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The Intersection of Employee Engagement and Employee Health: A Quantitative Evaluation of the Use of Engagement Tactics in Improving the Health of a Workforce

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The Intersection of Employee Engagement and Employee Health: A Quantitative Evaluation of
the Use of Engagement Tactics in Improving the Health of a Workforce

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Education in Human Resources and Workforce Development

by

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Abstract

Employers have a vested interest in the health of employees, but employee wellness programs have not proven themselves an effective tactic for employers to motivate employees to live healthier lives. Employees who suffer from chronic disease are less productive than healthier peers, are more expensive to insure, have higher rates of absenteeism, and are more prone to suffer from performance-reducing levels of stress and burnout (Shuck et al., 2021; Jones et al., 2019; Mattke et al., 2013). The problem is that employee wellness programs are often not effective at improving the health of employee populations (Song & Baicker, 2019; Jones et al., 2019; Merrill et al., 2011) and an alternate approach to employee health improvement has not been widely explored (Shuck et al., 2022). This study applies the Self-Determination Theory and the Job-Resources Demands Theory in evaluating whether employee engagement levels relate to health-related lifestyle choices in the interest of progressing our understanding of the motivational construct of health-related behavior change in an employee population.

This is a correlational, cross-sectional, non-experimental study reflecting a point-in-time experience of employees of a single healthcare employer using numerical data from the Utrecht Work Engagement Scale and the Good Health Practices Scale. This strategy of inquiry is a correlational design as it uses a correlational statistic to measure the relationship between two variables (Creswell, 2014). The independent variable is employee engagement, and the dependent variable is the health-related lifestyle score, compared using simple linear regression. The study found that employee engagement and health-related lifestyle choice are related but not to a statistically significant degree.

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Chapter One – Introduction and Background

This study will examine the possible connection between employee engagement and employee health-related lifestyle choices, in furtherance of recent research that links engagement and health (Shuck et al., 2021). Recent research suggests that employee engagement yields health benefits in the form of reduced stress levels, reduced risk of chronic diseases, and improved psychological well-being (Shuck et al., 2021). The next step is to understand whether employers can improve employee health by improving employee engagement as an alternative to a traditional employee wellness program.

The intent of this study is to evaluate whether HRD practitioners can positively impact the health of an employee population by improving employee engagement. This effort will offer employers and HRD professional's insight, using a specific employee population in one work location, into whether an employee population intends to improve their health through lifestyle change when their engagement level at work is improved. Employee engagement is a field of study within HRD (Saks & Grumman, 2014), and employee wellness programs continue to gain popularity in both HRD research and application (Song & Baicker, 2019). Recently, there is interest among HRD researchers in the intersection of engagement and health (Shuck et al., 2021) because an employee that is both engaged and healthy represents an ideal state from an employer's perspective in terms of an employee's productivity and motivation (Reijseger et al., 2017; Mattke et al., 2013).

There is momentum in the HRD academic community and private industry to identify tactics for improving employee health and engagement. The effects of the workplace on an employee's physical and mental health are a current area of HRD research (Shuck et al., 2021),

likely because an employee's physical health, mental health, and degree of work engagement are linked to a variety of productivity and performance measures, like absenteeism, effort level, turnover intention, the cost to insure, the likelihood of a work-related injury or illness, and others (Reijseger et al., 2017, Leijten et al., 2015; Mattke et al., 2013, Jamal, 2004; Maslach et al., 2001). Employee wellness programs have grown in popularity to address the physical and mental health aspect (Otenyo & Smith 2017), but there is little evidence that they successfully improve the health of an unhealthy employee population (Jones et al., 2019). Parallel to employee health and wellness efforts is the evolution of our understanding of the value of an engaged employee population. Employers that successfully engage a workforce enjoy better overall business performance (Nienaber & Martins, 2020; Mueller, 2019), and a corollary benefit of strong engagement is a workforce with lower stress levels, better attendance, and lower healthcare costs (Agorastos & Chrousos, 2022; Gagné & Deci, 2005; Jamal, 2004; Jayaratne & Chess, 1984). This is an ideal time to move research forward to understand whether the employee wellness program design can include employee engagement tactics to improve the health of an employee population in the aggregate. This chapter will provide the background and basis of employee engagement and employee wellness, including their origin, evolution, our current understanding of each, and the theoretical underpinnings that make both engagement and wellness an HRD area of study.

