and for its subscales**

CQ subscales	Mean	Standard Deviation	Cronbach alpha
Metacognitive CQ	17.52	3.29	.796
Cognitive CQ	19.85	6.14	.913
Motivational CQ	22.79	3.98	.801
Behavioral CQ	20.68	4.54	.855
Overall CQ Scale	81.31	14.91	.933

Further analysis revealed that the inter-item correlations within each scale were moderately positively strong. Further analysis showed that the removal of individual items would



lead to a drop in the Cronbach alphas for each scale, further supporting the decision for including the individual items.

## HYPOTHESES TESTING

Hypothesis 1 predicted that younger respondents will have higher cultural intelligence scores compared to the older respondents. To test H1, we transformed the Age Group variable (see Table 1) into the new variable with two categories:  $\leq 46$  years of age and  $\geq 47$  years of age. Such data transformation resulted in the two groups of about equal size (139 and 134 respondents, respectively). The reason behind the decision to recode the Age Group variable in the manner described above was that, at the time of conducting the survey, the 46 years-of-age threshold was approximately corresponding to the split between the older generations (Baby Boomers and the Silent Generation) and the younger generations (Gen X-ers and Millennials) represented in the workforce. The “47 and over” age group, thus, comprises the age cohorts that came of age of when American society was less ethnically diverse and multiculturalism were receiving less political support. In contrast, Gen X-ers and Millennials grew up while interacting with people of various ethnic backgrounds. It was also the time when the dominant paradigm of acculturation changed from interpreting American society as a “melting pot” to a “mixed salad.” (Leslie et. al., 2020).

The relatively small number of representatives of certain age cohorts in our sample (e.g., we had only 8 respondents under the age of 26) was the reason why we decided to combine age cohorts as described above.

To test H1, we ran the independent samples T-test with the CQ Scale and the four CQ subscales as dependent variables and the 2-category Age Group variable as the grouping variable. The results are largely supporting H1. The overall CQ scores ( $t(272)=2.14$ ,  $p<.05$ ), the Metacognitive subscale scores ( $t(270)=4.59$ ,  $p<.05$ ), the Cognitive subscale scores ( $t(269)=1.69$ ,  $p<.09$ ), the Motivational subscale scores ( $t(271)=1.85$ ,  $p<.07$ ), and Behavioral subscale ( $t(271)=3.02$ ,  $p<.05$ ) were all values were higher for the younger age cohorts than for the older (“47 and over”) employees. Even though this difference only reached borderline significance for the Cognitive and Motivational subscales, the overall pattern was very consistent for all dimensions of cultural intelligence.

Recall that H2 states that the employees who frequently and closely interact with the students have higher cultural intelligence scores compared to the employees who interact with the students on a less frequent basis.

To test for H2, we divided all employee categories (see Table 1) into two types. The Academics, Student Life, and Athletics faculty and staff are engaged into more frequent and close contact with the students as part of their daily duties (teaching, advising, counselling, and coaching). Administrative staff from other divisions was assigned to another category since their duties do not typically result in everyday contact with the students. The CQ scores for these two categories were compared using the independent samples T-test. The results largely supported H2 across all dimensions of CQ. The employees engaged in a regular contact with the students scored significantly higher on the overall CQ scale (the sum of the 4 CQ subscales), specifically,

$t(256)=2.82, p<.01$ ). Likewise, the Cognitive scores ( $t(253)=2.65, p<.01$ ) and Motivational scores ( $t(255)=2.55, p<.05$ ) were significantly higher for the “frequent contact” category of employees, while the Metacognitive scores ( $t(254)=1.86, p=.06$ ) and Behavioral scores ( $t(255)=1.85, p=.06$ ) were marginally significantly higher for the “frequent contact” employees.

## DISCUSSION AND CONCLUSIONS

Overall, our study provided yet another empirically tested confirmation of the reliability of the 20-item Cultural Intelligence scale (Van Dyne, Ang, and Koh, 2008) and of its subscales on a sample of faculty and staff employed in higher education. Cronbach alpha values for the overall CQ scale and for all four of its subscales (Metacognitive, Cognitive, Motivational, and Behavioral) exceeded .7, indicating sufficient levels of reliability (Nunnally, 1978).

The overall CQ scores ( $t(272)=2.14, p<.05$ ), the Metacognitive subscale scores ( $t(270)=4.59, p<.05$ ), the Cognitive subscale scores ( $t(269)=1.69, p<.09$ ), the Motivational subscale scores ( $t(271)=1.85, p<.07$ ), and Behavioral subscale ( $t(271)=3.02, p<.05$ ) were all higher for the representatives of the younger age cohorts than for the older (“47 and over”) employees. Even though this difference only reached borderline significance for the Cognitive and Motivational subscales, the overall pattern was very consistent for all dimensions of cultural intelligence. This pattern supports our view of the younger generations generally possessing higher levels of cultural intelligence. By virtue of having higher cultural intelligence and being more demographically diverse, younger employees might be best suited for the role of catalysts of cultural change at their organizations. To ensure that this transfer of cultural intelligence occurs, younger, interculturally competent, employees should be put into situations that empower them and enable them to share their cultural perspectives, lived experiences, and intercultural reflections with their co-workers. This can be achieved by offering organized retreats, staff interaction events, and various community service events.

Another finding of our study supports the view of Cultural Intelligence as of an individual capacity that is enhanced by practice. The hypotheses predicting that respondents who frequently interact with diverse student populations would exhibit higher levels of cultural intelligence was largely supported. Cognitive and Motivational scores in particular were significantly higher for the “frequent contact” category of employees. An alternative explanation, however, might suggest some sort of self-selection by the employees where people with higher levels of “soft skills” choose the job roles that call for more frequent contact with students. Further research is needed to better discern the causation behind this observed pattern.

Any educational institution, by nature of working with increasingly diverse populations of students, employees, and community partners, should be interested in fostering high levels of cultural intelligence in its employees to ensure better performance. To approach this process strategically, an institution will need to start by regularly assessing cultural intelligence of its employees. We advocate for the wider use of the 20-item Cultural Intelligence scale (Van Dyne, Ang, and Koh, 2008) by educational institutions for this purpose. The scale is easy to administer and score. It has a proven record of validity and reliability. One of the most obvious advantages of the 20-item CQ scale is that it yields not just the overall CQ score but also more granular data

on employees' Metacognitive, Cognitive, Motivational, and Behavioral scores. Fostering Cultural Intelligence of the staff of organizations that work with a variety of diverse populations requires assessing cultural intelligence and then designing a process for addressing any deficiencies that might be discovered in the process. Specific remedial measures might be needed for each specific pattern of CQ scores. For instance, an organization observing deficiency of cultural knowledge among their staff, might address this by offering training that focuses on educating employees about the customs and values of other cultures. A pattern characterized by relatively high knowledge of other cultural traditions, but low motivational scores (unwillingness to translate cultural knowledge into actual interaction with other cultures) or low behavioral scores (inability to interact efficiently with people from other cultures) would require a training of another sort. For instance, a training to foster cross-cultural motivation might attempt to build confidence in one's ability to be a successful cross-cultural communicator (Bandura, 1986). Future research is needed to design the most efficient training for each type of CQ deficiency. No matter what form the program of fostering employees' cultural intelligence will eventually take, the important first step is conducting an assessment of employee's cultural intelligence.

Other directions for future research in the area might include exploring and measuring the most direct impact of cultural intelligence on employee performance, specifically in educational institutions settings. Although cultural intelligence has been conceptualized as a form of general intelligence, along with emotional intelligence and social intelligence, research exploring the simultaneous manifestation of all of these facets of human intelligence in the workplace as well as research that explores correlations between these forms of intelligence in the workplace seems insufficient. Managers leading their organizations in the globalized world could benefit from these insights.

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# **EXPLORING THE IMPACT OF TUITION REIMBURSEMENT PROGRAMS ON ACTUAL TURNOVER IN MANUFACTURING: PRE- AND POST-COVID INSIGHTS**

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## **ABSTRACT**

*This study explores the efficacy of tuition reimbursement programs in addressing turnover and retention concerns, leveraging comprehensive data spanning pre- and post-COVID-19 pandemic periods. Through extensive survey data collected from manufacturing businesses in Middle Tennessee, encompassing four years and 1,247 responses, this study evaluates the impact of tuition reimbursement programs on turnover rates and perceptions through comparisons between organizations who provide tuition reimbursement benefits and those who do not. The findings suggest that organizations offering tuition reimbursement achieve lower turnover rates and perceive turnover as less of a challenge compared to their counterparts lacking such programs. Moreover, even with the upheaval wrought by the COVID-19 pandemic, these trends persisted, despite the overall inflation of turnover that began post-pandemic. In conclusion, this study advocates for the strategic integration of tuition reimbursement programs as a potentially powerful tool for mitigating turnover challenges and nurturing employee retention.*

## **INTRODUCTION**

In the fast-paced world of manufacturing, it is critical to research and understand the vital, and often expensive, ways in which employee benefits impact turnover and retention, two of the most expensive factors on any organization's bottom line. According to SHRM, the average cost of turnover in hourly rate jobs is nearly \$5,000 per employee. Additionally, Forbes estimated the 2023 turnover rate to have been approximately 3.8% nationwide, with 2.5% attributed to employees quitting. These statistics underscore the significant financial impact that turnover and absenteeism can have on businesses. Given these issues, it is imperative to find ways to keep quality employees. Though it is widely understood that offering employee benefits is helpful in retaining employees (Yamamoto, 2011), more research should be done on which specific benefits can be leveraged to reduce actual turnover rates and improve retention. This paper explores the potential of tuition reimbursement programs as a method to reduce turnover and improve employee retention. Further, the data used in this study provide an excellent landscape for exploring differences in these topics between pre- and post- COVID-19 pandemic

times, shedding light on the potential stay-power of our findings and of tuition reimbursement programs.

### LITERATURE SUPPORT

Employee benefits play a crucial role in organizations, not only in attracting and retaining talent but also in enhancing overall employee well-being and reducing turnover costs (Grissom et al., 2015). However, the significant financial investment associated with offering benefits highlights the importance of selecting the most impactful programs. This underscores the necessity for organizations to strategically evaluate and implement benefit packages that yield optimal returns on investment.

A study by the Lumina Foundation, in conjunction with Cigna, provides empirical evidence suggesting a link between education reimbursement programs and reduced turnover intention as well as several other benefits among employees who participated (Miller, 2016). While turnover intention may not directly translate to actual turnover, the findings suggest that such programs have the potential to positively influence employee retention efforts. This underscores the significance of offering benefits that align with employees' personal and professional development goals, thereby fostering a sense of loyalty and commitment to the organization (Mignonac & Richebe, 2012). Furthermore, Mignonac and Richebe (2012) stress the importance of employees perceiving benefit programs as genuine efforts by employers to enhance their well-being, rather than solely serving the interests of the organization. This aligns with the view that benefits programs should be designed with a focus on improving employee satisfaction and engagement, ultimately contributing to reduced turnover rates. Specifically, programs such as tuition reimbursement directly impact the quality of employee lives, making them potentially impactful in many areas, even beyond turnover and absenteeism.

A recent article by UMass Global explored the relationships between professional development benefits and employee retention through interviews conducted with HR experts in the field. They suggested that offering professional development options, including tuition reimbursement, has shown to have a positive impact on employee retention via improving employee satisfaction and creating avenues for employee growth and succession planning and that it is a mechanism for attracting and retaining top talent (UMass Global, n.d.). Several studies have supported this anecdotal evidence, also finding that tuition reimbursement programs have shown to increase organizational commitment, job satisfaction, and employee skill development for employees who participated in the program (Miller, 2016; Perry, 2018).

The current data suggests tuition reimbursement programs could potentially help decrease employee turnover intentions by positively impacting various factors such as improved retention, career advancement opportunities, and employee satisfaction. However, it's important to note that turnover intentions and actual turnover are distinct concepts. Not all who intend to turnover actually do so. Research must now focus on better understanding the relationship between tuition reimbursement programs and actual turnover within organizations. How can insight into the relationship between tuition reimbursement programs and actual turnover within organizations be obtained?

To answer that question, the current research for this paper delves into four years' worth of comprehensive wage and benefit data gathered through four nearly identical surveys conducted in 2017, 2019, 2021, and 2023. Targeted questions regarding tuition reimbursement programs, employee turnover rates and reasons, as well as qualitative data about whether turnover was considered a challenge for their organization were all posed to survey respondents. Data were collected from manufacturing businesses in the Middle Tennessee area with employee counts ranging from 1 to 120,000. In total, there were 1,248 responses used in this study. Spearheaded by the Business and Economic Research Center (BERC) at Middle Tennessee State University in collaboration with the Middle Tennessee Industrial Development Association, these surveys have provided a rich reservoir of information that has been beneficial for strategic decision-making.

Moreover, given the date range of the data collections, interesting exploratory research questions begin to arise: what, if any, impact did the COVID-19 Pandemic have on the data? Do trends still stand despite the massive changes that the Pandemic caused for workplaces and the lives and demands of employees?

### **RESEARCH QUESTIONS**

With the goal of gaining insight on how the provision of tuition reimbursement programs impacts turnover and retention for organizations, several research questions were examined:

- 1. What is the difference in turnover rates between organizations with tuition reimbursement programs and organizations without such programs?*
- 2. What is the difference in employee retention rates between organizations with tuition reimbursement programs and organizations without such programs?*
- 3. Do organizations with tuition reimbursement programs report that turnover is less of a challenge for their organization than employers without a tuition reimbursement program?*
- 4. Were there differences between pre-pandemic data collections and post-pandemic data collections?*

### **DATA AND METHODOLOGY**

Data for this paper were collected through a series of four surveys developed and distributed by the Business and Economic Research Center (BERC) at Middle Tennessee State University in 2017, 2019, 2021, and 2023. Though the surveys collected a much broader range of topics, only data regarding turnover, absenteeism, and employee benefits, specifically childcare assistance programs and tuition reimbursement programs were included in the analysis. The surveys were distributed to the human resources management professionals in manufacturing



companies within the Middle Tennessee region. The number of responses, specific to the data sets used in this paper, ranged from 307 to 355 responses depending on the year. The total data set for the four years of surveys combined included 1,247 respondents. Relevant data were extracted and combined, with date distinctions, to create a new, clean dataset.

To draw comparisons between organizations who provided tuition reimbursement programs and organizations who did not have active programs, the item “In the past 5 years, how many employees have taken advantage of tuition reimbursement?” was coded as “yes”, for respondents who indicated they had participants in their program within the last five years. Respondents who indicated not having a program or not having any program participants within the last five years were coded as “no”. Further, for the item “Is employee turnover a challenge for your company?”, items were coded as “agree”, “disagree”, or “neutral”. Respondents who responded as neutral were not included in the analyses involving this item. Turnover rates were left as percentages. It should be noted that each of these items were presented independently from each other at various points throughout the larger survey and therefore responses are unlikely to be confounded based proximity within the survey.

Data were then grouped based on whether the organization had an active tuition reimbursement program or not. Then responses were run for each group to discover the group’s average turnover rate and percent of agreement with the statement “turnover is a challenge for my company”. The averages were then graphed and compared between groups.

To assess differences between pre- and post-COVID-19 pandemic, the survey data was split between 2019 and 2021. After the split, the sample breakdown was 631 in the pre-pandemic data pool, consisting of the 2017 and 2019 datasets, and 616 in the post-pandemic data pool, consisting of the 2021 and 2023 datasets. Data were analyzed similarly to the between-groups comparisons, but with the addition of the split between years.

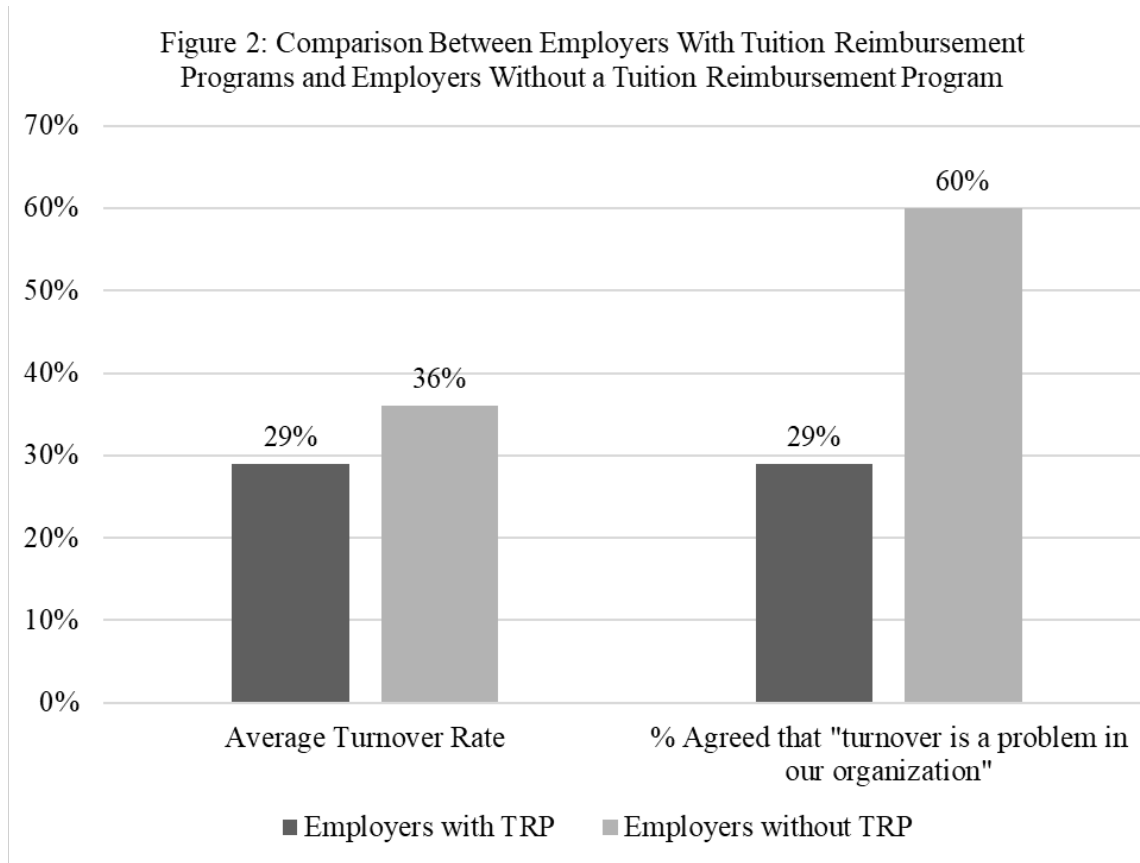
## **RESULTS AND DISCUSSION**

### **Comparative Analyses**

The analysis of data collected from 1,248 employers provides valuable insights into the relationship between tuition reimbursement programs and employee turnover. Among all surveyed employers, the average turnover rate stood at 34%, highlighting the pervasive challenge of employee retention across industries. Notably, 61% of employers identified turnover as a significant concern within their organizations, underscoring the widespread impact of this issue on business operations.