Background

Employers have an interest in supporting the health of their employees. Employees with healthy lifestyles are less likely to suffer from chronic diseases like obesity, diabetes, and heart disease (Santos, 2022). Employees that suffer from chronic disease are less productive than

healthier peers, are more expensive to insure, have higher rates of absenteeism, and are more prone to suffer from high levels of stress and burnout (Shuck et al., 2021; Jones et al., 2019; Mattke et al., 2013). Knowing that, employee wellness programs have grown in popularity in the interest of improving employee health (Kunte, 2016; Song & Baicker, 2019; Merrill et al., 2011). Employee wellness programs commonly include health promotion and education activities, voluntary vaccinations, weight loss programs, on-site fitness centers, stress reduction programs, nutritional counseling, preventive programs that target employees with specific chronic health conditions, smoking cessation, and other measures designed to motivate members of a workforce to make healthy lifestyle choices (Kunte, 2016). Unfortunately, studies reveal that the programs are often not successful in substantially improving employee health across an entire workforce (Song & Baicker, 2019; Jones et al., 2019; Merrill et al., 2011). Employee health is a multi-dimensional subject that includes many factors an employer cannot address. An employer's strategy must be to identify those areas they can influence, like the work environment and, specifically, the employee experience relative to their work.

Research reveals a connection between employee health and employee engagement (Leijten et al., 2015; Mueller et al., 2019; Shuck et al., 2021). Employee engagement is an area of HRD research as researchers and practitioners have identified employee engagement as a key driver of business success (Saks & Gruman, 2014, Reijseger et al., 2017, Nienabar & Martins, 2020). The term employee engagement originated with William Kahn's seminal work where he found that employees apply themselves to varying degrees, physically, cognitively, and emotionally, in work role performances based on three primary factors: meaningfulness, safety, and availability of resources (Kahn, 1990). Many studies followed confirming Kahn's

(1990) published results (Saks & Grumman, 2014; Shuck & Reio, 2014; Eldor & Harpaz, 2016; Shuck, 2020). The connection between employee health and employee engagement relates to the effect the workplace has on employees from a psychosocial well-being (Leijten et al., 2015), stress and chronic disease (Bakker & Demerouti, 2017; Shuck et al., 2021; Shuck et al., 2022) perspective. Shuck et al (2021) characterize this phenomenon with the term “work determinants of health” (WDOH) as a supplement to the public health expression “social determinants of health” (Horwitz et al., 2020).

Problem Statement

Employees that suffer from chronic disease are less productive than healthier peers, are more expensive to insure, have higher rates of absenteeism, and are more prone to suffer from high levels of stress and burnout (Shuck et al., 2021; Jones et al., 2019; Mattke et al., 2013). The problem is that employee wellness programs are often not effective at improving the health of employee populations (Song & Baicker, 2019; Jones et al., 2019; Merrill et al., 2011) and an alternative approach to employee health improvement has not been widely explored (Shuck et al., 2022). Employers and employees have a joint interest in the health of the employee population yet the current approach to improving employee health is ineffective (Song & Baicker, 2019; Jones et al., 2019; Merrill et al., 2011).

Purpose Statement

The purpose of this quantitative analysis is to evaluate whether employee engagement is correlated with healthy lifestyle choices. If so, employee engagement tactics may offer a more effective approach to improving the health of an employee population than traditional wellness programs. There is evidence that employee health is impacted by the workplace

culture and related employee engagement (Shuck et al., 2021), that employee performance and health are positively correlated (Reijseger et al., 2017; Mattke et al, 2013), that employee engagement and profitability are positively correlated (Mueller, 2019), that employee engagement and turnover are negatively correlated (Reina et al., 2018), but there remains a gap in the research regarding an employer's use of engagement tactics to improve employee health, though it is well established that there are related organizational benefits to a healthy employee population (Shuck et al., 2022).

Research Questions

1. Are employee engagement and health-related lifestyle choices correlated?
2. Do employee engagement tactics improve the health-related lifestyle choices of an employee population?

Hypothesis

- A. Hypothesis: employee engagement is positively correlated with employee health-related lifestyle choices.
- B. Hypothesis: employee engagement tactics improve the health-related lifestyle choices of an employee population.

Theoretical Perspective

The theoretical framework for employee engagement begins with the self-determination theory (Meyer & Gagné, 2008). Self-determination theory (SDT) is a motivational construct supported by the basic psychological human needs of autonomy, competence, and relatedness (Gagné & Deci, 2005). The connection between SDT and employee engagement is well established (Meyer & Gagné, 2008). Self-determination theory explains that extrinsic and

intrinsic motivation are manifest in a desire to gain rewards, perform an activity that is enjoyable or interesting, avoid punishment, boost one's ego or avoid feelings of guilt, attain a valued personal goal, or express one's sense of self (Meyer & Gagné, 2008). Pursuit of those goals in the workplace is evidenced by higher levels of performance, persistence, and creativity (Meyer & Gagné, 2008) as they relate to an individual's degree of autonomy and competence. Autonomy and competence are key factors in an employee's degree of workplace engagement because they influence the three elements of engagement; meaningfulness (in the work they do), safety (to act as themselves), and the availability of resources (needed to perform a job well). Similarly, the loss of autonomy can result in deteriorating levels of performance as individuals are likely to rebel against the source of control responsible for reducing their autonomy (Koestner & Losier, 1996). Self-determination theory is a good fit as a theoretical foundation for employee engagement because engagement is rooted in motivation.

The Job-Demands Resource Theory (JDR) serves as the theoretical foundation for studying employee wellness. The JDR posits there are two competing elements of work: demands and resources. Job demands are physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological effort and are therefore associated with certain physiological and/or psychological costs (Bakker & Demerouti, 2017). Job resources are those physical, psychological, social, or organizational aspects of the job that are functional in achieving work goals, reducing job demands and the associated psychological and physiological costs, or stimulating personal growth, learning, and development (Bakker & Demerouti, 2017). High levels of job demands are associated with burnout, stress, and chronic disease. High levels of job resources are associated with engagement and low levels of burnout

and stress (Bakker & Demerouti, 2017). The JDR helps us understand the source of employee engagement and its impact on physical health. Healthy work environments that minimize employee stress by providing high levels of resources and modest to low demands have healthier workforces (Shuck et al., 2021).

Assumptions/Biases

This study will measure the state of engagement and the health-related lifestyle choices of an employee population of the same organization at the same time. Assumptions within this research process include that all participants will be truthful and independent in their responses to research instruments, that the myriad of possible workplace variables impacting engagement will be mitigated by the size and variety of the participating population, and that the participating employees are a representative sample of all employees of the organization. There is potential for bias in this study in that the participants have existing relationships with each other and the researcher that may unintentionally influence participant and researcher behavior, affecting the information provided by the participants, or the engagement intervention process.

Significance of the study

Employers and employees have a vested interest in improving both the engagement and health of the employee population (Reijseger et al., 2017; Mattke et al, 2013). The significance of this study is that it may offer employers an approach to improving both of those metrics in a way that is more targeted and efficient than a traditional employee wellness program. Improving employee health-related lifestyle choices is a proactive approach to improving

employee health, while efforts to date only reactively study the effects of the workplace on employee health (Shuck, 2022).

Delimitations

This study targets employees of a single rural critical access hospital in Illinois in 2023. Employee participants will represent a variety of healthcare job classes and work shifts, educational backgrounds, work teams, and work environments, but they all work at the same location for the same employer. Similarly, they all live within 60 miles of the employer and have shared lifestyle experiences as it relates to living in close geographic proximity to each other. Participants have access to the same employee wellness benefit.

Limitations

The study results can only be reflective of the work experiences and health-related lifestyle choices of employees within the study timeframe. The convenience sampling approach prevents these results from being extrapolated to other populations. Convenience sampling is less desirable than random sampling in quantitative research, but it remains a credible approach (Creswell, 2014).

The independent variable, employee engagement, is measured without regard for the reasons or ways employees become engaged. Elements of employee engagement and how employees become engaged in terms of employer tactics vary widely, are unique to each employee and employer, and this study does not propose to identify or measure those variables. Studies exist that explore individual engagement tactic variables related to employee health (Terry et al., 2013), but this effort is focused on engagement in its broadest sense.