Additional examination of the data revealed that employers who offer tuition reimbursement reported an average turnover rate of 29%. In contrast, employers who did not provide tuition reimbursement programs reported a higher average turnover rate of 36%. These findings, visually displayed in Figure 2, clearly suggest that organizations offering tuition reimbursement programs experience decreased turnover outcomes compared to those that do not provide such benefits. The reason behind these findings could stem back to the early discussion that these programs have been previously found to lead to increased employee job satisfaction

and organizational commitment. Another factor may be that many organizations who offer tuition reimbursement programs require employees to stay with the organization for a certain amount of time after completing their education to be eligible for reimbursement.



Further, only 29% of employers who offer tuition reimbursement programs agreed or strongly agreed with the statement that "turnover is a challenge for our organization." Whereas 60% of employers without an active tuition reimbursement program agreed or strongly agreed with the statement. These are interesting findings that make sense when assuming that if turnover is actually less of a problem for their organization, then it is understandable that those same organizations' HR managers would perceive turnover to be less problematic than their counterparts.

In all, the results of this between-groups comparison analysis revealed that, across all survey years, organizations that provide tuition reimbursement as an employee benefit have lower rates of actual turnover and perceptions of turnover as a problem. This adds to the current research by providing evidence that tuition and educational benefits are impacting more than just turnover intentions, but also reducing the costly outcome of turnover.

## COVID-19 Impact Analysis

Given the previous findings and as this study provided a perfect opportunity to explore the differences between pre- and post-COVID-19 Pandemic survey responses, we drilled down further into our earlier comparative analyses. This time separating the data by survey distribution date into pre- and post-pandemic datasets. An analysis comparing turnover rates among all respondents, organizations with tuition reimbursement programs, and those without such programs revealed many insights. First, turnover rates went up 25 percentage points from pre-pandemic averages to post-pandemic averages, indicating a large increase in turnover in general post pandemic (see Table 1). This data supports the anecdotal information that arises in many HR and Management meetings that turnover is more of a problem than ever, post-pandemic.

**Table 1: Pandemic-focused average turnover rate comparison.**

	PRE-COVID-19 PANDEMIC	POST-COVID-19 PANDEMIC
AVERAGE TURNOVER RATE	20%	45%
AVERAGE TURNOVER RATE FOR ORGANIZATIONS <i>WITH</i> A TRP	15%	40%
AVERAGE TURNOVER RATE FOR ORGANIZATIONS <i>WITHOUT</i> A TRP	21%	47%

\*Tuition Reimbursement Program (TRP)

Interestingly, the data continued to support the previous finding that organizations that provide tuition reimbursement programs as an employee benefit have much lower turnover rates than organizations without active tuition reimbursement programs in both pre- and post-pandemic surveys. Though averages all increased post-pandemic, the trends remained the same. This supports the argument that tuition reimbursement programs are more than just a “trendy” benefit option and are more stable and lasting in their impact.

Finally, the trend continued in how respondents replied to the item “turnover is a challenge in our organization” (see Table 2). Though the overall average increased, employers who provided a tuition reimbursement program were less concerned with turnover as a challenge for their organization than their counterparts. This data provides supplemental information supporting the idea that tuition reimbursement programs may be viable and valuable additions to an organization’s benefits package.

**Table 2: Pandemic-focused average ‘agreed’ that “turnover is a challenge” comparison.**

	PRE-COVID-19 PANDEMIC	POST-COVID-19 PANDEMIC
AVERAGE ‘AGREE’ THAT "TURNOVER IS A CHALLENGE FOR OUR ORGANIZATION" FOR ORGANIZATIONS <i>WITH</i> A TRP	15%	40%
AVERAGE ‘AGREE’ THAT "TURNOVER IS A CHALLENGE FOR OUR ORGANIZATION" FOR ORGANIZATIONS <i>WITHOUT</i> A TRP	21%	47%

\*Tuition Reimbursement Program (TRP)

Thus, within this research, the question “were there differences between pre-pandemic data collections and post-pandemic data collections?” can be answered with, “well, yes and no”. Though the averages were inflated across the board post-pandemic, the finding that employers who have active tuition reimbursement programs fare better in terms of turnover and retention remained steady in both situations. This suggests that implementing an active tuition reimbursement program may benefit more than just employees, but could help organizations retain and upskill their employees, potentially leading to lowered turnover cost and higher quality employees.

### LIMITATIONS

Research on this topic should continue, as the current study was restricted to the manufacturing sector within the Middle Tennessee area. Though the manufacturing sector employs a large segment of people, there are many types of organizations that will likely benefit from the current study’s findings and those findings should be retested with several other types of organizations and workforces. Further, perhaps these findings are an anomaly to the Middle Tennessee region. Research should be done in many locations to provide a more rounded understanding of how tuition reimbursement programs impact retention and turnover.

The low base rate of employee participation in offered tuition reimbursement benefits, which should be addressed in further research, decreased the sample size of employers who were considered to have active tuition reimbursement programs. However, this limitation was mitigated by combining four years’ worth of survey data which drove up the overall sample size. This limitation could be addressed by surveying how tuition reimbursement programs are designed, which ones have better employee participation outcomes, and how perceive the benefits package. Case studies could also be used to discover the best method to improve participation rates.

Finally, on average across all survey distributions, survey respondents required more than an hour to complete the surveys. This has the potential to lead to survey fatigue which has the potential to increase error in responses. Thus, when further research is done, it is recommended to use a more brief, targeted survey to ease problems such as survey fatigue.

## CONCLUSIONS, IMPLICATIONS, AND FURTHER RESEARCH

Discovering the optimal package of employee benefits offerings is critical for all organizations, especially now when the effort for talent is high. To add to the current pool of evidence-based research available to employers when evaluating the most cost-effective benefit options for their organizations and employees, we undertook the task of discovering the ties between tuition reimbursement as a benefit option and actual turnover outcomes. Given the findings of this study, organizations should consider the strategic potential of tuition reimbursement programs as a tool for mitigating turnover challenges and fostering employee retention during planning. As businesses strive to optimize their workforce strategies, investing in tuition reimbursement programs emerges as a promising avenue for achieving sustainable retention outcomes and maintaining competitive advantage in the talent market.

Out of 1,247 surveyed employers, only 24% reported offering tuition reimbursement programs in which employees were participating. Based on the rates of both employers offering these programs and employees participating in the offered programs (between 1-5%), there are two pathways of opportunity for organizations to gain a competitive advantage in this area. First, if an organization does not offer this type of program, they should consider it in their strategic planning of benefits. Second, if a company already provides this type of program, but has a low rate of participation, they should consider assessing how they currently market the program to employees and recruits as well as assess their program for any fatal flaws.

In conclusion, if employers offering such programs demonstrate not only lower turnover rates but also perceive turnover as less challenging, then these findings suggest the enduring value in fostering employee satisfaction and organizational commitment through adding or enhancing tuition reimbursement as a key employee benefit. Strengthening the argument is the finding that despite the pandemic-induced disruptions, the resilience of tuition reimbursement programs in sustaining retention outcomes underscores their potential as a strategic lever for organizations seeking to optimize workforce strategies and gain or maintain their competitive edge in the current fight for skilled workers.

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# **PUBLIC PERCEPTIONS OF ESG INITIATIVES: DOES PROVIDING EVIDENCE OF IMPACT MATTER?**

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## **ABSTRACT**

*While many companies are engaging in environmental, social, and governance (ESG) initiatives, little attention has been given to assess whether the disclosure of evidence used to support ESG programs impacts public perceptions of corporate trust. For instance, does the provision of evidence to the impact of an initiative matter to individuals or is the mere act of developing and communicating an ESG program sufficient? Does providing evidence of more than one ESG initiative amplify the effects? Using a between-subjects experimental design, the results suggest there is a positive impact on public perceptions of trust when a company provides evidence of the impact of at least one ESG initiative. However, there were no enhanced effects on perceptions when evidence of the impact of more than one initiative was provided.*

## **INTRODUCTION**

ESG, or environmental concern (e.g., resource consumption reduction), social responsibility (e.g., impact on communities), and governance (e.g., code of conduct), is an ever-present acronym used in modern day marketing and corporate relations (see, for example, BlackRock 2020). Derived from the well-known concept of corporate social responsibility (CSR), ESG points to the positive impact of corporate policy on society. Specifically, ESG describes how companies voluntarily integrate environmental and social considerations into their business operations and how they define governance issues that pertain to their adopted policies (Strand et al., 2014). Currently, 79% of venture and private equity backed companies and 67% of privately owned companies engage in ESG. Research suggests that actively participating in ESG related programs can lead to positive associations with an organization's product or service offering, in turn, elevating levels of brand trust and loyalty (Ferrell et al., 2019). Given these positive effects, 88% of publicly traded companies make available annual reports that document the impact of their ESG initiatives (Niemoller, 2023). These reports have become an important factor of consideration for consumers when deciding which company to support and, in some cases, a component used by accounting firms to measure value (Yoon et al., 2018). Thus, extant research has focused primarily on the use of ESG performance indicators for consumer investment decisions (see Whelan, 2021). While the relationship between ESG campaigns and a company's overall brand image is shown to be positively related, failure to fulfill ESG promises can erode public trust and credibility in a company which may spillover to consumer confidence with the organization (Koh et al., 2022). Thus, researchers have begun to investigate the impact of ESG programs on consumer sentiment and behavior.

Today, ESG disclosure statements and reports are commonplace on corporate websites and annual 10-K filings. For instance, Apple's Environmental Progress Report pledges that the company will be completely carbon neutral and use only recycled or renewable materials in their products by 2030. They provide evidence to document their strides toward these goals by disclosing the tonnage of carbon emissions avoided each year and the percentage of materials in Apple products that come from recycled sources (Apple, 2022). Given their robust goals and successes, Apple was recently ranked 5th on Investor's Business Daily list of the 2022 Top 100 Best ESG Companies (Doler, 2022). Another publicly traded company, PepsiCo, is using ESG marketing tactics to its advantage. Through their corporate website (PepsiCo.com), they provide an integrated section dedicated to ESG approaches and initiatives. Scrolling through the information provided, PepsiCo provides data disclosures of the positive impact they have had in the following areas: agriculture and sourcing, water, packaging, nutrition, sustainability management, and job growth. For example, Pepsi recently announced the Pepsi Positive or Pep+ program. Pep+ is an initiative focused on sustainability through positive agriculture, positive value chain, and positive choices that inspire positive action for people and the planet (PepsiCo, 2021).

In many instances, the overall impact of a successful ESG program is disclosed in quantified amounts. For instance, a company may report how much money it has raised for a charitable cause, the tonnage of waste that it reduced, or the kilowatts of energy it conserved. However, are these forms of disclosure impactful to an individual or the public at-large? Is a typical person capable of putting aggregated values into meaningful perspective to assess its true level of impact? Or does the public simply value that the company has been committed to a program and documented a result? Moreover, does providing evidence of impact for multiple ESG initiatives matter more than evidence for a single effort? At the corporate level, this question appears to be at issue. For example, Amazon recently discontinued their AmazonSmile campaign. This initiative, launched in 2013, pledged a percentage of eligible purchases would be donated to a consumer's organization of choice. While Amazon stated that \$500 million had been donated through the program, they revealed that they had hoped for a larger impact. With over 1 million organizations eligible for a donation, their ability to have an impact was spread far too thin (Amazon, 2023). Given this issue, the aim of this paper is to assess if disclosing the evidence of the impact of an ESG initiative impacts public perceptions of corporate trust. Moreover, this study will examine the strength of the impact relative to the number of ESG initiatives currently undertaken by the firm. It is anticipated that documented evidence of the impact of an ESG effort will be more positively perceived by the public compared to simply stating an ESG pledge or mission. In addition, it is expected that when a company provides evidence of more than one ESG initiative, the positive impact of the combined efforts will be greater than that of a single effort.



## LITERATURE REVIEW AND HYPOTHESES

### Legitimacy Theory

Suchman (1995, p. 574) posits legitimacy theory as “a general perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions”. From a corporate standpoint, legitimacy theory suggests that a company's actions should align with social expectations. Essentially, organizations must consistently demonstrate the "legitimacy" of their actions, ensuring that societies perceive them as operating within acceptable boundaries. This creates a social contract between an organization and the community, such that organizations should willingly communicate activities believed to be expected by the societies in which the organization operates (Guthrie and Parker 1989; Deegan, 2002). If the community perceives that the organization's activities do not align with its moral values, the social contract may be revoked, potentially leading to the organization's failure (Abdul Rahman & Alsayegh, 2021). Deegan (2002) emphasizes that an organization's survival is at risk if there is a legitimacy gap, where societal expectations and norms diverge from the organization's needs. Consequences of breaching the social contract may include reduced demand for products, withdrawal of labor and financial capital, or advocacy for increased taxes, fines, or laws by constituents. To address a legitimacy gap, organizations often increase corporate disclosure (Rezaee 2016). For instance, if the community expects environmental consciousness and social responsibility, various stakeholder groups may demand more ESG information from the organization. Firms that voluntarily disclose sustainability practices in ESG reports communicate the benefits of their initiatives to society, thereby legitimizing their social responsibility mandate. Indeed, prior empirical research supports the applicability of legitimacy theory in understanding environmental and social disclosure reporting (e.g., Ali et al. 2017; Dyduch & Krasodomska 2017; Haniffa & Cooke 2005).

### Public Perceptions of ESG and Consumer Trust

Public perceptions of CSR, which includes ESG practices, are critical in building trustworthy relationships with customers. According to Dwyer et al. (1987), trust refers to the expectation that people want to cooperate and fulfill their duties and obligations in relationships. Performance-based trust is based on a firm's expertise, capacity to provide high-quality goods or services, and effective business operations, whereas benevolence-based trust is based on the beliefs of customers that a corporation cares about the well-being of society (Mayer et al., 1995). Thus, companies engaging in pro-social corporate undertakings can signal their desire to protect and advance societal welfare and build trust with customers. In fact, social trust plays a crucial role in enhancing corporate social responsibility (Chen and Wan, 2020). Numerous studies have confirmed the positive impact of firms' social responsibility engagement on customer trust (e.g., Abu Zayyad 2021) In general, consumers perceive businesses with significant CSR commitments as being more dependable, responsible, and trustworthy (Hur et al., 2014; Gilal et

al., 2020). Of note, Koh et al. (2022) found social and governance attributes of ESG enhance credibility, image, and quality of the brand. Moreover, research indicates that trust built through ESG activities can result in significant positive effects on consumer repurchase behavior and word-of-mouth intentions (Bae et al., 2023; Moon et al., 2022)

### **Evidence of ESG Impact**

While the goal of an ESG report is to provide a snapshot of the sustainability and social responsibility efforts of a company, the framework that sets standards and guidelines for the disclosure vary by country and industry. For instance, the Corporate Sustainability Reporting Directive (CSRD) requires large European organizations (over \$150M sales) to report on all activities that have an impact on the environment or society. Similarly, the United States has proposed new regulation that publicly traded companies be required to disclose information on emissions and climate-related impacts (SEC, 2022). While some disclosure requirements are regulated, other companies may elect to voluntarily report on metrics that can serve as benchmarks against competitors. From a financial perspective, a side-by-side comparison of ESG metrics may be helpful when making investment decisions. In addition, environmental and social responsibility reporting is shown to have a greater impact when presented separately from other financial information (Bucaro et al., 2020). However, it is not clear whether consumers attend more to holistic (i.e., summary evaluation) or precise details, such as the absolute impact (e.g., total dollars donated to a charitable cause), relative impact (e.g., kilowatts of energy per capita conserved), proportional impact (e.g., pounds of waste reduced as a function of firm size) or combined impact (e.g., total dollar, energy, and waste efforts), of ESG programs.

Recently, a joint study conducted by McKinsey and NielsenIQ examined sales growth for products that claim to be environmentally and socially responsible (Bar Am et al., 2023). A couple key takeaways from this study could provide guidance toward the anticipated effects of ESG disclosure information. First, products making ESG-related claims on packaging (e.g., vegan, eco-friendly, biodegradable) were shown to grow faster than products that were absent ESG information. This result was consistent across two-thirds of the 32 product categories analyzed. Thus, it appears providing specific ESG related claims results in positive consumer response behavior. Second, the study analyzed the effects on growth when a product package displayed multiple types of ESG-related claims. Results revealed that products with multiple claims grew nearly twice as fast as products that made only one. This suggests that consumers may be more likely to perceive the combined effects of the claims made by a product correlates with authentic ESG-related behavior. It also suggests that brands might be wise to incorporate claims across the interconnected social and environmental factors associated with their product. Thus, it is expected that ESG disclosure information would mirror these results. Specifically, companies that provide evidence of the impact of their ESG initiatives will be viewed more favorably than companies that fail to provide evidence and companies that provide evidence of multiple ESG initiatives (especially across multiple ESG issues) will be more positively viewed than companies that provide evidence of a single effort. Therefore,

**H1:** *Companies that provide evidence of the impact of their ESG initiative will be perceived more positively by the public than those that fail to provide evidence of their ESG initiative.*

**H2:** *Companies that provide evidence of the impact of combined ESG initiatives will be viewed more positively by the public than those that provide evidence of a single ESG initiative.*

## METHOD

The study employed a between-subjects experimental design. Actual ESG initiatives of a select healthcare company were manipulated across conditions. To clarify the concept of ESG and limit confusion, subjects were first provided with a definition of ESG and how it applies to environmental, social, and governance issues of a company. Participants were then provided with a brief description of the selected healthcare company, McKesson, which included their actual ESG mission statement. Initial results revealed that nearly 50% of the participants reported knowledge of the healthcare company used in this study. However, subsequent analyses revealed that corporate knowledge and experience had no significant relationship with the dependent measures. Respondents were provided monetary compensation for their participation and data was collected through TurkPrime (formally CloudResearch).

First, respondents were randomly assigned to one of three conditions: control, evidence of impact for a single ESG initiative, or evidence of impact for multiple ESG initiatives. In the control condition, only the ESG mission statement was provided to respondents (*i.e.*, no evidence of impact). In the single ESG initiative condition, respondents were only provided with evidence of the impact of the company's water conservation efforts. In the multiple ESG initiatives condition, respondents were provided with evidence of the impact of the company's water conservation, waste reduction, and carbon emission footprint efforts. Stimuli used in the study are provided in Figure 1.

Figure 1. ESG Initiatives

**McKesson Corporation Emissions Footprint**

We know that rising greenhouse gas (GHG) emissions are the primary source of climate change, and we work to do our part to reduce and avoid emissions in our operations and supply chain. We do this by working to optimize our fleet, improve the efficiency of our buildings, and increase our renewable energy procurement.

McKesson has **reduced its emissions 9%** on its way to its 2030 carbon neutral goal.

Scope	FY20 MT CO <sub>2</sub> e	FY21 MT CO <sub>2</sub> e
Scope 1	104,129	114,724
Scope 2 (location-based)	160,906	147,447
Scope 2 (market-based)	151,212	150,178
Scope 3	114,428,191	114,419,394

**McKesson Corporation Waste Data**

We generate waste in our offices, warehouses, distribution centers and pharmacies. In every McKesson location, we aim to reduce the amount of waste we produce. Where we cannot reduce, we try to reuse materials and seek to avoid sending waste to landfill by — donating, recycling, or composting.

	FY20	FY21
Waste recycled	26,526	25,816
Waste sent to landfill*	11,698	12,672
Hazardous waste generated	1,880	2,739
Hazardous waste diverted from disposal through recycling, reclamation or recovery efforts*	21	9
Non-hazardous waste generated*	212	196
Other waste (non-hazardous, non-recycling)**	4,416	4,088

**McKesson Corporation Water Usage**

The bulk of our water use stems from landscape irrigation and water consumption in our buildings. To manage our water use in the U.S., we monitor alerts in the utility bill-pay system that flags significant usage increases, enabling us to identify potential water leaks and work with the affected locations to ensure they are repaired.

	FY20	FY21
Fresh water intensity: gallons/ft <sup>2</sup> *	15.7	14.8

Next, participants were asked a series of questions regarding their perceptions of the company on a seven-point scale ranging from “Strongly Disagree” (1) to “Strongly Agree” (7). All dependent measures were adapted from existing scales that assess environmentally friendliness (i.e., concerned with the environment, environmentally friendly, conserving the environment), environmental impact (i.e., making a difference in the environment, significant benefits to the environment, positive impact on the environment) and corporate trust (i.e., trustworthy company, honest company, improving the well-being of society) (Afzali and Kim, 2021; Fatma et al., 2016; Fatma et al., 2021; Font and Lynes, 2018; Milfont and Duckitt, 2010). Finally, basic demographic information such as age, gender, and ethnicity were collected.

## RESULTS

A total of 289 respondents completed the survey. Experimental cell sizes were as follows: control group (96), single ESG initiative (97), and multiple ESG initiatives (96). Approximately 55% of respondents identified as male and 79% identified as Caucasian. The average age of the sample was 37.4 years. While gender and age had no significant effect on the main dependent variables in the study, women were found to be significantly more concerned about the environment compared to men ( $p = 0.11$ ). Assessment of the scale items found the measures of all three dependent variables to be highly reliable ( $\alpha > 0.70$ ). Thus, a single item composite measure for each variable was constructed and used for testing purposes.

A MANCOVA test was performed to test the hypotheses, with personal concern for the environment retained as a control variable. Results revealed a significant main effect across conditions for environmental friendliness ( $F(2, 286) = 8.41, p < .001$ ), environmental impact ( $F(2, 286) = 4.76, p < .01$ ), and corporate trust ( $F(2, 286) = 3.67, p < .05$ ). A post hoc multiple comparison test was then performed to determine the differences between the control, the single ESG initiative, and the multiple ESG initiatives groups. For each dependent variable, results only reveal a significant difference between the control group and both the single and multiple initiative groups. Thus, while providing evidence of impact matters, the impact of multiple ESG initiatives had no significant effect compared to that of a single effort. Thus, the results only show support for H1.

## DISCUSSION

The purpose of this study was to determine if disclosing evidence related to the impact of ESG initiatives positively influenced consumer's perception of corporate trust. Results of this study should be of particular interest to corporate communication strategists. The results indicate that consumer perceptions of corporate trust were significantly higher when evidence of impact for ESG programs was provided. Thus, companies are encouraged to openly communicate and disclose the impacts of their ESG initiatives in their marketing communications rather than merely providing a comprehensive ESG mission/policy statement. However, findings revealed that there was no added benefit to providing evidence of impact of more than one ESG effort. In essence, there are no additive effects of instituting multiple ESG programs in hopes of magnifying their impact on public perceptions of consumer trust. Thus, companies may be advised to focus exclusively on communicating the impact of a single ESG program. In addition, results suggest that there may be added value in targeting women when communicating the impacts of ESG initiatives, as they were found to be more environmental conscious consumers that may be more receptive to, and influenced by, such information.

## Limitations and Future Research

Although these initial results are insightful, there are ample avenues for future research. First, this study only examined the effects specific to a single company/industry. Future research might find that consumer perceptions of ESG initiatives could vary based on product/service impact on the environment or the well-being of society. For instance, a company that manufactures products that are dependent on natural resources (i.e., furniture) may face more scrutiny over their ESG initiatives. In addition, the use of real-world ESG initiatives by a healthcare organization limited the examination to the environmental aspect of the ESG model. Future research may discover that providing evidence of the impact for other aspects of the ESG model (i.e., social) to be more influential on public perceptions. Finally, while this study tested the number of ESG impact disclosures that were provided, the magnitude and type of impact for each ESG initiative remained constant. Future research may find that framing impact using proportional or relative metric amounts could be more effective. Likewise, examining ESG programs that impact multiple issues (i.e., environmental and social) may prove more influential than programs that impact a single issue. Given the recent evidence of ESG initiatives on consumer sentiment and product choice, ESG research will likely be a burgeoning area of academic inquiry.

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# KNOWLEDGE ISN'T EVERYTHING: DEVELOPMENT OF A THEORY OF PLANNED BEHAVIOR QUESTIONNAIRE FOR THE EXPLORATION OF HEALTHY BEVERAGE CONSUMPTION

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## ABSTRACT

*Research documents an increase in the consumption of sweetened beverages within the United States. This trend is important as sweetened beverage consumption is consistently associated with high BMI, weight gain, diabetes, and several related health problems (Harvard University School of Public Health, 2023). While researchers have looked at marketing's role in promoting sweetened beverages, research leading to an understanding of the behavioral antecedents of beverage consumption is scant. Extant literature supports the premise that knowledge of the benefits (dangers) of healthy (unhealthy) activity alone is insufficient to evoke behavioral change. To this end, this paper employs the Theory of Planned Behavior (Ajzen, 1991, 2002, 2006, 2010, 2020; Ajzen & Fishbein, 2000; Ajzen et al., 2011; Barbera & Ajzen, 2022) to investigate the relationship between the antecedents of behavior; (attitudes, subjective norms, and perceived behavioral control), and the consumption of healthy versus sweetened beverages. Results showed that attitudes and perceived behavioral control significantly influenced behavioral intentions, while subjective norms had minimal impact on healthy vs sweetened beverage choices. Overall, all three factors effectively drove behavioral intentions and behaviors. Thus, we argue that marketing (demarketing) campaigns focused on increasing (decreasing) healthy (unhealthy) beverages should be positioned to address these antecedents. Research and managerial implications are explored.*

**Keywords:** *Theory of Planned Behavior, sweetened beverages, behavior change, dietary change, diabetes*

## INTRODUCTION

Sweetened beverages, defined as sodas, energy drinks, fruit punches, sweetened teas, and real fruit juices with added sugar, sugared coffee, and sports drinks are now the largest single source of sugar in the American diet (Harvard University School of Public Health, 2023). Such beverages supply two to four times the daily recommended sugar intake per 8oz serving (California Center of Public Health, 2009; Harvard University School of Public Health, 2023). Consumers have substantially increased their consumption of sweetened beverages over the last 45 years (Frank, 2004; Briefel and Johnson, 2004; Duffey and Popkin, 2007; Lu et al., 2014;

American Heart Association, 2022; Harvard School of Public Health, 2023). This trend hurts consumers and the marketplace in general.

Sweetened beverage consumption's dramatic implications on public health, especially as causes of obesity and diabetes, have been well documented. For example, the average American consumes 800 cups of sweetened beverages annually (2.19 cups a day), drinking four to eight times the recommended sugar intake yearly (Harvard University School of Public Health, 2023). Of note, adults who drink one or more sweetened beverages daily, more than 365 sweetened beverages annually, are 27% more likely to be overweight (Must et al., 2009; California Center for Public Health, 2009; Harvard University School of Public Health, 2023). In addition to obesity, the excess consumption of added sugars, especially from sugary drinks, has also been linked to an increase in the development of type-2 diabetes in adults and adolescents that has created a national health crisis (Schulze et al., 2007; the American Heart Association, 2022). Indeed, a global status report indicated that sweetened beverages were a primary contributor to non-communicative diseases (including type 2 diabetes), posed a significant cause of stress on global health systems and the world's socioeconomic development, and urgently required research and practice aimed at reducing their consumption (Te et al., 2019).

A look at the cost and negative impact of sweetened beverages is exemplified in the case of its relationship with diabetes. Current estimates suggest that 37 million Americans (11% of the population) have type 2 diabetes, and another 97 million (29% of the population) have prediabetes (blood sugar levels that are predictive of one becoming a type 2 diabetic in the future) (Harvard School of Public Health, 2023). Further, diabetes costs the country over \$327 billion per year, with \$237 billion attributed to direct costs (hospital inpatient care, prescription medications, anti-diabetic agents and diabetes supplies, and physician office visits) and another \$90 billion attributed to loss of productivity (increased absenteeism, reduced productivity while at work, the inability to work as a result of diabetic disability and lost productive capacity due to early mortality) (Te et al., 2019 ). To this end, policymakers, researchers, and practitioners have focused on changing the public's consumption practice by increasing (decreasing) the availability of unsweetened (sweetened) drinking options (i.e., the removal of sodas in school vending machines) and increasing no-sugar or low sugar branded offerings (i.e., Coke Zero).

Notably, marketing research and tactics have also focused on changing consumers' consumption behavior with "knowledge programming," marketing that seeks to increase consumers' knowledge of the consequences of consuming sweetened beverages. Still, the consumption of healthy drinks, along with the number of type 2 diabetes patients and the associated annual cost of diabetes, is on the rise. It has been estimated that if all things remain constant, the number of Americans under the age of 20 with type 2 diabetes will increase by approximately 675% by 2060 (Dillinger, 2022). Thus, we question whether knowledge programming effectively changes consumers' consumption of sweetened beverages. The purpose of this paper is to 1) identify additional predictors of behavioral change regarding (healthy vs. sweetened) beverage choices and to develop a questionnaire that can be used to explore healthy vs. sweetened beverage choices. More specifically, the goal is to test a more holistic model, the Theory of Planned Behavior (TPB), and to create a valid scale for measuring its antecedents' effective paths for behavior and, thus, suggest paths for influencing behavioral change. The TPB

was selected due to its usefulness in effectively predicting healthy eating habits in various populations (for example, see Barnes et al., 2007) and its ability to provide a pathway to scale development across multiple disciplines (for example, see Barnes et al., 2007; Rudea et al., 2015; Moeini et al., 2023; Shanbhag et al., 2023). To this end, this paper is constructed in the following manner. First, we review prior research on knowledge programming and provide evidence of its limitations in evoking change behaviors. We next ground our research for behavioral change within the Theory of Planned Behavior. We then administered two pretests to gain an understanding of beverage consumption within a college dining hall and to aid in the development of a Theory of Planned Behavior questionnaire. Next, we construct the TPB questionnaire (see Ajzen 2006) and leverage it to explore its proposed behavioral antecedents' (attitude, subjective norms, and perceived behavioral control) contribution to behavioral intent (time 1) and actual behavior (time 2). The steps for creating and implementing the TBP Questionnaire (Ajzen, 2006) are outlined in Table 1.

**TABLE 1: TBP QUESTIONNAIRE DEVELOPMENT**

Step	Number of Subjects	Overview
1. Item Generation and Initial Questionnaire Development	Pretest 1 (N = 47)	Formulation of five to six seven-point-bipolar scale items for each of the theory's major constructs Formation of 44 scale items. Two expert judges remove ambiguous or redundant items to create a parsimonious ten-item scale.  Clearly Define the behavior of interest in terms of Target, Action, Context and Time (Tact)
2. Scale Purification	Pretest 2 (N = 371)	Inter-item correlations suggested the elimination of one item to create a 9-item scale.
3. Further Scale Validation and Test-Retest Experimentation	Study 1 Time 1: Intention (N = 282) Time 2: Behavior (N = 262)	Confirmatory Factor Analysis was conducted to check the validity of the scale. Scale measures were regressed on behavioral intentions (Time 1) and behavior (Time 2)

## LITERATURE REVIEW

### Educational Arguments and Behavioral Change

Scholars and practitioners in healthcare, public policy, and marketing have attempted to change unhealthy choices to more healthy ones but have yet to provide insight into strategies for long-lasting success. These results are chiefly predicated on programs that attempt to manipulate knowledge to achieve behavioral change. Such research and practice have focused on modifying behavior by increasing educational materials and healthy options or changing recommended consumption guidelines (Duffey, Popkin 2007), which we will refer to as "knowledge programs."

Knowledge programs are rooted in the theology that behavioral changes will follow educational information, which attempts to increase consumers' knowledge about the benefits of the desired behavior, the dangers of the undesired behaviors, or some combination of the two. The premise of the programming is that humans are rational and, therefore, will rationally change their behavior when presented with convincing arguments. However, humans are not rational animals. Research on persuasion and behavior has shown that increasing peoples' general knowledge using knowledge programs usually fails to produce changes in health behaviors. For example, Congress's attempt to change unhealthy food and beverage behavior through education resulted in the 1990 Nutrition Labeling Education Act (NLEA). NLEA legislated that food and beverage manufacturers place product-specific nutritional information on product labels. Congress assumed that when given knowledge about the nutritional content of food and beverages, people would alter their behavior and make healthier food and beverage choices. While impressive in scope and scale, this countrywide program did not change the consumption of unhealthy foods and beverages (Teisl and Levy, 1997). More notably, the "Got Milk" ad campaign of the 1990s and 2000s that featured celebrities sporting a milk mustache and provided knowledge points about the benefits of milk increased consumers' awareness of milk and its benefits. The celebrated campaign made its mark in advertising by collecting nearly every industry award, including multiple Clio awards, several Effies, several Gold Addy awards, a Silver Lion at the Cannes International Advertising Festival, and a David Ogilvy Research Award. Still, this knowledge-based programming did not increase the consumption of milk. Indeed, one study suggested that the tagline "got milk" slogan achieved national awareness at a rate 12 times greater than the slogan for Pepsi, six times greater than the sports drink Gatorade's tagline, and four times greater than Coke's. However, sales of these sugary beverages increased while milk consumption per person declined by 20% during the period of the ad campaign ([USDA/Economic Research Service, 2006](#)). Thus, to change health behavior, realizing why such knowledge programming falls short is essential.

Ajzen (2010) stated that accurate information is neither sufficient nor necessary for the performance of a desired (health-related) behavior, and thus, most knowledge-based health education programs are "useless." The general finding buttresses this argument that knowledge of the benefits or risks of a behavior does not correlate with participation in the behavior (Wallace, 2002). Indeed, Wallace's (2002 p. 170) research regarding Osteoporosis prevention among college-age women posits that "knowledge has been consistently shown to be non-influential in predicting behavior." Further, Feeley and Servoss (2005) found a negative correlation between knowledge about being an organ donor and the actual practice of signing up to be an organ donor. Indeed, Ajzen et al. (2011) found that knowledge of the ill effects of alcohol was unrelated to drinking behavior and that environmental knowledge had no effect on energy conservation. Vicerra (2021) also finds that higher levels of knowledge about COVID-19 were not correlated to behavior regarding COVID-19 prevention practices among older consumers. Research on "green consumption" suggests that knowledge alone cannot contribute to the formation of attitudes nor resulting "green consumption behaviors (Zhou et al., 2022).

Regarding changing consumption behaviors of sweetened beverages to healthy ones, little evidence shows that knowledge programs can effectively moderate such change. Indeed,

previous studies have shown little to no correlation between the increased knowledge generated by educational programs on weight loss, dieting, low-fat diet, eating fruits and vegetables, or food choices (Ajzen, 2010). Again, the reason for such is that knowledge programming seeks to change behaviors based on the premise that exposure to factual information will lead to new or changed attitudes. However, this is not how information and attitudes are used in decision-making behaviors. To this end, we focus on additional literature streams regarding information attitudes and behaviors.

The Elaboration Likelihood Model (ELM) (Petty & Cacioppo, 1980; Petty & Cacioppo, 1981; Petty et al., 1983; Bennett et al., 2020; Bennett et al., 2022) provides insight into how attitudes are used and formed. ELM states that people make decisions via one of two pathways: the central or peripheral routes. The central processing route is used when consumers face a complex decision. Here, consumers leverage energy and effortful thought processes for decisions that they feel most deserve time for reflection. Here, strong arguments based on information increase the formation of a positive attitude toward an object (Petty et al., 1994; Bennett et al., 2020; Bennett et al., 2022). Hence, the result of central processing is the formation of enduring attitudes that predict behavior. In the case of the sweetened versus healthy beverage choice, increased information could lead to adequately formed knowledge and would be considered a strong argument, thus leading to attitudes and subsequent behavioral change. That is, if the central processing route were used. However, for most people, beverage choice is a simple decision processed in the peripheral route.

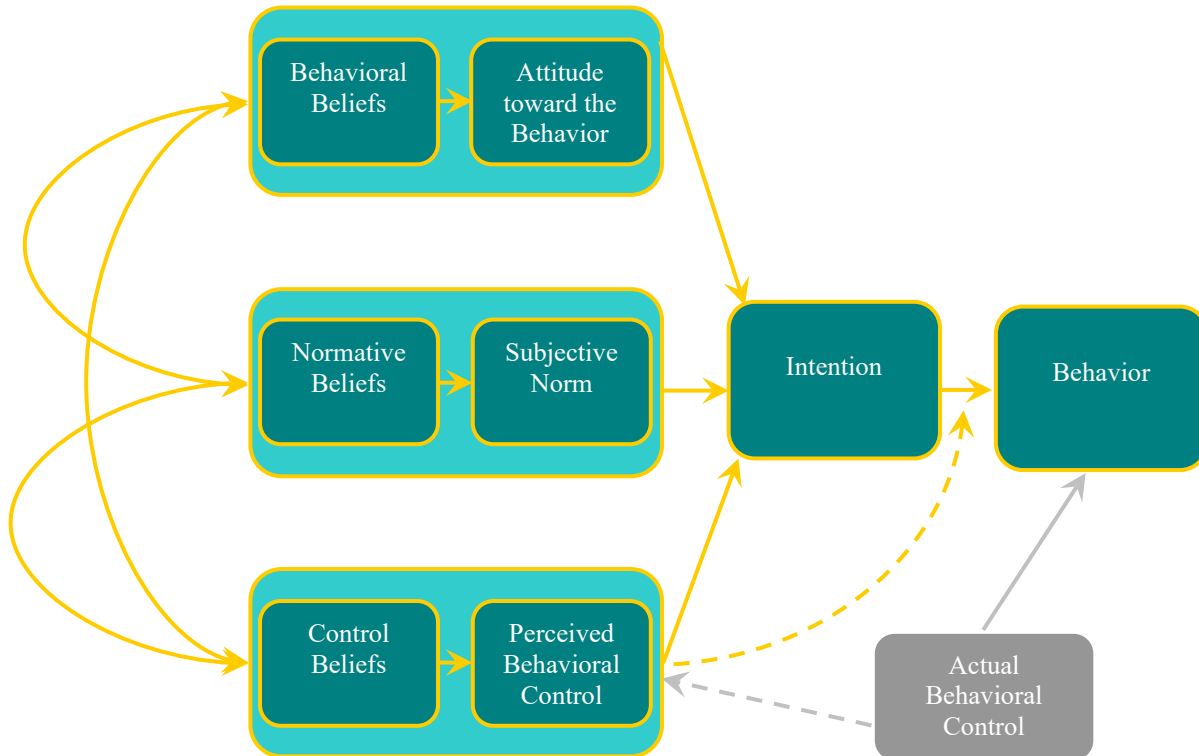
The ELM posits that people have neither the ability nor motivation to carefully evaluate information available prior to committing to a behavior. Therefore, individuals sometimes form attitudes about behaviors by leveraging peripheral processing routes. Here, simple heuristics aid decision-making, such as a celebrity's endorsement, to cue the product's efficacy (Petty et al., 1994; Bennett et al., 2020; Bennett et al., 2022). This buttresses the notion that knowledge programming which points out the benefits or dangers of a product will not aid in the decision process regarding beverages. Thus, to effectively change behaviors, models that leverage such educational programming will be abandoned at this point in the pursuit of exploring more holistic theories of behavior and behavioral change.