Summary of Chapter One

The intent of this study is to evaluate whether employee engagement levels impact an employee's health-related lifestyle choices. Employers have an interest in improving the health of their employees, but traditional employee wellness programs are not consistently effective at improving the health of an employee population. It is possible that employers can instead use tactics that improve employee engagement levels in the interest of improving health with better effects than a traditional wellness program. Employee health and wellness research, and employee engagement research, were separate areas of study until recently. The next chapter offers background on each topic and the current state of research that brings these topics together.

Definition of terms

Employee engagement: employee engagement is the “maintenance, intensity, and direction of cognitive, emotional, and behavioral energy” (Shuck et al., 2017). The term is used interchangeably in this work with job engagement and engagement.

Health and wellness: in the context of this study, health, and wellness are broad terms that describe the absence of disease (health) and the development of psychological, emotional, and social functioning that promote an employee's ability to enjoy a life worth living (wellness) (Travia et al., 2022).

Vigor: Vigor is characterized by high levels of energy, mental resilience, persistence at work, and a willingness to invest effort (Schaufeli, 2004).

Dedication: Dedication is a feeling of significance and enthusiasm for one's work (Schaufeli, 2004).

Absorption: Absorption is a state of full concentration and happy devotion to the work you do (Schaufeli, 2004).

Organization of Dissertation

Chapter One reviews the reasons the study of the interaction between employee engagement and employee health are academically relevant. Chapter Two provides the background and current state of research for each topic and their relationships. Chapter Three describes the research design in detail including the participant population, method, instruments, and evaluation approach. Chapter Four shows the data collected and initial findings. Chapter Five offers the findings and conclusions and describes research opportunities based on these findings.

Chapter Two – Literature Review

Employee Health and Wellness

Employee health has evolved into a matter of concern for businesses in the United States as the age of people suffering from lifestyle-induced chronic disease has decreased, impacting people during their working years (Mattke et al., 2013). The issue revolves around the connection between physical health and work performance, the cost of insuring employees, and the insulating effects of physical health against workplace injury (Mattke et al., 2013). While research about employee health has intensified in recent years, it is not a new subject.

Protecting the investment

Employee health in the United States began as a matter of concern for businesses in the 1830s as working conditions in some industries, such as coal mining, blacksmithing, and textile plants, were connected to high mortality rates, workplace illnesses, and injuries that led to absenteeism and turnover, and replacing workers was more costly than retaining them (Abrams, 2001). Trade unions were becoming prevalent at that time, applying pressure through mass action in businesses and through government lobbying to improve working conditions and stabilize the financial condition of employees (Felton, 1976). Employee health was focused on protecting employees as an investment and avoiding union interference in work production (Felton, 1976). Occupational medicine became a career path for physicians and nurses beginning in 1868 when employers began employing healthcare professionals to care for employees in employer-owned hospitals (Felton, 1976). The field continued to grow thereafter in hazardous occupations, such as mining, factories, and construction. The focus continued to be on preserving the workforce for economic reasons, but employers recognized a return on

investment related to maintaining a healthy workforce (Abrams, 2001). The federal government strengthened employers' resolve to make workplaces safe through the passage of several laws related to workplace health and safety in the 1960s and 1970s (FLSA, 1961; Equal Pay Act, 1963; Age Discrimination Act, 1967; OSHA, 1970).

Employee health, job performance, and motivation

The shift in interest in employee health from one of protection to motivation and performance occurred around 1970. Heinselmann & Bagley (1970) led a collaborative study by the Universities of Minnesota, Wisconsin, and Pennsylvania State from 1966-1968 to assess the effect of physical activity on employee cardiovascular disease. The longitudinal study included university employees across all three campuses that were identified through screening to be at high risk of cardiovascular disease. Researchers found that regular physical activity substantially reduced the risk of cardiovascular disease, but they also found that participants were more motivated at work. They reported having a greater capacity to work, less fatigue, and greater levels of concentration (Heinselmann & Bagley, 1970). The connection between work performance and health ignited a new analytic pathway for management and psychology research.

The study of employee health grew in the 1970s and 1980s as industrial psychologists and occupational medicine researchers noticed a connection between employee health, motivation, and performance (Beehr & Newman, 1978; Frese, 1985; Ivancevich, 1986). Workplace stress was an early predictor of health outcomes. The effect of workplace stress on physical health and job performance was linked by McLean (1974) and Beehr & Newman (1978). They found a direct relationship between workplace stress, chronic diseases including

kidney and cardiovascular disease, psychological diagnoses including depression and anxiety, and poor job performance. This realization led researchers to seek ways to reduce workplace stress, and early intervention included offering physical fitness activities at, or in conjunction with, work. The idea was to build stress resiliency by making employees more physically fit, applying the concept that fatigue was a significant factor in an employee being overwhelmed by stress (McLean, 1974).