### **The Theory of Planned Behavior and Hypothesis Development**

The theory of planned behavior (TPB) does not leverage knowledge as a predictor of change in the traditional knowledge programming sense. Importantly, the TPB posits that knowledge (alone) is not the antecedent to attitudes and that attitudes are not the only path to behavior. Indeed, TPB was constructed to explain three key antecedents' contributions to the adoption of specific behaviors. TPB posits that behavior is the product of three antecedents: attitudes, subjective norms, and perceived behavioral control. These antecedents are each based on the preexisting determinants of behavioral beliefs, normative expectations, and control beliefs, respectively (see Figure 1) which are influenced by knowledge and other background factors such as age, race, and culture (Ajzen 2002, 2006, 2020). Collectively, behavioral beliefs shape a person's attitude toward a behavior, either favorably or unfavorably. Normative beliefs

contribute to the perception of social pressure or subjective norms. Control beliefs, on the other hand, influence the perception of behavioral control or self-efficacy (Ajzen, 1991, 2006, 2020; Ajzen et al., 2011; Ajzen & Fishbein, 2000; La Barbera & Ajzen, 2022). In general, the TPB posits that when one holds a positive (negative) attitude, perceives social approval (disapproval), and feels a sense of being (not being) in control, their intentions to pursue (abandon) a particular behavior tend to be more robust (Ajzen, 1991, 2020; Ajzen et al., 2011; Ajzen & Fishbein, 2000; La Barbera & Ajzen, 2022).

It should be noted that the term “planned behavior” does not assume that actors are rational in their actions. On the contrary, the TPB does not posit that behaviors form without bias or rationality. Nor does it assume that one’s attitudes, subjective norms, and perceived behavioral control represent reality accurately (Ajzen, 2011). Indeed, attitudes, subjective norms, perceived behavioral control, and their preexisting determinants of behavioral beliefs, normative expectations, and control beliefs may all rest on irrational premises, misinformation, biased judgments, and responses to emotions such as fear or jealousy. The behavior here is “planned” because regardless of how one arrives at their beliefs, normative expectations, and control beliefs, their attitudes, subjective norms, and perceived behavioral control then predict (plan) the behavior (Ajzen, 2011). Perhaps this inclusion of emotion void of rational thought is why the TPB offers a better path to understanding behaviors than knowledge programming. We next explore the TPB’s three antecedents in more detail.

**Figure 1: The Theory of Planned Behavior Model (Ajzen 1991)**

### Attitudes Toward the Behavior

Attitudes are one's degree of unfavorable or favorable feelings regarding a person, place, idea, or thing (Ajzen 1991, 2020). Attitudes are one of the central antecedents of behavior and, thus, behavioral change (Petty et al., 1983; Bennett et al., 2020; Bennett et al., 2022). Ajzen (2010) defines *attitudes* as the "readiness to respond to a psychological object with some degree of favorableness that may range from extremely negative to neutral to extremely positive." The TPB goes beyond the notion that attitudes alone predict behavior or that knowledge will change attitudes. Conventionally, *knowledge* is considered to be consumers' access to factual pieces of information, and thus, educating or exposing consumers to such information should lead to educated (good) decisions. However, in the TPB model, knowledge is not reflective of factual pieces of information at all. Indeed, Ajzen (2002) states, "Educational messages do not play a role in TPB; rather, information in the form of beliefs will lead to attitude formation regardless of how factual the information is." What matters within the TPB model is not whether the information the sender applies is true but rather what prior knowledge the receiver believes to be true, as beliefs are the determinants of attitude formation and, subsequently, behavior intent and

behavior (Ajzen, 1991, 2005, 2020; Ajzen et al., 2011; Ajzen & Fishbein, 2000; La Barbera & Ajzen, 2022).

### **Subjective Norms**

*Subjective norms* reflect an individual's (normative) beliefs about what others think he or she should do. They deal with how one thinks others will view his or her actions. Subjective norms are influenced by source factors, such as age, sex, socioeconomic status, and numerous other variables (Ajzen 1992, 2002, 2010; La Barbera and Ajzen, 2022). In addition, subjective norms are influenced by the opinions of an individual's reference group members, including family, friends, teachers, and other influencers such as celebrities. In marketing, this deals with more than just the behavior of purchasing and using a product but also the marketing of oneself to others by doing so. As consumers construct messages to others through purchases (Belk, 1988; Belk, 2006; Wohlfeil & Whelan, 2012; Bennett et al., 2020; Bennett et al., 2023), here the seemingly "I am what I purchase" statement is really the "I hope you think I am what I purchase" desire.

### **Perceived Behavioral Control**

Perceived behavioral control provides insight into whether individuals feel they have the skills, time, and resources to act (Ajzen 1991, 2002, 2010, 2020; La Barbera and Ajzen, 2022). Hence, perceived behavioral control is predicted by readily accessible beliefs about moderators of control over performance outcomes. Perceived behavioral control measures the extent to which an individual perceives his or her ability to perform an event (Ajzen, 1991, 2002, 2010, 2020; La Barbera & Ajzen, 2022). Ability ranges from easy, those activities needing little to no effort, to difficult activities requiring special skills or resources. Moreover, actual control, typically an unavailable measure, is considered a moderator of intentions. In the absence of actual control, perceived behavior control is typically an accepted substitute (Ajzen, 1991, 2002, 2005, 2010, 2020; La Barbera and Ajzen, 2022). Within the TPB model, perceived behavioral control is positioned veridically to actual control as it can serve as a proxy for actual control when predicting the behavior in question. Based on this understanding of the TBP model, we propose the following hypotheses:

*H1a: Attitude, subjective norms, and perceived behavioral control are correlated to behavioral intention.*

*H1b: Behavioral intentions are correlated to behavior.*

Further, subjective norms deal with how one thinks others will approve of their behavior. While we posit that subjective norms would be a strong indicator of the conspicuous consumption of a beverage in some instances (i.e., the choice of an acholic beverage at a bar, a virgin daiquiri vs. a shot of whisky, may send messages to those in attendance of one's self-brand), we do not think the same applies to the consumption of everyday beverages that are typically consumed conspicuously at breakfast, lunch, or dinner. Thus, we predict the following:



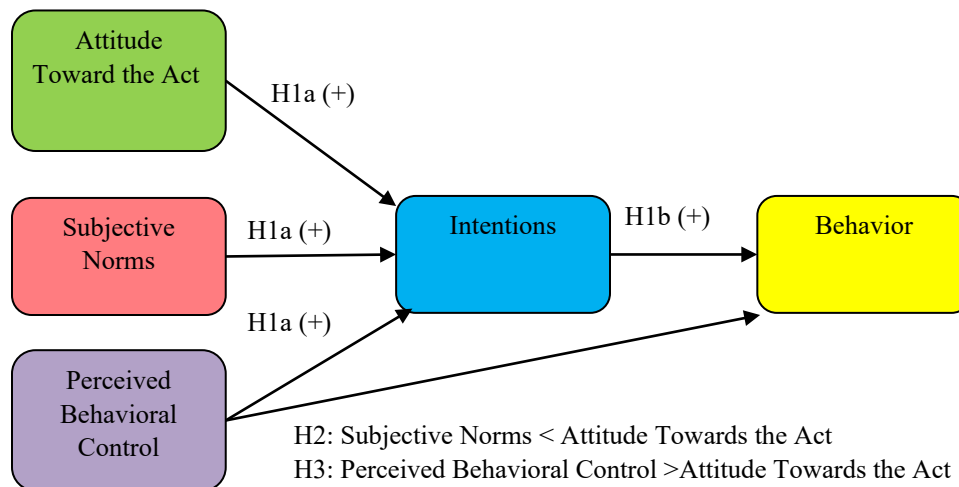
*H2: Subjective norms will hold the weakest effect on behavioral intentions.*

Perceived behavioral control in this context may relate to access to the options offered by the vendor as well as the consumer's addition to caffeine or sugar; thus, we hypothesize that:

*H3: Perceived behavioral control will correlate more strongly to behavioral intention than subjective norms.*

These hypotheses are outlined in Figure 2

**FIGURE 2: HYPOTHESES DELEINATION FOR THE THEORY OF PLANNED BEHAVIOR INTENTIONS AND BEVERAGE CHOICE**



## METHODOLOGY:

The Theory of Planned Behavior has been used widely to determine drivers of human behavior. Indeed, at the time of this article's publication, a Google Scholar search for Ajzen's (1991) theory introduction indicates that the article has been cited over 128,000 times across scores of social sciences, including psychology, sociology, education, social work, marketing, and management. One aspect of the theory that makes it so applicable is the framework Ajzen (2006) created, which allows for novel scale development (a TBP questionnaire) and experimentation specific to the context and domain being investigated. That is to say, there is not one TBP scale that scholars adjust for their purposes. Rather, Ajzen (2006) introduced a framework for developing a scale for measuring the constructs within the TBP model (Ajzen, 1991). The steps for creating a TBP questionnaire and experiment are as follows.

### **Item Generation and Questionnaire Development:**

Because attitudes, subjective norms, and perceived behavioral control are latent constructs, initial scale items are obtained through direct observation or self-reports. These self-reports are generated in pretest from focus groups, journals, or other qualitative methods. Next, items are generated for each latent construct. Within these subscales, the behavior of interest must be specified in terms of Target, Action, Context, and Time (TACT). For example, a study of cheating could define TACT as college students (target) cheating (action) on exams(context) at the end of the semester (time) (see Ajzen 2006).

### **Scale Purification:**

The scale is next administered in a second pretest. Here, items are analyzed using Cronbach's Alpha and removed and revised if needed.

### **Further Scale Validation and Test-Retest Experimentation:**

The scale should be administered to respondents in a test (behavior intention = time 1) and a retest (actual behavior = time 2) experiment. Confirmatory Factor Analysis should be conducted to check the validity of the scale, and scale measures should be regressed on behavioral intentions (Time 1) and behavior (Time 2) to test the hypothesis presented fully.

### **Pretest 1, Item Generation and Questionnaire Development**

The first step in creating a TPB questionnaire is the formulation of five to six seven-point-bipolar scale items for each of the theory's major constructs (Ajzen, 2006). To this end, a pretest was created to aid in the development of a TPB scale. Following the instructions from *Constructing A Theory of Planned Behavior Questionnaire* (Ajzen, 2006), a small sample of students (n = 47, self-reporting male = 40%, female = 60%, average age = 20) from a major northeastern university were used to represent the larger student population. The students were given extra credit for participating in this study or another option. In order to gain an understanding of readily accessible behavioral outcomes, normative referents, and control factors, the subjects were asked to answer open-ended questions regarding how often they drank a healthy beverage in the university's dining commons for at least one meal a day over the last two weeks.

### **Pretest 1 Results**

Of note, students' insights on things that might limit their perceived behavioral control within the dining halls were most unexpected and, therefore, most helpful. Students provided insights on beverage decisions. For example, the students suggested that long lines and broken or empty containers for healthier options will cause students to look for alternatives. These are

reflected in students' statements below in response to why they would choose a sweetened beverage.

*"You got just a few juice machines and all the soda machines."  
"The juice machine is always empty and the milk machine is broken"*

Two judges evaluated the content of the resulting data. Each judge placed answers into lists of modal salient outcomes, referents, and control factors, first as individuals and then collectively. Recurring themes led to the creation of 44 scale items. The two expert judges remove ambiguous or redundant items. Disagreements in item placement between the judges were settled via discussion. The remaining ten scale items were then used in item construction for a TPB questionnaire.

Next, in agreement with Ajzen's (2006) instruction on constructing a TPB questionnaire, the behavior of interest was clearly defined in terms of its target, action, context, and time elements (TACT). The target population of interest was clearly defined as college students. Action, context, and time were defined as "How likely is it that you will drink healthy beverages with each meal you eat in the dining commons in the next seven days?" Respondents were given a seven-point bipolar scale (Table 1) to measure each of three to five items formulated for each antecedent of behavior, intention, attitude, perceived norms, and perceived behavioral control.

## **Pretest 2, Scale Purification**

Following strictly the instructions for creating a TPB questionnaire (Ajzen, 2006), a survey was constructed using the ten items created in pretest 1. Students ( $n = 371$ , self-identifying as male = 41%, female = 58%, average age = 19) from a major university in the northeast completed the questionnaire regarding their beverage choices within the university's dining hall. The questionnaire was administered online, and students were allowed to take the survey alone in the location of their choice at the time of their choice within a one-week range. Students were compensated for time with extra credit in a current class.

## **Pretest 2 Results**

The questionnaire results were tabulated, and items for each antecedent were analyzed to determine if they effectively measured the antecedent (Spector, 2005). Inter-item correlations suggested that several questions were vaguely worded or not related. It was determined that items should be further analyzed and removed if necessary. In accordance with Ajzen (2006 p. 5), "this selection can rely on item-total correlations (Likert's criterion of internal consistency), or an analysis of reliability (e.g., Cronbach's alpha)." A reliability analysis was performed using SPSS 28. The scale reliability was assessed using Cronbach's Alpha. As a general rule, a Cronbach's Alpha of "0.6-0.7 indicates an acceptable level of reliability, and 0.8 or greater a very good level" (Ursachi et al., 2015, p.681). The ten-item scale produced a Cronbach's alpha of .598. The analysis suggested that removing one item would increase the score to that of .614,

and removing any other item would decrease the overall Cronbach's alpha (see Table 2). Thus, one item was removed, creating a stable scale with a Cronbach alpha greater than .6.

**TABLE 1: ITEM-TOTAL STATISTICS**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Long lines and unavailability make drinking healthy beverages is... (Very Inconvenient – Very Convenient)	44.42	38.901	0.158	0.599
Consuming less tasty beverages is.. (Extremely Bad - Extremely Good)	45.20	38.706	0.118	0.614
Signs in the Dining Commons to drink healthy beverages...will be very useful reminders for me. (Strongly Disagree – Strongly Agree)	44.53	35.190	0.234	0.588
Having limited options will make drinking healthy beverages (Much More Difficult – Much Easier)	45.23	37.330	0.209	0.589
When it comes to drinking healthy beverages, how much do you want to do what your family members think you should do? (Strongly Disagree – Strongly Agree)	43.23	32.028	0.502	0.507
When it comes to drinking healthy beverages, how much do you want to do what your doctor thinks you should do? (Strongly Disagree – Strongly Agree)	42.80	33.368	0.486	0.517
When it comes to drinking healthy beverages, how much do you want to do what your friends thing you should do? (Strongly Disagree – Strongly Agree)	44.29	32.912	0.381	0.541
Consuming more vitamins, minerals and calcium is...(Extremely Bad – Extremely Good).	41.83	39.693	0.273	0.578
Strengthening my immune system is...(Extremely Bad – Extremely Good).	41.67	40.947	0.210	0.588
Controlling my body weight is.. (Extremely Bad – Extremely Good).	41.94	39.612	0.243	0.581

## Study 1, Further Scale Validation and Test-Retest Experimentation

### Study 1, Behavior Intent (Time 1)

A total of 282 students (self-identifying as male = 37%, as female 62%, average age = 20) from a major northeastern university completed two sets of surveys. Students were compensated for their involvement with extra credit in a current class. Items in the questionnaire were created for each construct in the TPB model and leveraged the key learning from the two pretests.

Students were informed during class time and again by email that they may fill out a survey on health behavior in return for extra class credit. The students were informed that a follow-up survey and email would take place two weeks later. The informative email included instructions for taking the survey and a link to the survey website. The students were advised to take the survey individually. Students were allowed to take the survey at any time and at a place of their discretion within a 5-day time period. Over 80% of the surveys were completed within the first 48 hours.

#### Study 1, Behavior (Time 2)

To measure the students' actual behavior, a follow-up survey (time 2) was administered to the same sample that took the initial (time 1) survey. A total of 262 of the 282 students (93%) from the initial study participated in the second part of the study two weeks after later. As in time 1, the students were given extra credit for their participation, instructed to fill out the survey individually, allowed to fill it out online at a place and time of their discretion, and given five days to complete the task. Over sixty percent of the surveys were completed within the first 48 hours of administration.

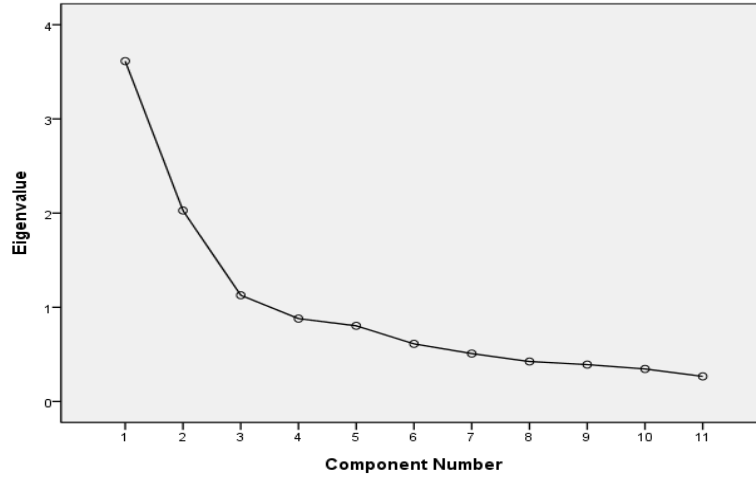
The surveyed behavior of interest was the student's behavior in terms of beverage choice over the past seven days. Here, behavior was clearly defined in terms of its target, action, context, and time elements (TACT) as follows, "In the past seven days, how often did you drink a healthy beverage with each meal you had in the Dining Commons. Scale items for behavioral intent were altered slightly to create measures of actual behavior (Ajzen 2006).

#### Study 1, Analysis and Results

While TPB results are commonly analyzed by adding up the scores of each antecedent prescribed measure and using OLS regression (Ajzen 2006), we felt that it was necessary to leverage an Exploratory Factor Analysis (EFA) to ensure that the scale items created for the TPB questionnaire were actually measuring the constructs they were intended to measure. To this end, we sought to determine if the scale measures loaded on the theoretical antecedents they were prescribed to load on. We make this adjustment based on two observations. First, we find that the recommended aggregation of data is more applicable to physical measurements, such as length or weight, rather than to latent constructs, such as attitude, which are imperfectly measured (Keller, 2010). Second, we need to explore the possibility that there are not more (or less) than three factors that are able to explain the majority of variance across the attributes.

The ten scale items from our TPB questionnaire were factor analyzed using a Principal Component Analysis with orthogonal (varimax) rotation. The resulting screen plot's point of inflection indicated the formation of a stable plateau after three factors (see Figure 3). The EFA produced three factors, one for each of the expected antecedents, that explained 61.5% of the variance between the attributes (see Table 3). However, all the attributes loaded favorably on their predicted factors, with each having a strong loading (above .6) on its intended factor and non-holding heavy cross-loadings (above .4) on additional factors (Brakus et al., 2009; Bennett et al., 2023).

**FIGURE 3: TPB QUESTIONNAIRE EFA SCREE PLOT**



**TABLE 3: STUDY 1 TPB QUESTIONNAIRE EXPLORATORY FACTOR ANALYSIS RESULTS**

**Rotated Component Matrix<sup>a</sup>**

	Component		
	1	2	3
	PBC	Sub Norm	Attitude
<b>PBC 1:</b> Long lines and unavailability make drinking healthy beverages...(Very Inconvenient – Very Convenient)	.792	.049	.116
<b>PBC 2:</b> Signs in the Dining Commons to drink healthy beverages...will be very useful reminders for me. (Strongly Disagree – Strongly Agree)	.700	.259	.037
<b>PBC 3:</b> Having limited options will make drinking healthy beverages (Much More Difficult – Much Easier)	.784	.134	.086
<b>SN1:</b> When it comes to drinking healthy beverages, how much do you want to do what your family members think you should do? (Strongly Disagree – Strongly Agree)	.292	.646	.204
<b>SN2:</b> When it comes to drinking healthy beverages, how much do you want to do what your doctor thinks you should do? (Strongly Disagree – Strongly Agree)	.028	.833	.004
<b>SN3:</b> When it comes to drinking healthy beverages, how much do you want to do what your friends think you should do? (Strongly Disagree – Strongly Agree)	.058	.627	-.312
<b>Attitude 3:</b> Consuming more vitamins, minerals and calcium is...(Extremely Bad – Extremely Good).	.151	-.026	.870
<b>Attitude 1:</b> Strengthening my immune system is...(Extremely Bad – Extremely Good).	.365	.166	.504
<b>Attitude 2:</b> Controlling my body weight is.. (Extremely Bad – Extremely Good).	.072	-.035	.881

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.  
 a. Rotation converged in 4 iterations.

**Component Transformation Matrix**

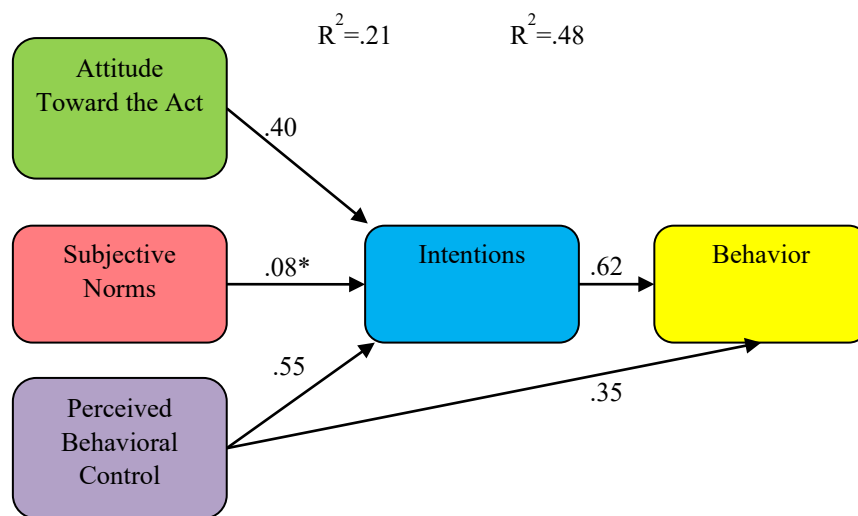
Component	1	2	3
1	.748	.467	.472
2	-.023	.728	-.685
3	-.664	.501	.555

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.

Next, the composite scores of each factor were regressed on behavior intention and behavior. Our findings showed a significant correlation between attitudes, subjective norms, and perceived behavioral control and behavioral intention ( $R^2 = .21$ ) as well as behavior ( $R^2 = .48$ ) (see Figure 3). Thus, we are able to support H1a and H1b. The regression also provided evidence that perceived behavioral control ( $B = .55$ ,  $sig = .000$ ) is the strongest predictor of behavior intention and that subjective norms ( $B = .08$ ,  $sig = .355$ ) were the weakest (See Figure 3). Thus, we are able to support H2 and H3.

Overall, these studies provide evidence that attitudes and perceived behavioral control are antecedents for behavioral intentions and behavior. Specifically, our findings suggest that while attitude is a strong predictor of behavior, attitudes alone are not the only route to behavioral change. This is in line with past research finding, which has suggested that attitudes, subjective norms, and perceived behavioral control are predictors of behavioral intentions and behaviors.

**FIGURE 4: PATH ANALYSIS FOR THE THEORY OF PLANNED BEHAVIOR INTENTIONS AND BEVERAGE CHOICE**



All regression coefficients are significant at the 0.000 level except for subjective norms to behavior intentions which was insignificant (.355) (see Table 4 and Table 5).

**TABLE 4: REGRESSION OUTPUT FOR BEHAVIOR INTENTIONS**

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.455 <sup>a</sup>	.207	.198	1.34992

a. Predictors: (Constant), A-R factor score 3 for analysis 7, A-R factor score 2 for analysis 7, A-R factor score 1 for analysis 7

**Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.863	.080		72.941	.000
	Attituded	.404	.081	.268	5.014	.000
	Subjective Norm	.075	.081	.050	.927	.355
	PBC	.548	.081	.364	6.810	.000

a. Dependent Variable: Intentions Scale

**TABLE 5: REGRESSION OUTPUT FOR BEHAVIOR**

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.695 <sup>a</sup>	.482	.478	1.19258

a. Predictors: (Constant), Intentions Scale, A-R actor score 3 for analysis 7

**Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.201	.335		9.569	.000
	PBC	.351	.086	.214	4.099	.000
	IntentionsScale	.624	.055	.588	11.293	.000

a. Dependent Variable: Behavior Scale

**DISCUSSION**

There has been a growing concern about the ill effects of sweetened beverages. To combat this, researchers and practitioners seek to change consumer behavior with knowledge



programming, educating consumers on the benefits or risks of a behavior. However, these attempts have had limited results. This is due to a knowledge behavior gap as consumer attitudes reflect their beliefs, which are weighted on what they think to be true rather than what messages they receive. To this end, we sought to identify and test a model that provides a more holistic approach to identifying and measuring the antecedents of behavior to suggest more effective paths to evoking behavior change. The Theory of Planned Behavior model was adopted for this purpose. The model includes the construct of attitudes and the antecedents of perceived behavioral control and subjective norms as predictors of behavioral intentions and change. In creating a TPB questionnaire, nine items were employed to measure consumers' attitudes, subjective norms, and perceived behavioral control as it relates to sweetened vs healthy beverages. Our results indicate that attitudes and perceived behavioral control significantly affect behavioral intentions. Our model indicated that subjective norms had little impact on behavioral choice within the context of healthy vs. sweetened beverages. Together, all three antecedents proved effective in driving behavioral intentions, which, in turn, predicts behaviors.

These results support each of the stated hypotheses. In addition, this paper produced a valid scale and TBP questionnaire for measuring attitudes, subjective norms, and perceived behavior control as they relate to behavioral intentions and actual behavior. Still, this study is not without limitations. The study leverages a student population's consumption within the dining hall. The student's proximity to and reliance on the dining hall may reduce their beverage choices. The students' age may make subjective norms such as family or doctor's input less important to them than that of the general or older population. Future studies should leverage a more representative sample. Additionally, practitioners and researchers alike should explore the effect of slogan's or claims that promote leverage subjective norm (i.e., "Doctor's recommend," or "nine out of ten moms agree") in their messaging.

Future studies should also explore celebrities as influencers of subjective norms for student populations and beyond. Celebrity endorsements are prevalent in product marketing (Bennett et al., 2020). Celebrity endorser's influence on consumers' subjective norms can be attributed to celebrity inclusion in the consumers' aspirational reference group (Bennett et al., 2020). Aspirational reference groups provide standards of achievement to which consumers aspire. This holds for those members who are further removed from the consumer and whose behavior the consumer watches but has no direct interaction with (Bennett et al., 2020). The possession of products used by aspirational reference group members provides consumers with psychological benefits, including social approval, personal expression, and outer-directed self-esteem (Bennett et al., 2020). Future studies should investigate if celebrity endorsements affect subjective norms. Of interest, future research should explore which types of celebrities (athletes vs actors) are more (less) influential and for which consumer groups.

In conclusion, academics and practitioners who wish to engage in marketing (demarking) campaigns to increase (decrease) the consumption of healthy (unhealthy) drinks would be better served to do so by attempting to change consumers' perceived behavioral control rather than seeking to change attitudes or subjective norms as perceived behavioral control held the strongest correlation to behavioral intent. Based on our findings, managers seeking to change beverage consumption should increase perceived behavioral control by increasing point-of-

purchase messages reminding the consumer of the healthy beverage and ensuring that healthy beverage options are widely available. Thus, we call for further research that investigates messages and marketing that focuses on changing perceptions of perceived behavioral control (i.e., how easy it is to break a bad habit) in an attempt to alter consumers' perceived behavior control.

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# **SERVANT LEADERSHIP IN SALES: EXPLORING ITS DIRECT AND INDIRECT EFFECTS ON SALESPERSON PERFORMANCE**

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## **ABSTRACT**

*Servant leadership has been the focus of increased research because of its association with important job attitudes and behaviors. This study expands prior research by examining how servant leadership influences outcomes among 272 business-to-business salespeople. Servant leadership was related directly to superior customer value, organizational identification, and ethical climate. It was related both directly and indirectly to performance. Implications for having sales managers who are viewed as servant leaders are discussed.*

## **INTRODUCTION**

The uniqueness of a salesperson's job makes leadership especially important in the professional selling domain (Ingram et al., 2005). Salespeople often work away from other employees, including the sales manager. Because of their boundary spanning role, salespeople encounter contradictory demands between interests of the organization and clients. Given the distinctive role of the sales manager, marketing researchers have analyzed various leadership roles such as transformational/transactional leadership (Bass, 1977; Mackenzie et al., 2001; ethical leadership (Schwepker and Schultz, 2015), supportive leadership (Jaramillo and Prakash, 2008), leader member exchange (Schwepker, 2017) and how they influence salespersons' job attitudes and outcomes. During the last decade, marketing researchers have started to analyze how servant leadership influences salespersons' behaviors and organizational outcomes (e.g., Grisaffe et al., 2016; Jaramillo et al., 2015; Jaramillo et al., 2009; Schwepker, 2016). Servant leadership is an "(1) other-oriented approach to leadership (2) manifested through one-on-one prioritizing of follower individual needs and interests, (3) and outward reorienting of their concern for self towards concern for others within the organization and the larger community" (Eva et al., 2019, p. 114).

The reason for the increased focus on servant leadership is based on research indicating that servant leadership provides incremental increases in employees' attitudes and behaviors beyond that of the leadership styles of transformational, transactional, authentic, and ethical (Grisaffe et al., 2016; Hoch et al., 2018). For example, Hoch et al. (2018) reported that, with respect to organizational commitment, servant leadership explained 15 percent more incremental variance beyond what was explained by transformational leadership. Servant leadership also was

found to explain 9 percent more variance in organizational citizenship behavior. In addition, servant leadership explained significant variance in both job satisfaction and job engagement. With respect to the various outcomes analyzed in the Hoch et al. (2018) study, these authors concluded “clearly, servant leadership was much better able to explain incremental variance in the outcomes than either authentic or ethical leadership” (p. 520).

This research on servant leadership has provided important insights. While prior sales force research has provided insights into the value of studying servant leadership, few studies have examined the relationship between either servant leadership and ethical climate or servant leadership and organizational identification. For example, Hoch et al. (2018), in their meta-analysis, reported that servant leadership was significantly correlated with organizational commitment, job satisfaction, and performance. However, they reported no study that analyzed the relationship between servant leadership and either organizational identification or ethical climate. Thus, additional research investigating outcomes of servant leadership is warranted. The literature review and support for the hypotheses are presented below.

## LITERATURE REVIEW

### Servant Leadership

Robert Greenleaf (1977) is often given credit for the development of servant leadership. The key to how Greenleaf defined servant leadership is his emphasis on the servant leader to be a servant first. He saw servant leadership as more than just managing. Greenleaf (1977) envisioned servant leadership as a method of how one lives his or her life. Servant leaders have a moral responsibility to help not only the organization to succeed but also their subordinates, and the organization’s clients and stakeholders (Ehrhart, 2004). Servant leaders place the needs of followers first rather than their own self-interest (Panaccio et al., 2015). Long-term organizational objectives will be achieved by first focusing on followers needs and ambitions and secondly on their own self-interest (Giolito et al., 2021). They communicate openly and honestly with employees about organizational goals and the importance of achieving those goals (Hu and Liden, 2011). Servant leaders are distinctive from other leaders in two ways: serving first and concentrating on others’ needs (Grisaffe et al., 2016). The emphasis on serving first is what distinguishes servant leadership from other leadership theories (Liden et al., 2014).

Servant leadership encompasses seven dimensions (Panaccio et al., 2015): (1) helping followers grow and succeed in their careers; (2) behaving ethically; (3) empowering followers to handle and solve problems; (4) making the satisfaction of subordinates needs a top priority; (5) paying attention to followers’ personal concerns; (6) developing subordinates conceptual skills so that they can perform their jobs more effectively; and (7) creating value for the community.

Van Dierendonck (2011) outlines how servant leadership is distinct from other major leadership theories. Unlike transformational leadership, which prioritizes organizational objectives and places a leader’s primary allegiance with the organization, servant leadership centers on the concerns of followers and emphasizes traits such as authenticity, humility, and interpersonal acceptance — traits not associated with transformational leadership. When comparing servant and authentic leadership, both share the characteristics of humility and

authenticity. However, when it comes to ethical leadership, while both servant and ethical leadership share a commitment to ethical behavior, fair decision-making, active listening to subordinates, and concern for employee welfare, servant leadership uniquely highlights interpersonal acceptance and authenticity. It also places a particular emphasis on guiding followers, a feature less pronounced in the ethical leadership model."

Overall, while servant leadership has similarities to other leadership theories, (Erhart, 2004; Eva et al., 2019), one of the major differences of servant leadership from the other leadership theories (authentic, ethical, and transformational), is its emphasis on the needs of followers and service to others (van Dierendonck, 2011; van Dierendonck et al., 2014). In contrast with the other leadership models that prioritize the leader's objectives, servant leadership prioritizes the needs and behaviors of employees, thereby fostering inspiration among employees. (Liden et al., 2014a).

The results reported by Grisaffe et al. (2016) and Hoch et al. (2018) have shown that servant leadership is distinct from other leadership theories and provides incremental variance in predicting employees' job attitudes and behavior over other leadership theories. Specifically, Hoch et al. (2018) reported that the various leadership theories indicate a highly significant relationship with job engagement, job satisfaction, trust in management, and organizational commitment. In contrast to the other leadership theories, transformational leadership has a higher association with job performance. Authentic, ethical, and servant leadership theories are more focused on role modeling by leaders, ethical behavior, extrarole behavior, and social learning.

## **Ethical Climate**

Ethical climate is "prevailing perceptions of typical organizational practices and procedures that have ethical content" (Victor and Cullen, 1988: 101). It encompasses how individuals perceive what is right or wrong concerning their organization's work setting (Babin et al., 2000). Many climates exist within an organization (Schneider, 1975). However, an organization's ethical work climate is significant since it effects employee's ethical behavior (DeConinck, 2011). It results from an organization's practices, procedures, policies, and leadership and influences organizational members' ethical decisions along with their job attitudes and behavior (Schminke et al., 2007). Employees develop an opinion of the organization's ethical climate when the organization's practices, procedures, and policies are applied consistently and shared among its employees (Kuenzi et al., 2020). Ethical climate differs from the organization's culture. Culture focuses on how the organization's social environment is developed, while climate involves how employees experience the environment (Kuenzi et al., 2020). Research has reported that ethical climate related to a variety and attitudes and behavior among both non-sales employees (e. g., Ambrose et al., 2008; Demirtas and Akdogan, 2015; Martin and Cullen, 2006) and salespeople (see the review by Tanner et al., 2015).

Developing an ethical work climate is important in all areas of the organization. But creating an ethical work climate is especially relevant to salespeople. Salespeople encounter ethical dilemmas that are not present in other jobs (Schwepker and Ingram, 1996). For example, salespeople often work without direct supervision and the nature of their job means they often

don't work around other employees and therefore are separated from the organization's culture (Oh et al., 2022). Their boundary spanning role and the emphasis on making quota make them more vulnerable to unethical behavior than other employees (Ferrell et al., 2007). For these reasons, creating an ethical work climate is extremely important.

Studies have recognized the crucial role of leadership in establishing an ethical climate, with a significant amount of this research centering on ethical leadership (e.g., Demirtas and Akdogan, 2015; Hansen et al., 2016; Kim and Vandenberghe, 2020; Kuenzi et al., 2020). However, research has now started to investigate how servant leadership influences perceptions of an ethical work climate. Intuitively, servant leadership should influence employee's perception about the ethical climate of their organization. Leaders are responsible for establishing the organization's ethical character through their enactment and enforcement of policies, practices, and procedures that encourage employees to behave ethically. Servant leaders adhere to principles of honesty, integrity, and morality (Liden et al., 2015). Its approach to leadership emphasizes the importance of both leaders and followers to behave morally and ethically (Sendjaya, 2015). Servant leaders adhere to high moral values, which then fosters an organizational ethical work climate by showing employees appropriate ethical behavior (Burton et al., 2017). A servant leader's emphasis on behaving ethically is an important reason that employees view him or her as a credible role model that leads to a stronger bond between them (Schaubroeck et al., 2011).

Only three studies have analyzed the relationship between servant leadership and ethical climate in a professional selling environment (Bande et al., 2020; Jaramillo et al., 2015; Schwepker and Schultz, 2015). These studies reported that servant leadership was significantly related to ethical climate. Bande et al., (2020) reported that servant leadership was related to ethical climate indirectly through supervisor trust. Jaramillo et al. (2015) found that servant leadership was related to two aspects of ethical climate (responsibility/trust and unethical peer behavior). These authors found that ethical climate mediated the relationship between servant leadership and performance. Last, in the Schwepker and Schultz (2015) study, servant leadership was related directly to value enhancing behavior performance and outcome performance. Ethical climate moderated the relationship between servant leadership and value enhancing behavior performance. When employees worked in a caring ethical climate (one where decisions by employees are driven by other employees' well-being) servant leadership had a stronger relationship with value enhancing behavior performance. Since only three studies have investigated the influence of servant leadership on salespersons' perceptions of an ethical climate, a need exists for additional research investigating the influence of servant leadership on salespersons' perception of an ethical climate. While the results of prior research are limited, support appears to exist for hypothesizing that servant leadership has a positive relationship with ethical climate.