Researchers jumped in with suggested workplace initiatives to improve employee fitness. Richard Pyle (1979) published a study that reported nearly 50,000 employers developed employee fitness programs between 1975 – 1979. He noted that fitness program elements were inconsistent across industries and employers, with some programs only providing financial support for fitness activities, while others offered full health support with onsite gyms, trainers, and healthcare professionals (Pyle, 1979). Pyle reported the challenge for employers was in quantifying the value of the fitness investment, and employers should begin by determining the value of reduced illness-related absenteeism and improving the “general perspective that company people have for their jobs” (Pyle, 1979). Pate & Blair (1983) developed fitness programming for workplaces to address the issue of program inconsistencies and extolled the virtues of employee physical health for both the employer and employee. The claimed benefits of a workplace fitness program included, 1) employees get a convenient way to stay healthy, 2) the employer gains goodwill by demonstrating they care about employees, 3) the employer enjoys a more physically capable workforce with better stress resiliency (Pate & Blair, 1983). Wolf et al., (1987) also developed an employee fitness program on the basis that healthy employees have more stamina and organizational commitment than unhealthy employees.

Carrell (1988) posited that fitness programs were the path to lower health insurance costs and better workplace performance. He went one step further in suggesting that employee fitness would drive beneficial behavior change such as higher productivity, less absenteeism, fewer fatigue-related accidents, and greater mental alertness (Carrell, 1988). The growth of research in this area led to more branches of study as job performance, motivation, profitability, reduced operating costs, and a host of other things were positively correlated with employee health. An employer's interest in building a healthy workforce is important, but it is helpful to also understand what motivates employee behavior. Offering a workplace fitness program is only beneficial if employees are motivated to use it. Let's look next at the origins of employee motivation to better understand what causes employees to act.

Employee motivation

Industrial psychologists and sociologists have long studied employee motivation, but early studies revolved around the topics of social status (Williams, 1910) and job satisfaction (Snow, 1926; Viteles et al., 1930; Baldamus, 1951). The concept of employees being internally motivated to work harder first appears in 1970 when researchers assessed employee motivation using a unique question set that asked respondents about the conditions in which they were willing to apply extra effort to their work (Wernimont et al., 1970). The top three factors identified were, 1) doing work I like to do; 2) being responsible and accountable for nearly all aspects of my job assignment; 3) having the opportunity to take part in making decisions that affect my work (Wernimont et al., 1970). All three of these factors are rooted in workplace relationships. These motivational elements outscored, by a wide margin, the geographical location of the job, whether the company for which they work has a good

reputation, the working environment, or opportunities to improve their professional reputation (Wernimont et al., 1970). The realization that employees could be internally motivated given the right set of circumstances became the foundation of a new theory that gave us a context for studying relationships at work. The relationships employees have with their supervisor and co-workers were identified as a key motivational element, and path-goal theory was born.

Path-goal theory helps explain workplace relationships as motivating factors by connecting relationships with personal goals (Evans, 1970). Employees behave in a manner that is consistent with goal achievement, dedicating the greatest amount of their personal resources to tasks that are instrumental to the achievement of a goal. The relationships, or degree of trust, employees have with each other, and their supervisor are the basis for an employee's belief that the work environment is supportive of their individual goals. These goals relate to Maslow's hierarchy of needs (Maslow, 1943), broadly, and managers interested in motivating employee behavior should connect tasks and the work environment with rewards and conditions that satisfy those basic needs (Evans, 1970). The relationship a manager has with an employee determines whether the employee believes their individual needs are considered in task assignment, their trust that the manager will provide the structure the employee needs to accomplish the task, that co-workers are supportive of the accomplishment of a task, and whether the task performance will be rewarded such that the employee's goal is achieved, or at least they make progress toward accomplishing the goal (Evans, 1970). The path-goal theory focuses our attention on the importance of workplace relationships as it relates to employee motivation. In 1970, the intent was to motivate employees to work harder. The concept of motivating employees to live healthier lives in the broad interest of improving employees'

quality of life as a matter of philanthropic interest and improving their work capacity as a matter of financial interest at the same time had not yet materialized.

Researchers established by 1970 that workplace relationships are motivating when they move an employee toward a goal that relates to Maslow's hierarchy of needs, and motivated employees apply extra effort to their task assignments, but the next big step in understanding employee motivation came in 1985 when Deci & Ryan (1985) established self-determination theory (SDT). Self-determination theory offers that people are motivated by three innate things, 1) competence; 2) autonomy; 3) resources. Competence refers to an employee's confidence to do their job well, and an interest in learning new skills. Autonomy refers to having an internal locus of control over the work assignment, they prefer to decide on their own how to do their job. Resources refer to having the resources to perform in a way in which they are proud, having what they need to do the job to the limits of their ability, and having the energy to perform their job (Deci & Ryan, 1985). This macro theory helps us understand what employers can do to foster strong working relationships among supervisors and co-workers. In brief, SDT describes the origin of workplace relationships, and the path-goal theory explains what is required to keep those relationships intact.

Relationships in the workplace are important to employee motivation, but the motivating factors of human behavior are more complex. The conservation of resources (COR) model was introduced in 1989 to explain the degree to which employees apply effort to their jobs in the broader context of stress avoidance (Hobfoll, 1989). The model is predicated upon the belief that people strive to retain, protect, and build resources and that what is threatening to them is the potential or actual loss of those valued resources (Hobfoll, 1989). This model

connects to other principles of psychology related to our motivation to act, such as Freud's pleasure principle (1900), Bandura's social learning theory that explains our pursuit of positive reinforcement (1977), and Pearlin et al., (1981) finding that we are motivated by an interest in protection and enhancement of self. The collective direction is to explain why people act the way they do, and that knowledge is useful in understanding how and why employees would partner with an employer in improving their health. Employees that can be motivated to join an employer-offered fitness program by leveraging their relationship with their co-workers and/or supervisor or by offering a path to positive reinforcement, be convinced of the personal value of improved health in growing their resources with which to apply toward things they value, or appreciate the improved stress resiliency associated with better health will likely have a more positive view of their employer. The next step is to understand what should be included in an employer-sponsored fitness program.

Employee wellness programs

The concept of an employee fitness program expanded with the use of the term "wellness" to combine the terms health and fitness and address the totality of employee health (Gebhardt & Crump, 1990). Employee wellness programs are intended to address issues related to employee stress and burnout, address specific chronic diseases in terms of prevention and treatment, and improve physical and mental fitness (Jones et al., 2019). These factors strongly correlate to employee performance and turnover, health insurance usage, and work-related injuries (Jamal, 2004). There is no standard framework for employee wellness programs, but Otenyo & Smith (2017) conducted a large study of US wellness programs and found the following as common elements:

Table 1*Employee wellness program elements (Otenyo & Smith, 2017)*

Program Goals	Strategy
Physical activity and weight loss	Walking meetings; organized exercises; flexible time; active transportation; support of bike racks; biking, running, or workout trails; shower facilities; infrastructure changes that include office lunch rooms with wellness equipment (e.g., hula hoops, Frisbees, balls); open streets; rooms for aerobic exercises; athletic fields; weight rooms, fitness centers, gymnasiums, and swimming pools; Weight Watchers at work; group therapy; Zumba, Tai Chi, and dancing programs; karate classes; treadmill and bike desks; encouraging the use of stairwells instead of elevators; “Walk with a Doc”; walking groups; and physical activity breaks.
Healthy eating and nutrition promotion	Policies encouraging employer-provided healthy foods; healthy catering, healthy snack stations; food-for-sale cafeterias; access to chemical-free produce; “Real Food Slim Down Challenge” and other similar competitions; on-site gardens; healthy potlucks; healthy snacks for meetings; water bottles; employer-provided insulated lunch bags or tote bags.
Tobacco cessation initiatives	Tobacco Free Zones/campuses; cessation support programs; discount coupons for Chantix; “Beat the Park”; “Quit Power” (Baltimore); Quit with Us LA (Louisiana)
Stress management, back pain problem management, and biometric screenings	Provision of treadmills; ergonomics and yoga coaching; educational sessions on stress management; Focused Meditation; Soothing Stress; Health Risk Coaching; massage therapy; cholesterol and diabetes screenings; health risk assessments; flu shots; mobile mammography and prostate screenings (i.e., gender appropriate screening); stress balls; pedometers
Breastfeeding facilitation	Lactation room provisions; flextime and employee-friendly interventions; equipment