*H<sup>1</sup>: Servant leadership is positively related to ethical climate.*



## Organizational Identification

Organizational identification has been defined as “perception of oneness with or belongingness to an organization, where the individual defines him or herself in terms of the organization(s) of which he or she is a member” (Mael and Ashforth, 1992: 104). It is a form of psychological attachment that happens when members accept the important features of the organization as features that define themselves (Dutton et al., 1994). Organizational identification has become one of the most important concepts in organizational behavior because of its link to significant attitudes and behaviors (Edwards, 2005).

The concept of organizational identification began with the work of social identity scholars (Tajfel, 1982; Tajfel and Turner, 1979, 1985). Social identity theory examines the behavior of group members based on their perceived status differences and comparisons with members of other groups. An essential aspect of identification is the value a person attributes to membership in the organization (Tajfel, 1982). According to social identity theory, group classification involves three mental processes: (1) social categorization – the method that people classify themselves into different groups based on visible characteristics (e.g., gender, age, race), (2) social identification – the method that people use to identify as part of a group, which influences them to adopt and behave according to group norms and (3) social comparison – the method that people use to compare their group to other groups regarding social standing and prestige.

The extent to which a person identifies with a group determines the level the person applies the group’s characteristics to himself or herself and behaves in a similar way to other members of the group (Ashforth and Mael, 1989; Dutton et al., 1994). According to social identity theory, group members view themselves as distinct from members of other groups, which allows them to maintain group identity (Tajfel, 1982). When a person strongly identifies with the group, he or she behaves according to the group’s expectations (Olkkonen and Lipponen, 2006). Ashforth et al. state that organizational identification “is at the core of why people join organizations and why they voluntarily leave, why they approach their work the way they do and why they interact with others the way they do during that work” (2008, p. 334).

A key aspect of servant leaders is their emphasis on serving others outside of the organization, which is a distinctive characteristic of the organization. They also convey the organization’s emphasis on fostering a culture where employees can develop their skills, allow opportunities for personal growth, and acknowledge appreciation for their contributions to the organization’s success (Liden et al., 2008; Schaubroeck et al., 2011; van Dierendonck, 2011). Employees will view the organization as an attractive place to work, feel more valued, and identify more strongly with its goals and values when working for a servant leader. Employees identify more strongly when they view the organization as an attractive place to work (Barbuto and Wheeler, 2006).

Interestingly, few studies have investigated how servant leadership impacts employees’ organizational identification. For example, three studies using employees in China, (Zhang et al., 2012; Zhao et al., 2016; Zhu and Zhang, 2020) and one study that sampled 205 food employees in Pakistan (Chughati, 2016) reported that servant leadership was positively related to

organizational identification. Although only four studies have investigated the relationship between servant leadership and organizational identification, each study reported that servant leadership is positively related to organizational identification. Therefore, the following hypothesis is offered to be tested.

*H<sup>2</sup>: Servant leadership is positively related to organizational identification.*

### **Commitment to Superior Customer Value**

Superior customer value refers to the perceived benefit or satisfaction that customers derive from a product or service relative to its cost (Lapierre, 2000). It stands as a cornerstone of business success, playing an integral role in fostering customer satisfaction, cementing loyalty, and ensuring retention (Keiningham et al., 2007; Trasorras et al., 2009). When customers perceive high value in products or services, they are more likely to remain loyal, make repeat purchases, and recommend the brand to others. This not only drives sales but also enhances the brand's reputation. Ultimately, delivering superior customer value is a key factor in the long-term success and sustainability of a business.

In a business-to-business environment, salespeople play a critical role in delivering superior customer value. Homburg et al. (2011) maintains that salespeople's behaviors are pivotal in understanding customer needs and tailoring solutions accordingly. This direct interaction, combined with the salesperson's in-depth product knowledge and ability to foster relationships, positions them as a key driver of customer value. In this study, we define the salesperson's commitment to providing superior customer value as "the strength of an individual's devotion to providing superior value to customers" (Schwepker, 2013).

Schwepker's studies (2013, 2015, 2017, and 2019) collectively suggest that the salesperson's commitment to superior customer value is not just a function of the product or service offered but is significantly influenced by the internal dynamics of an organization, including its ethical climate and the alignment of values between employees and the organization. This comprehensive understanding of customer value underlines its multifaceted nature, encompassing both tangible product features and the intangible aspects of organizational behavior and ethics. Schwepker's (2019) study further establishes the importance of aligning ethical values between salespeople and their organizations, which strengthens their commitment to providing superior customer value. Therefore, we posit that:

*H<sup>3</sup>: Ethical climate is positively related to the salesperson's commitment to superior customer value.*

How does leadership influence superior customer value? Only three studies have examined leadership style and superior customer value. Two of the studies reported that leader-member-exchange (LMX) (Schwepker, 2017) and ethical leadership (Schwepker and Ingram, 2016) were direct predictors of supervisor customer value. Only one study has tested the relationship between servant leadership and superior customer value. Schwepker (2016) reported that the relationship between servant leadership and supervisor customer value was mediated by other variables. Servant leaders make a salesperson's career development a priority. To be

promoted a salesperson needs to perform at a high level. Intuitively, salespeople will want to work for a sales manager who emphasizes their career development. In addition, servant leaders possess high ethical values (Liden et al., 2015). Thus, since servant leadership is highly correlated to both LMX and ethical leadership (Lee et al., 2020) and both leadership styles are related directly to superior customer value, intuitively servant leadership may be directly related to superior customer value.

Since only one study has investigated the relationship between servant leadership and superior customer value, a research question rather than a hypothesis will be stated.

*R<sup>1</sup>: Is the relationship between servant leadership and superior customer value direct or indirect through other variables?*

### **Salesperson Performance**

While Schwepker (2013) emphasized the role of an ethical climate in enhancing salespeople's commitment to delivering superior customer value, his work also linked it to improved sales performance. We define performance as a salesperson achieving annual goals. These two goals were achieving annual sales targets and keeping expenses at an acceptable level.

There is evidence to suggest that salespeople who deliver superior customer value consistently achieve robust performance metrics and are more likely to meet or surpass their sales quotas and objectives. For instance, Guenzi and Troilo (2007) highlight the significant role of sales and marketing integration in creating customer value, suggesting that when salespeople are supported by strong marketing strategies and a collaborative environment, they are more likely to understand and deliver on customer needs, leading to enhanced performance outcomes. Moreover, Schwepker (2015) found that salespeople who are more committed to customer value translates into superior sales performance and the attainment of sales goals. Therefore, we posit that:

*H<sup>4</sup>: The salesperson's commitment to superior customer value is positively related to salesperson performance.*

While research has reported that organizational identification is related to numerous employee job attitudes and behaviors (Greco et al., 2022; Lee et al., 2015), the relationship between organizational identification and job performance is uncertain. For example, in their meta-analysis, Lee et al. (2015) reported that the relationship between organizational identification and extra-role performance was higher when self-reported results were used versus other-rated measures. Various meta-analyses (Greco et al., 2022; Lee et al., 2015; Peng and Kim, 2020; Riketta, 2005) have reported that while the relationship between organizational identification and job performance is significant, the relationship between the two variables is small. Virtually no research has examined organizational identification and performance in a sales environment. In one study the relationship between organizational identification and performance was moderately significant ( $r = .20$ , Beeler et al., 2020) while in another study the correlation between organizational identification and performance was low ( $r = .12$ , Gabler et al., 2014). Although sparse research has investigated the relationship between organizational

identification and performance, these studies indicate that organizational identification is positively related to performance.

*H<sup>5</sup>: organizational identification is positively related to salesperson performance.*

## METHODS

### Sample

This study involved both sales managers and salespeople who they managed. A list of sales managers was purchased from a business that sells various email lists of businesses. A list of 400 sales managers were emailed explaining the study's purpose along with a copy of the questionnaire and requesting that their salespeople and they participate in the study. Each salesperson was requested to go online and complete the survey. Confidentiality was promised to each participant as the responses would be seen only by the researchers. Ninety-four of the sales managers and 272 of the salespeople agreed to participate.

Most of the salespeople were married (206, 76.1%) male (199, 73.2%) and possessed at least a two-year college degree (247, 90.8%). They averaged 10.5 years of sales experience and had worked for their current employer an average of 7.9 years. Their average income was \$84,576. The compensation for the salespeople is as follows: salary, commission, and/or bonus (74.6%), salary (15.1%), and commission (10.3%). They worked in a variety of industries including manufacturing, service, and wholesaling.

Demographic information for the sales managers is as follows: most of the sales managers (77, 81.9%) had completed at least four years of college; most of them were male (74, 78.7%); they had been employed as a sales manager for an average of 8.7 years; and the number of salespeople supervised ranged from 4 to 10 with the average number being 5.9.

### Measures

The questionnaire items appear in the Appendix. All items were measured using a seven-point Likert scale (strongly disagree to strongly agree). *Commitment to Superior Customer Value* ( $\alpha = .90$ ) was measured using the nine-item scale developed by Schwepker (2013); *Ethical Climate* was measured using two scales developed by Babin et al. (2000). The two scales measure responsibility/trust and peer behavior. The two scales were combined to form one scale based on the high correlation between them ( $\alpha = .88$ ). *Servant Leadership* was measured using the 7 – item scale developed by Liden et al. (2015) ( $\alpha = .87$ ). Two items were used to measure *Performance* ( $\alpha = .82$ ). The sales managers were asked to rate each salesperson's performance regarding achieving annual sales targets and keeping expenses at acceptable levels. *Organizational identification* was measured using the six-item scale developed by Mael and Ashforth (1992) ( $\alpha = 0.87$ ). The factor loadings were high for each variable: commitment to superior customer value .62 to .88; performance .73 to .83, ethical climate .59 to .79, organizational identification .61 to .85; and servant leadership .63 to .87.

## RESULTS

The correlations, means, and standard deviations for the variables appear in the Table. The model with hypotheses and beta coefficients appears in the figure.

Correlations, Means, and Standard Deviation

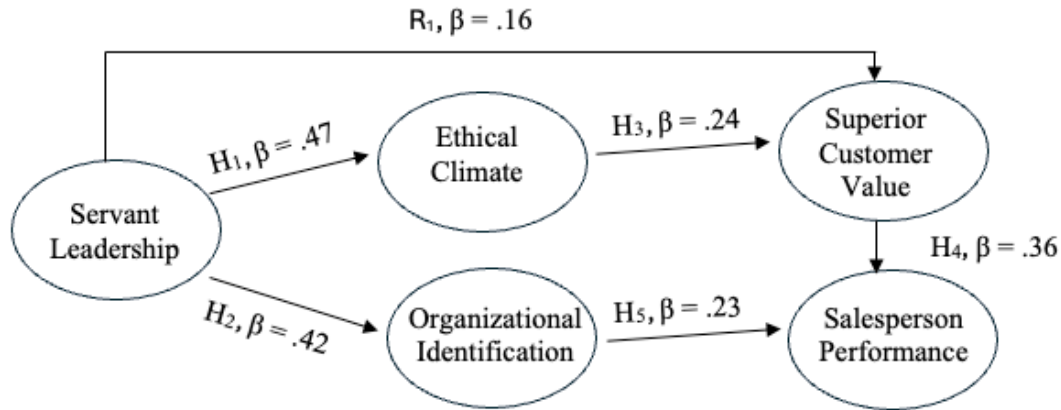
	1	2	3	4	5
Organ Iden.					
Performance	.29				
Servant Leadership	.41	.25			
Ethical Climate	.34	.26	.46		
Sup. Customer Value	.21	.40	.24	.24	
Means	26.5	9.8	35.9	47.6	37.8
Std. Deviations	7.1	2.2	6.9	10.2	14.5

LISREL 12 was used to analyze the data. Traditional fit indices were used to assess model fit: comparative fit index (CFI), root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). First, the measurement model was assessed. The confirmatory factor analysis indicated a very good model fit ( $\chi^2 = 841.65$ ,  $df = 517$ ,  $p < .001$ , CFI = .94; SRMR = .041; RMSEA = .048). Based on the fit of the measurement model, the hypothesized was tested. The results of the test for the hypothesized model indicated a very good fit ( $\chi^2 = 861.91$ ,  $df = 521$ ,  $p < .001$ , CFI = .94; SRMR = .041; RMSEA = .048).

Support is found for all the hypotheses: Servant leadership is positively related to ethical climate; (Hypothesis 1) ( $\beta = .47$ ,  $t = 6.51$ ); servant leadership is positively related to organizational identification; (Hypothesis 2) ( $\beta = .42$ ,  $t = 5.81$ ); ethical climate is positively related to the salesperson's commitment to superior customer value (Hypothesis 3) ( $\beta = .24$ ,  $t = 3.60$ ); the salesperson's commitment to superior customer value is positively related to salesperson performance (Hypothesis 4) ( $\beta = .36$ ,  $t = 4.82$ ); and organizational identification is positively related to salesperson performance (Hypothesis 5) ( $\beta = .23$ ,  $t = 3.17$ ).

The research question involved the direct relationship between servant leadership and superior customer value. This model showed a significant difference between the hypothesized model. The fit of the second model did indicate a statistically significant improvement over the hypothesized model ( $\chi^2 = 853.66$ ,  $df = 521$ ,  $p = .00$ , CFI = .94, RMSEA = .053, SRMR = .053 ( $\Delta\chi^2 = 5.3$ ,  $p < .025$ ). Thus, the relationship between servant leadership and superior customer value is both direct and indirect ( $\beta = .16$ ,  $t = 2.14$ ).

### Hypothesized Model and Study Results



### DISCUSSION

The primary purpose of this study was to examine the role of servant leadership in influencing salespersons' ethical climate, organizational identification, and superior customer value. A secondary purpose of the study was to analyze how both servant leadership and superior customer value effects performance. The results have important implications for managing the sales force.

#### Theoretical Implications

This study contributed to the limited research showing that servant leadership influences perception of an ethical climate among salespeople (Bande et al., 2020; Jaramillo et al., 2015; Schwepker and Schultz, 2015). In only one of these studies was performance included and none of these studies included organizational identification. This study's results make an important contribution to existing research by showing the relationship among and how indirectly or directly they influence salespersons' performance.

This study confirmed prior research by showing that sales managers who are viewed as a servant leader directly influence ethical climate within the sales force. Servant leaders help their salespeople when they have a personal problem, allows them the freedom to handle difficult situations as they deem best, and importantly will not compromise ethical values to be successful. When these traits are visible in the sales manager, salespeople will view the sales manager as a servant leader. The important theoretical implication is that this study's results support prior research showing that the presence of an ethical climate leads to positive outcomes (Martin and Cullen, 2006).

This study also expands our understanding of the relationship between servant leadership and organizational identification. No study has ever analyzed the relationship between servant leadership and organizational identification with salespeople. The results indicate that salespeople will identify more with their organization's goals and values when they are work for a servant leader. Research has found that organizational identification is related to a variety of important job attitudes and behaviors (Lee et al., 2015). In this study organizational identification was related to higher performance among the salespeople.

Another important finding of this study is that ethical climate impacts superior customer value. Achieving superior customer value is vitally important in achieving customer satisfaction and retaining customers (Trasorras et al., 2009). The long-term success of the business is dependent on delivering superior customer value. Salespeople have an important role in delivering superior customer value since they interact with customers directly. Clearly, an organization wants to determine ways for salespeople to emphasize superior customer value. This study's results indicate that servant leadership impacts superior customer both indirectly through ethical climate and directly. These results once again show the importance of servant leadership in the sales force.

The last important theoretical implication of the study's results is that servant leadership is directly related to superior customer value. Only one study (Schwepker, 2016) included both servant leadership and superior customer value. However, in the Schwepker (2016) study, the direct relationship between servant leadership and superior customer value was not tested. Therefore, this study is the first one to show that servant leadership influences superior customer value directly.

### **Managerial Implications**

The results also have several implications for managing the sales force. First, creating an ethical climate is crucial for organizations that aim to attract and retain clients (Ingram et al., 2007). Ethical behavior impacts not only customers but also employees and society, making the development of such a climate a vital task for sales managers (Tanner et al., 2015).

An ethical climate is particularly important in a professional selling environment. Salespeople perceive the organization's climate as ethical when they are treated fairly, prioritize their clients' interests, uphold high moral standards, see fellow salespeople acting ethically, and act in the best interests of the organization rather than their own self-interest. Unfortunately, research suggests that the ethical behavior of salespeople is often viewed as lacking (Ingram et al., 2007). Thus, finding ways to enhance ethical behavior among the sales force is essential.

Creating an ethical climate is very important for salespeople since, unlike other employees, they are under pressure to make quota and often work without direct supervision.

As firm representatives, their behavior significantly impacts its success. To make sales they may be tempted to engage in unethical behavior. This study indicates that sales managers who practice servant leadership can positively influence the ethical behavior of the sales force. An ethical climate is more likely to emerge when sales managers do not compromise their ethical behavior, prioritize career development for their salespeople, and place the interests of their team

ahead of their own. Hiring sales managers who are servant leaders can yield long-term benefits for the organization.

The second practical implication is that servant leadership directly influences superior customer value and indirectly salespersons' job performance through organizational identification and superior customer value. Salespeople perform at a higher level when they identify strongly with the company's goals. Since obtaining and retaining clients is the role of the sales force, understanding variables related to increased job performance is critical. This study indicates that a servant style of leadership is one of the variables that can indirectly influence the performance of the sales force. The servant leader enhances organizational identification and encourages the sales force to emphasize superior customer value by assisting their salespeople to succeed in their career, attending to their personal needs, and by developing their conceptual skills, which leads to higher job performance.

Third, social exchange theory and the norm of reciprocity (Blau, 1964) say that people will repay in kind when someone else has done something for them. Servant leaders care about their subordinates' well-being. When working for this type of sales manager, the sales force will feel an obligation to reciprocate that fair treatment with increased effort to increase the organization's goals leading to greater job performance and revenue for the company (Hoch et al., 2018).

Since these results show that sales managers who are perceived as servant leaders by the salespeople they manage influence behavior, how do organizations select sales managers who possess the traits of a servant leader? Most sales managers are selected based on their performance as a salesperson. This practice most likely will need to be modified. Rather than just relying on performance as a sole criterion for promotion to a sales management position, organizations should develop other methods such as employing surveys and interviews to select sales managers. Perhaps this change needs to start during the initial hiring phase for salespeople rather waiting until a sales management position opens. Surveys evaluating people who possess the traits of a servant leader will need to be developed along with training people on interviewing techniques to identify appropriate people to hire. The human resource department needs to be heavily involved. Last, senior management must be willing to support a program of hiring and promoting people who possess the traits of servant leaders. Long-term benefits will accrue by doing so.

## **LIMITATIONS AND FUTURE RESEARCH OPPORTUNITIES**

Like all studies, this one has several limitations. First, the data were cross-sectional. A cross-sectional design has a limitation of not being able to make causal conclusions. It represents a single measurement of cause and effect. The study's results can show that a causal relationship exists, but not why it exists. In the future, the model should be tested with one organization using a longitudinal design. Second, this study examined only servant leadership. Thus, a comparison of other leadership theories (transformational, ethical, and authentic) and their ability to influence ethical behavior cannot be done. Future research could examine which of these leadership theories has the greatest influence on creating an ethical climate. Third, this study was conducted in the United States. In contrast, two of the three prior research studies investigating



the relationship between servant leadership and ethical climate were conducted in Spain. Therefore, the results from those studies might differ from those of Schwepker and Schultz (2015) and this study, which were conducted with American salespeople.

Fourth, this study was the first one to investigate how servant leadership impacts employees' organizational identification with a sample of American workers or salespeople. Thus, these results may be specific to this sample of employees. Therefore, the results may be specific to salespeople. Future research needs to test the hypotheses in this study with another sample of salespeople or employees working in a non-sales related occupation.

Fifth, this study examined only task performance. Beyond just examining task performance, future research could also analyze organizational citizenship behaviors. Does a servant leader in a sales organization contribute to salespeople willing to engage in organizational citizenship behavior (behavior that is not formally recognized by the organization, but contributes to its functioning)? Last, this study examined only outcomes of servant leadership. Future research could examine antecedent variables such as extroversion, organizational culture, and altruism and how they impact servant leadership. Virtually no research has investigated antecedent variables to servant leadership. Thus, understanding how servant leadership develops cannot be determined. Can organizations train managers to be servant leaders? Are traits of a servant leader learned prior to employment?

In conclusion, this study indicates that servant leadership is an important style of leadership influencing salespersons' job attitudes and behavior, especially regarding perceptions of an ethical climate and performance. This study's results show that servant leadership is an important form of leadership when managing salespeople.

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## APPENDIX – QUESTIONNAIRE ITEMS

### Organizational Identification

1. When somebody criticizes your company, it feels like a personal insult.
2. I am very interested in what others think about my company.
3. When I talk about this company, I usually say “we” rather than “they.”
4. This company’s successes are my successes.
5. When someone praises this company, it feels like a personal compliment.
6. If a story in the media criticized this company, I would feel embarrassed.

### Superior Customer Value

1. I feel strongly about improving the value provided to our organization’s customers.
2. I enjoy discussing issues related to delivering superior customer value with people in my organization.
3. I gain a sense of personal accomplishment in providing superior value to my customers.
4. I completely understand the importance of providing superior value to our customers.
5. I often discuss customer value-related issues with people outside of my organization.
6. Providing superior value to our customers should be the number one priority of my organization.
7. I am willing to put in a great deal of effort beyond that normally expected in order to help my organization deliver superior value to our customers.
8. The way I feel about providing customer value is very similar to the way my organization feels about it.
9. I really care about the value provided to customers by my organization.

### Servant Leadership

1. My leader can tell if something work-related is going wrong.
2. My leader makes my career development a priority.
3. I would seek help from my leader if I had a personal problem.
4. My leader emphasizes the importance of giving back to the community.
5. My leader puts my best interests ahead of his/her own.
6. My leader gives me the freedom to handle difficult situations in the way that I feel is best.
7. My leader would NOT compromise ethical principles in order to achieve success.

### Ethical Climate

1. All employees here are held accountable for their actions.
2. Employees here act first to further their customers’ interests.
3. People always get treated justly here.
4. Employees here are truly committed to high moral standards in their treatment of others.
5. Employees here have performed unethical acts.
6. I’ve seen other employees do things that bother me from a moral viewpoint.
7. Some of the people I work with do things that I feel are unethical.
8. Generally, employees here simply act to protect their own self-interest.
9. Employees here do things based on “CYA” (protect yourself) principle).
10. Employees here sometimes take revenge out on customers.

# DOES THE COFFEE ON THIS DATE TASTE GOOD OR DO GOOD? BRAND SIGNALING AND ATTACHMENT INSECURITY DURING RELATIONSHIP INITIATION

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## ABSTRACT

*Brands can be important relationship partners for consumers, but they cannot replace human connections. Instead, brands can influence how others perceive consumers by communicating their personalities. With loneliness being a global issue, a significant unanswered question is how our brand choices impact our ability to initiate relationships with others. Our research shows that it depends on the brand itself; whether its core associations align with creating superior offerings or promoting social responsibility. In human relationships, warmth more than competence, leads to satisfying interpersonal interactions. Accordingly, our research indicates that socially responsible brands, which convey warmth, have an advantage in seeking human connections, particularly when potential partners have adaptive relationship models. However, when individuals face relationship insecurity, the type of insecurity (attachment avoidance versus attachment insecurity) affects their response to potential blind dating scenarios.*

**Keywords** *Brand relationships, Social responsibility, Relationship insecurity, Attachment*

## INTRODUCTION

In the U.S., most people are considered lonely. This problem is particularly pronounced among younger consumers, such as Generation Z and Millennials. Over one fifth of Millennials report that, outside of their families and partners, they have no friends. Generation Z is even lonelier:

*“Generation Zers (adults ages 18-22) surveyed are significantly more likely than any other generation to say they experience the feelings described in the statements associated with loneliness (e.g., feeling alone, isolated, left out, that there is no one they can talk to, etc.). In fact, more than half of Gen Zers (adults ages 18-22) identify with 10 of the 11 feelings associated with loneliness. Feeling like people around them are not really with them (69%), feeling shy (69%), and feeling like no one really knows them well (68%) are among the most common feelings experienced by those in the Generation Z (adults ages 18-22).”*

These findings illustrate the unhappy reality that consumers, particularly younger ones, find it challenging to form relationships with others, even as acquaintances. Deep and fulfilling relationships are less common, and more challenging to create. COVID-19 made relationship formation even more challenging, as face-to-face communications were limited due to health concerns. While society has largely reopened, relationship challenges remain.

Since brands can represent important relationship partners in consumers' lives, brand managers may seek to position their brands as relationship partners for consumers. While brand relationships can provide stability in consumers' lives, they cannot replace human ones. Instead, brands can influence relationships with other people by outwardly communicating consumers' personalities to others. According to the self-congruity theory, consumers prefer a brand that is aligned with their self-identities. That is, consumers may utilize a brand to establish their own self-identities (Hung and Lu, 2018) by integrating a brand into either the current self-identity or desired self-identity (Batra et al., 2012). Accordingly, people tend to make inferences of others' personalities based on the clothes they wear or cars they drive, especially when they do not have enough information about others. Therefore, brands signaling certain attributes might affect their consumers' ability to initiate relationships with others.

At a broad level, brands can position their attributes along two dimensions: ability vs. social responsibility. Ability associations fulfill the core reason that a brand exists, representing its capacity to deliver satisfying products. Social responsibility associations represent a brand's commitments to society and its efforts at improving social good or welfare. Prior research has examined how the associations facilitate the acceptance of new products (Brown and Dacin, 1997; Johnson *et al.*, 2019), or generally contribute to positive business or brand outcomes. An auxiliary benefit of some of this research, however, has been that researchers now understand that these types of associations are appealing for different reasons and align to different objectives, including social ones (Johnson *et al.*, 2018). In part, the nonequivalence of the associations within social contexts is based on what the associations signal to others.

A brand positioned along ability associations may be perceived as competent or capable, while a brand positioned on social responsibility associations may be perceived as warm (Johnson *et al.*, 2019). Competence and warmth are, within interpersonal contexts, viewed as two of the most essential dimensions that define the personalities of other people or groups (Rosenberg et al, 1968; Fiske et al, 1999; Kervyn et al, 2012). Competence can show that an individual is capable, industrious, and effective at pursuing their goals while warmth aligns to kindness, trust, and is generally viewed as an essential element of healthy relationships. Germane to the selection of a relationship partner, as brands communicate who we are to others, the dimensions may have important implications for singles who are preparing to start a new relationship. Intuitively, then it can be hypothesized that single persons with healthy relationship views might be excited about the prospect of a date with someone who is warm. However, what about people who feel insecure about relationships?

As mentioned earlier, the data suggest that relationship insecurity may be more prevalent and relevant than most might imagine. If a brand can provide signals of the suitability of a relationship partner, how are those same signals interpreted by someone who experiences relationship insecurity? To answer this question, the current research examines the important role

that brands can play in forming relationships with others, particularly potential relationship partners within a blind dating context both for healthy relationships and also for persons who experience relationship insecurities.

## THEORETICAL BACKGROUND

### Identity Signaling through Brands

Consumers commonly confer human personality dimensions onto and develop relationships with brands (Macinnis and Folkes, 2017) that are processed akin to person-to-person relationships (Aaker, 1997; Aaker, 2004). Like interpersonal relationships, brand relationships can “serve as anchors” (Fournier, 1998, p. 360) throughout consumers’ lives.

Furthermore, self-congruity (i.e., the alignment between a consumer’s self- identities and brand images) affects consumers’ preferences (Govers and Schoormans, 2005; Branaghan and Hildebrand, 2011). According to previous research, consumers prefer brands that align to their self-identities (Branaghan and Hildebrand, 2011). In other words, a brand may help consumers to express their own self- identities (Hung and Lu, 2018), which can lead consumers to integrate a brand into their self-identities (Batra et al., 2012). Brands thus become essential in defining and outwardly communicating consumers’ identity to others and interpreting cues from others (e.g. Belk 1988). Personality traits in brands can be communicated through product-related attributes, a brand name, or advertising approach (Batra, Lehmann, and Singh, 1993). In so doing, brands and other consumption activities can facilitate interpersonal relationship formation between consumers (Veloutsou, 2009) in categories diverse as motorcycle enthusiasts (Schouten and McAlexander, 1995; Johnson *et al*, 2013), Star Trek aficionados (Kozinets, 2001), lonely diner patrons (Rosenbaum and Massiah, 2007), or various other activities that tie people together through common consumption patterns (Muniz and O’Guinn, 2001) that contribute to consumers’ interpersonal and brand relationships (Schau *et al*, 2009; Johnson *et al*, 2015).

### Person-to-Person Perceptions

In human relations, the two most foundational dimensions of person-to-person and social perceptions align to competence (e.g. capability, expertise) and warmth (e.g. kindness, sincerity) perceptions (Rosenberg *et al*, 1968; Fiske *et al*, 1999; Kervyn *et al*, 2012). Together, competence and warmth have been established to account for bulk of the foundation for evaluating perceptions of other people or social groups (Fiske *et al*, 1999).

Competence perceptions refer to a person or group’s abilities; whether they are capable, skillful, creative, or otherwise likely to succeed in the pursuit of their goals (Kervyn *et al*, 2014; Fisk *et al*, 2006). A foe lower in competence may be viewed as less of a threat, but also as capable of providing fewer relational benefits vis-à-vis a competent person (Fiske and S. T., 2012). By contrast, a person or group that ranks highly on the dimension warmth is generally viewed as helpful, generous, or friendly while a person, social group, or entity that ranks lower on the dimension may be viewed as exploitative, untrustworthy, or cold (Kervyn *et al*, 2014; Fiske *et al*, 2006).



## Ability and Social Responsibility Associations

The personality dimensions described in the previous section (i.e., competence and warmth) can align to brand positioning strategies (Fournier and Alvarez, 2012; Aaker et al, 2012; Johnson et al, 2018) and asymmetrically affect consumers' brand expectations (Yang and Aggarwal, 2014).

In their seminal work on brand associations, Brown and Dacin (1997) demonstrated that brands can be construed on two core dimensions – ability and social responsibility. A brand that is positioned based on ability provides a signal to consumers that its products and services are of a high quality, while a brand positioned on social responsibility demonstrates that the brand has made commitments to giving, philanthropy, producing societal benefits (Hutton et al, 2001; Biehal and Shenin, 2007; Luo and Bhattacharya, 2006). While the former places emphasis on profits, the latter recognizes for-profit businesses as integral parts of society, and thus responsible for contributing to societal benefits (Polonsky, 2017). Respectively, ability and social responsibility associations enhance competence and warmth perceptions (Johnson et al, 2019). Because the associations – like competence and warmth – fulfil different forms of relational expectations, they have the potential to unequally affect consumers' evaluations. That is, like people, competent organizations are viewed as reliable, responsive, dependable, and efficient while warm organizations are viewed as honest, genuine, cheerful (Aaker et al, 2010).

When Brown and Dacin (1997) introduced the two types of associations, they emphasized the importance of both, but their results across multiple contexts suggested that ability associations were more diagnostic to product evaluations than social responsibility associations. Given that the primary purpose of brands and companies is to create products and services in order to generate a profit (Berens and van Riel, 2004), it is perhaps intuitive that ability associations have generally been found to be more diagnostic in informing consumers' assessments of products and service evaluations. Indeed, research findings have typically supported the relative importance of the two associations. Gürhan-Canli & Batra (2004), for instance, showed that ability associations such as innovativeness affected consumers' perceptions of high-risk products while social responsibility did not. Similarly, Berens *et al* (2007) showed that the effect of poor social responsibility associations on product evaluations could be compensated by strong ability associations for products, stocks, and job options – the opposite, that poor ability could be compensated by positive social responsibility, was not found. Finally, Biehal *et al* (2007) found that ability messages that emphasized quality had a larger effect on a portfolio of products than social responsibility.

Within interpersonal relationships, the dimension of warmth tends to correspond more closely to intimate relationships, as the dimension aligns to positive intentions and stable social traits of others (Freddi et al, 2013). Consumers likewise are more apt to identify with a warm versus competent brand (Kolbl et al, 2019) but may be reluctant to purchase from a warm brand if they question the brand's competence (Aaker et al, 2010). However, recent findings suggest that social responsibility may be more valuable than might be assumed. Social responsibility can: affect purchase intentions, evaluations, and loyalty (Deng and Xu 2017); be leveraged as a way

of responding to service failures (Hutton *et al*, 2001); lead to improved profits or performance (Johnson *et al*, 2018; Miller *et al*, 2020), or be communicated via social media to elicit positive responses from consumers (Saxton *et al*, 2019). Accordingly, companies spend heavily on developing a strong and favorable corporate image aligned to social responsibility (Hutton *et al*, 2001).

Consumers differ, however, in their responses to social responsibility endeavors. Consumers who prioritize concern for relationship partners are more accepting of social responsibility messages that align to warmth while those who place a lower level of priority on relationships are more accepting of ability messages that increase competence perceptions (Johnson *et al*, 2019). Similarly, consumers may prioritize social responsibility and warmth over ability and competence in a social setting (Johnson *et al*, 2018). Hence, research demonstrates that i) competence and warmth can be conveyed based on ability and social responsibility brand messages and that ii) these dimensions affect how consumers' approach consumption experiences. However, it is unclear how these dimensions might interact with individual differences in the ways consumers conceive of and approach interpersonal relationships.

### **Interpersonal Relationships: Attachment Theory**

An emerging area in brand relationship research draws from the social psychology of interpersonal relationships, applying concepts from attachment theory (Bowlby, 1969; Mikulincer and Shaver, 2016). Attachment was defined as a "lasting psychological connectedness between human beings" by Bowlby (1969, p. 194). Attachment theory proposes that people develop mental models of relationships based on experiences with close others. Ideally, close others are reliable and responsive sources of care and support, leading to a sense of attachment security and generally adaptive relationship cognition and behavior. However, as described above, people may feel insecure about their relationships with others. Using attachment theory-based definitions of insecurity (described in further detail below), researchers have found as many as half of the population may be insecure, and 88% have experienced an important previous relationship characterized by insecurity (Baldwin *et al*, 1996; Konrath *et al*, 2014).

Two main forms of attachment insecurity are attachment avoidance and attachment anxiety. If others are consistently unreliable and unresponsive to one's needs, attachment avoidance develops. Attachment avoidance is characterized by negative mental models of relationship partners, a devaluation of communal goals for connection and intimacy, discomfort with dependency, and prioritization of self-reliance. If others are inconsistently reliable, sometimes responsive and sometimes unresponsive, then attachment anxiety develops. Attachment anxiety is characterized by a negative mental model of the self, hyperactivation of communal goals and preoccupation with relationships, but ambivalent expectations about whether partners will meet one's needs and sensitivity to rejection.

Research examining how attachment insecurity affects brand relationships is in its infancy. Swaminathan, Stille and Ahluwalia (2009) found that only people high in attachment avoidance were influenced by brand features with low (high) avoidance predicting preference for

sincere (exciting) brands. By contrast, Proksch, Orth and Cornwell (2015), focusing on anticipated emotional experiences, found that a brand's potential to enhance one's competence increased brand engagement for people low but not high in attachment anxiety; they did not assess attachment avoidance.

## HYPOTHESES DEVELOPMENT

Both warmth and competence are key dimensions in determining interpersonal attraction in that they indicate how a potential relationship partner's care for the self and their potential to facilitate one's goals, respectively (Montoya and Horton, 2013). However, relationship context matters: close relationships such as family, friendships, and romantic relationships are characterized by their deep interdependence and communal nature (Clark and Mills, 2011). Between people, the warmth dimension aligns to the goal of social cohesion and aids in evaluating the primary intentions and social traits of strangers (Freddi *et al*, 2013). Similarly, because the partner's reliable responsiveness to one's own needs is so important to such close relationships, warmth is typically prioritized in these types of relationship partners and critical to their successful initiation and development (Abele and Brack, 2013; Clark *et al*, 2019).

With respect to brand associations, most research has demonstrated that ability associations tend to have greater diagnostic value for product evaluations (Brown and Dacin, 1997; Gürhan-Canli and Batra, 2004; Berens *et al*, 2007; Biehal *et al*, 2007). However, more recent research illustrates that the diagnostic value of the two associations can differ depending on consumers' goals (Johnson *et al* 2018).

Accordingly, it is hypothesized that persons with a healthy model of relationships will seek out cues of a potential relationship partner's warmth (versus competence). Because social responsibility aligns to warmth (versus competence which does not provide this evidence), persons with a healthy model of relationships will react more favorably when a potential date selects brands based on social responsibility over ability.

*Hypothesis 1: In aggregate, consumers will anticipate higher satisfaction with their date when the brand connotes warmth through social responsibility (versus competence through ability).*

While social responsibility associations (versus ability) may lead to higher expectations for those with healthy relationship expectations, a firm's social responsibility strategy is only tenable if it aligns to consumers' values or concerns (Kuokkanen and Sun, 2020). Researchers have examined a congruence between consumer characteristics and a firm's social responsibility endeavors can promote a positive response. Sen and Bhattacharya (2001) defined C-C congruence as the compatibility between a firm's social responsibility endeavors and consumers' identities, a concept that has been supported within their and other research. For persons with healthy relationship models, social responsibility can provide evidence in line with their goals.

However, related research suggests that goals aligned to social responsibility may be moderated by perceptions of relationships. Indeed, Johnson *et al*. (2019) showed that social responsibility is valued more by those who value close relationships and care for the well-being of others versus those with a self-oriented relationship model. Similarly, attachment insecurities

will alter consumers' values and primary concerns. Hence, we hypothesize that consumers' attachment insecurity (avoidance, anxiety, and their intersection) will moderate responses to brands that demonstrate warmth through CSR versus brands that demonstrate competence based on ability-based messaging.

Activated by warmth, communal norms may signal relationship openness (Clark, 1984). People high in attachment anxiety value communal goals, although they have ambivalent expectations about whether these goals will be met (McClure *et al.*, 2014). Accordingly, more anxious people are expected to prefer warm versus competent brands, as signals of warmth may alleviate rejection insecurities.

*H2a: More anxious individuals seek signals of communal goals and will anticipate higher satisfaction with their date when the brand connotes warmth through social responsibility (versus competence through ability).*

People high in attachment avoidance, on the other hand, are expected to be more comfortable with competent brands, as competence aligns to their values of independence and self-reliance. By contrast, warm brands may trigger insecurities about intimacy and closeness among avoidant individuals who devalue communal goals and experience discomfort associated with signals indicating relationship formation. Thus, for persons with attachment avoidance who find the prospect of entering into a relationship with someone new, we propose that signals of warmth are frightening. Simply, signals of warmth show that a potential date is socially available, that they are kind, and are potentially ready to form the type of relationship that persons with attachment avoidance seek to avoid.

*H2b: More avoidant individuals avoid signals of communal goals and will anticipate lower satisfaction with their date when the brand connotes warmth through social responsibility (versus competence through ability).*

Finally, we present competing exploratory hypotheses that pose different effects based on inconsistent prior findings within the literature. Given that the signals communicated by brand warmth are hypothesized to have opposing effects on anxious versus avoidant people—alleviating anxious insecurities about rejection, but activating avoidant insecurities about intimacy—we also consider potential interactions between anxiety, avoidance, and branding.

People high in both forms of insecurity have an especially ambivalent and fearful form of attachment. Their responses in relationship situations can be fluctuating and inconsistent (Marks, Trafimow, & Rice, 2014) and they are often most at risk for negative relationship outcomes (Park *et al.*, 2018; Simpson and Rholes, 2002). Previous brand research focusing on fearful insecurity has found that they react more negatively to brand failure (Kordrostami & Kordrostami, 2019; Thomson, Whelan, & Johnson, 2012), but to date there is no research examining the interactive effects of anxiety and avoidance in the context of brand signaling.

Thus, we explore two alternative hypotheses, to focus separately on each condition and how warmth and competence signaling might affect the interplay between the two forms of insecurity:

*H3a: If the warmth condition is especially strong in evoking the closeness goals associated with attachment anxiety, then we would expect to find that the positive effect of attachment anxiety offsets the negative effect of attachment avoidance in this condition, such that for people higher in anxiety, the negative effect of avoidance is weaker. We would expect the lowest anticipated satisfaction with the date for people who were high in avoidance but low in anxiety.*

*H3b: If the competence condition is especially strong in alleviating the impact of avoidant insecurity, it may allow the closeness goals of the anxious to come into play. In this case we would expect the positive effect of attachment anxiety to offset the negative effect of attachment avoidance in this condition, such that for people higher in attachment anxiety, the negative effect of avoidance is weaker. We would expect the lowest anticipated satisfaction with the date for people who were high in avoidance but low in anxiety.*

## METHODOLOGY

### Participants and Procedures

A total of 288 participants were recruited from an online participant pool (<https://www.prolific.co/>). Participants were required to be single as an inclusion criterion. They were on average 28 years old (SD = 9 years), predominantly male (186 male, 99 female, 3 other/choose not to specify), heterosexual (222 heterosexual, 38 bisexual, 20 gay or lesbian, 8 other/choose not to specify), and single (250 single, 27 casually dating, 10 exclusive dating; 1 married).

Participants first completed demographic and personality measures, including the focal measure of attachment, the Experiences in Close Relationships - Short Form (ECR-S; Wei et al. 2017). The ECR-S measures both forms of insecurity, with 6 items measuring anxiety (e.g. “I need a lot of reassurance that I am loved by my partner.”) and 6 items measuring avoidance (e.g. “I try to avoid getting too close to my partner.”), from 1 (*strongly disagree*) to 7 (*strongly agree*). Responses are averaged to create an anxiety score and an avoidance score.

Subsequently, participants were instructed to imagine meeting a blind date at a fictitious coffee shop selected by their date; this is an ecologically valid dating and shared consumption context, and one which should activate attachment concerns (Eastwick and Finkel, 2008, McClure and Lydon, 2014). Participants were randomly assigned to one of two scenarios wherein the coffee shop was described as signaling either competence (i.e. making good coffee using state-of-the-art techniques) or warmth (i.e. donating to charity and promoting social good; Johnson et al. 2019).

Specifically, participants read “Imagine that you are going on a blind date. Your date suggests that you meet up at a coffee shop of their choosing and sends you a link to an option that they think looks good, called CoHi Coffee. Your date mentions that there are many coffee shops in the area, but they thought this one looked best. It is new to you, so you click on the link to check it out before replying. The first thing that you notice when you open the website is this award, which is prominently displayed...”

For the competence condition, participants read:

ANNUAL NEW YORK COFFEE ROASTER AWARD (NYCRA) 2018 & 2019:

Great Taste Award

NYCRA hereby recognizes CoHi Coffee for its consistent, long-term commitment to:

- Quality Investments: 11% of sales invested into new coffee preparation technologies
- Quality Sourcing: all products are ISO certified, which ensures quality and consistency

In addition to engaging in stringent quality control processes for all of its products, CoHi's skilled and hard-working employees have demonstrated a high-level commitment to coffee roasting and brewing. Each year, CoHi employees are provided with 20 hours of paid training to enhance their ability to produce quality coffee and coffee-based beverages. Last year alone, CoHi's employees attended 47 training programs and interacted with over 750 coffee professionals.

For the warmth condition, participants read:

ANNUAL NEW YORK COFFEE ROASTER AWARD (NYCRA) 2018 & 2019:

Social Responsibility Award

NYCRA hereby recognizes CoHi Coffee for its consistent, long-term commitment to:

- Philanthropic Investments: 11% of sales are donated to benefit childhood education
- Ethical Sourcing: all are fair trade certified, which ensures that your purchase helps others

In addition to engaging in ethical sourcing processes for all of its products, CoHi's caring and friendly employees have demonstrated a high level of commitment to the community. Each year, CoHi employees are given 20 hours of paid time off to volunteer to support childhood education initiatives. Last year alone, CoHi's employees volunteered in 47 after school programs that directly benefited over 750 children.

The text was accompanied by a corresponding award graphic.

After reading about the competence- or warmth-signaling coffee shop, participants answered a series of questions about their feelings towards and expectations for the coffee shop/brand, the date, and prospective partner, including: expectations for the quality of the date experience (using a 7-item double-anchored scale, e.g. *very bad-very good, unpleasant-pleasant*) (Rajeev and Ray, 1986); excitement for the date, from 1 (*not very excited*) to 7 (*very excited*); and perception of the partner as warm (*sociable, caring, friendly, sensitive*) or competent (*capable, skilled, hard working, organized*) from 1 (*not at all*) to 7 (*very much*) (Judd et al., 2005). The items are presented in Table 1.

**Table 1. Summary of Measurement Items**

Variable	Items	Response Scale	Cronbach's $\alpha$	Reference
ECR - Anxiety	I need a lot of reassurance that I am loved by my partner.	1 (strongly disagree) to 7 (strongly agree)	.76	Wei et al. (2017)
	I find that my partner doesn't want to get as close as I would like.			
	My desire to be very close sometimes scares people away.			
	I do not often worry about being abandoned. (reverse-scored)			
	I get frustrated if romantic partners are not available when I need them.			
	I worry that romantic partners won't care about me as much as I care about them.			
ECR - Avoidance	I try to avoid getting too close to my partner.	1 (strongly disagree) to 7 (strongly agree)	.73	Wei et al. (2017)
	It helps to turn to a romantic partner in times of need. (reverse-scored)			
	I want to get close to my partner, but I keep pulling back.			
	I turn to my partner for many things, including comfort and reassurance. (reverse-scored))			
	I usually discuss my problems and concerns with my partner. (reverse-scored))			
	I am nervous when partners get too close to me.			
Expectations for the quality of the date experience	Very bad...Very good	1 (negatively-valenced item) to 7 (positively-valenced item) for all items	.94	Rajeev and Ray (1986)
	Very unfavorable...Very favorable			
	Unpleasant...Pleasant			
	Dislike...Like			
	Not worth the time to go...Worth the time to go			
	Undesirable...Desirable			
	Awful...Nice			
Excitement for the date	Not very excited...Very excited	1 (not very excited) to 7 (very excited)	n/a, single item	Judd et al. (2005)
Perception of the partner as warm	sociable	1 (not at all) to 7 (very much)	.85	Judd et al. (2005)
	caring			
	friendly			
	sensitive			
Perception of the partner as competent	capable	from 1 (not at all to) 7 (very much)	.89	Judd et al. (2005)
	skilled			
	hard working			
	organized			

## Manipulation Check

After reading about the coffee shop, to check attention to the description and therefore the manipulation, participants were asked to briefly describe what the coffee shop was known for. Participants' answers were examined by the research team and all indicated correct understanding (e.g. "Donating and helping kids education also volunteering" for the warmth condition and "Quality investments and sourcing. Also employees with great training." for the competence condition.).

## RESULTS

We began by testing our first hypothesis, that consumers will have more positive perceptions and expectations when the date suggests the warm rather than the competent brand. We conducted t-tests comparing the warmth/social responsibility condition (coded as 1) to the competence/ability condition (coded as 0). Hypothesis 1 was partially supported: Participants whose date suggested the warm brand thought their date had a warmer personality ( $M = 5.74$ ) than participants whose date selected the competent brand ( $M = 5.36$ ,  $t(286) = -3.30$ ,  $p = .001$ ); brand presentation did not affect perceptions of competence ( $t(286) = .68$ ,  $p = .49$ ). There was no effect of brand presentation on participants' expectations of the date experience ( $t(286) = -.06$ ,  $p = .96$ ) or their excitement for the date ( $t(286) = -.86$ ,  $p = .39$ ). (See Table 2).

**Table 2: Table for Hypothesis 1 results**

	Warmth Condition (N = 141)	Competence Condition (N = 147)		
Outcome	mean (SD)	mean (SD)	<i>t</i> (286)	<i>p</i>
Perceive date's personality as warm	5.74 (.91)	5.36 (1.03)	-3.30	.001
Perceive date's personality as competent	5.21 (.96)	5.29 (1.02)	.687	.493
Expectations for date experience	5.66 (.94)	5.66 (.92)	-.056	.955
Excitement for date	5.25 (1.02)	5.13 (1.31)	-0.859	.391

We next examined the second set of hypotheses about how the different forms of attachment insecurity would moderate the effects of brand presentation. We regressed each outcome onto the main effect of warm or competent brand presentation (effects-coded as 0.5 for warm and -0.5 for competent), the main effects of attachment anxiety and avoidance (standardized for ease of interpretation) and all two- and three-way interactions. Hypotheses 2a and 2b were largely supported, but qualified by further interactions between the two forms of insecurity.

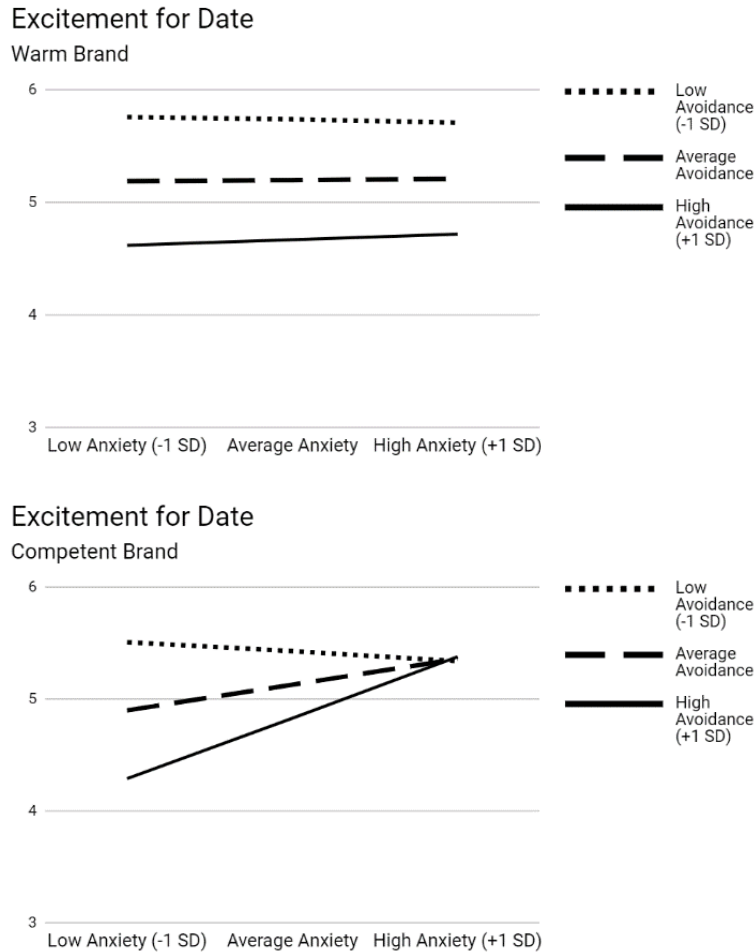


With respect to perceptions of the prospective partner, participants higher in attachment anxiety perceived them as more warm ( $\beta = .13, p = .032$ ) but not more competent ( $\beta = .04, p = .54$ ), regardless of brand presentation condition. Participants higher in avoidance had more negative perceptions, seeing the prospective partner as less warm ( $\beta = -.15, p = .009$ ) and less competent ( $\beta = -.25, p < .001$ ), again regardless of brand presentation condition. However, these effects were qualified by interactions between anxiety and avoidance, such that the higher anxiety attenuated the negative impact of avoidance on the prospective partner's perceived warmth ( $\beta = .15, p = .013$ ) and competence ( $\beta = .15, p = .012$ ).

In regard to participants' expectations for the date, attachment anxiety did not have a main effect on either anticipated experience ( $\beta = .05, p = .39$ ) or excitement ( $\beta = .10, p = .07$ ). Participants higher in avoidance anticipated a more negative experience ( $\beta = -.26, p < .001$ ), but this was attenuated by higher anxiety (avoidance x anxiety:  $\beta = .16, p = .009$ ). Higher avoidance also predicted lower excitement for the date ( $\beta = -.35, p < .001$ ), again attenuated by higher anxiety (avoidance x anxiety:  $\beta = .16, p = .007$ ), but this was qualified by brand context (avoidance x anxiety x brand presentation:  $\beta = -.12, p = .034$ ).

With the competent brand, anxiety attenuated the negative effect of avoidance, but for the warm brand, anxiety did not attenuate the effect of avoidance; participants high in avoidance were less excited about the date at the warm coffee shop regardless of their anxiety level (see Figure 1 for an illustration of the interaction with the excitement outcome).

Figure 1: An illustration of the interaction with the excitement outcome



## IMPLICATIONS

### Theoretical & Practical Implications

This research is, to the best of our knowledge, the first to examine how ability versus social responsibility brand positioning strategies can have a role in facilitating intimate relationships between consumers. For persons with secure models of relationships, we found that a potential date’s choice of a date location based on social responsibility (versus ability) increased consumers’ perceptions of their date’s warmth, though not necessarily the date itself. This finding is important because it demonstrates how social responsibility can signal personality perceptions within a dating context, which can affect consumers’ expectations towards others. While the hypothesized main effect was only partially supported, which is surprising given that warmth has been established to be an important factor in successful relationships, the hypothesized interactions that were most important to this research were strongly supported.

Much as consumers seek to share limited aspects of their identity in certain contexts such as the workplace (Tian and Belk, 2005), our research suggests that consumers may also vary in their readiness to accept different aspects of identity based on both relationship stages and their present insecurities. For individuals who struggle with relationship insecurities (Baldwin et al, 1996, Konrath et al, 2014), initiating a relationship is challenging; some are anxious about and preoccupied with their relationships (i.e., attachment anxiety), while others seek to avoid intimacy and closeness that are hallmarks of meaningful relationships (i.e., attachment avoidance). These attachment insecurities prevent millions of people from benefitting from the psychological and health-related outcomes by creating a significant roadblock to forming positive interpersonal connections.

Our results suggest that a) individual differences in attachment and a brand's signaling along warmth or competence dimensions can impact consumers' relationships, and b) a brand's positioning along warmth or competence dimensions as communicated by ability versus social responsibility messages may be unequally evaluated based on the relationship insecurity form one holds (anxiety, avoidance, or the combination of both).

We find that attachment avoidance has consistent negative effects on outcomes across domains: higher avoidance predicts more negative expectations of the potential date experience, and the potential partner (regardless of branding). Avoidant participants seem to find the idea of the date aversive, consistent with previous research that shows they may not seek relational opportunities (McClure *et al*, 2010). For some outcomes, this negative effect of avoidance is mitigated for people who are also high in anxiety, reflecting the divergent processes that underlie these two forms of insecurity.

A brand's presentation as warm or competent, as communicated by ability versus social responsibility messages, affected both brand and interpersonal outcomes. When a potential partner suggests a date location that signals warmth, they are likewise presumed to be warm. Communal norms can signal openness to relationship formation (Clark, 1984; Clark *et al*, 2019), and as warmth is desirable in a relationship partner (Abele and Brack, 2013), this could improve dating success. Interestingly, although we did not ask participants about their own warmth, indications emerged that they may be adjusting their own identities to align with their perceptions of the potential partner: participants invited to the socially conscious coffee shop identified as more politically liberal. That said, a warm brand may not benefit everyone: people high in avoidance were less excited about the date at the warm coffee shop, and when asked to consider the potential partner for a long-term relationship, were put off by the warm brand. The combination of considering a more serious relationship with cues of warmth may be especially triggering of their insecurities (Birnie *et al*, 2009).

## **Originality/Value**

Though extant brand relationship research has examined how and why consumers use possessions in identity signaling and relationship formation and many studies have examined how social responsibility contributes to brand outcomes, none examined the effect of consumers' attachment models. Our research is among the first to examine how consumers' attachment

insecurities may temper the effects of brands on their willingness to form romantic relationships based on their positioning strategies (ability versus social responsibility). We advance beyond previous studies examining attachment and brands by more fully examining both insecurity types as well as their interaction.

By clarifying that the effects of warmth versus competence may depend on individual differences such as attachment insecurity, this research provides greater transparency into the nuanced conditions under which brand warmth versus competence may differently affect consumer responses. Additionally, this study emphasizes that brands can impact these responses based on their choice to position on ability versus social responsibility associations.

## LIMITATIONS AND FUTURE RESEARCH

As with all research, our research has some limitations. One limitation is both a weakness and strength. In particular, we required all participants to identify as single. Being single, however, does not necessarily mean that a person is at a stage within their life at which she or he would be willing to enter into a relationship – this is arguably a limitation. At the same time, identifying persons who are at point within their life stage in which they are willing to enter into a relationship would have certainly led to an omission of persons with relationship insecurities. As such, it may be valuable for future research to examine how some of these effects are moderated based on whether a person is actively searching for a partner by, for example, joining a dating website.

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