	uses; Workplace Milk Expression programs; Healthy Pregnancy and Healthy Babies programs
Wellness advocacy, reporting, promotion, and Wellness Coaches	Through online platforms; magazines (e.g., Bathroom Banter in San Antonio, Texas; Weekly Review Magazine and online websites complete with newsletters with food recipes in Baltimore, Maryland); workshops on wellness issues; health fairs; education sessions; Wellness Scores designed to link health outcomes to policies (Oklahoma City); health management tracking and data-driven programs; collaboration with communities to pursue low-cost sustainable developments that enhance healthy lifestyles; financial and other incentives; collaboration with local universities; mayor and city government leadership; personal success story promotion; Activity of the Week or Month events; Monthly Quick Read newsletters via e-mail; health and wellness expos; telephonic wellness/disease management coaching; Wellness Champions and Ambassadors; Well City awards; Wellness Gift Cards.

More than half of US employers report offering a wellness program, and 72 percent report the program consists of a combination of activities and screening (Mattke et al., 2013). The challenge is that employee wellness programs are intended to move employees across the health continuum to a better state of health, but few are successful at influencing large swaths of the employee population and participation is often below 50 percent (Song & Baicker, 2019; Jones et al., 2019; Mattke et al., 2013). Knowing how to motivate employees and building employee wellness programs should offer employers the tools they need for the mass adoption of a healthy lifestyle among an employee population, but it simply is not the case. It stands to reason that employee wellness programs are not what employees want, at least on a large

scale. There must be another way to improve the health of employees. Fortunately, research is beginning to uncover other facets of the employer-employee relationship that could yield better employee health results. That relationship has evolved into something called “engagement”.

Employee Engagement

Employee engagement has no universal definition but this one captures the theme as well as any, “the maintenance, intensity, and direction of cognitive, emotional, and behavioral energy.” (Shuck et al., 2017). Other definitions include references to employees behaving as their “preferred self” (Kahn, 1990), work being positive and fulfilling (Schaufeli et al., 2002), and engagement serving as a motivational construct that aligns an individual’s energy with their work performance (Rich et al., 2010). Kahn (1990) first articulated work engagement over three decades ago, but interest among researchers did not spark for almost twenty years thereafter (Mueller, 2019). Interest in employee engagement in the academic and business communities grew and continues to grow as its connection to organizational performance strengthens (Saks & Gruman, 2014, Reijseger et al., 2017, Nienabar & Martins, 2020). Moreover, the study of employee engagement with the HRD academic community is rapidly growing (Wollard & Shuck, 2011). The well-established link between organizational performance and employee engagement overshadows another collateral relationship between employee health and engagement.

There is mounting evidence that employees with high levels of engagement live healthier lives than those that do not and, as a result, suffer less from chronic disease and psychological disorders (Shuck, 2021). There could be several reasons for this connection. One

possibility relates to the success of work engagement in insulating employees against workplace stress. Employees that cannot assume a workplace role as their preferred self, do not find work positive or fulfilling, or lack the energy to perform their work to their satisfaction are at higher risk for stress-induced depression, anxiety, abnormal sleep, and heart disease (Shuck, 2021). Another possibility is that engaged employees perform work within the limits of their abilities, physically and psychologically, leaving them the energy reserves to do the things they value (Leijten et al., 2015). Leijten et al., (2015) assessed the effects of psychosocial and physical work-related factors on mental and physical health, and whether an employee's degree of engagement influenced those health effects. Researchers asked participants about their psychological job demands, degree of task autonomy, and organizational support. They also completed an employee engagement assessment. Employees with high psychological job demands, low task autonomy, and low organizational support were the least healthy population, but engagement was identified as a buffer, or mediator, to negative health outcomes among that population.

Very recently, a study of health biomarkers, including urinary levels of catecholamines (dopamine, norepinephrine, and epinephrine) and their metabolites as biomarkers of sympathetic nervous system activity, and work engagement and well-being revealed a physiologic connection between engagement and well-being (Schuck et al., 2022). Participants with higher levels of engagement had lower levels of dopamine and 3-methoxytyramine (a neurotransmitter of dopamine). Catecholamines trigger, in part, our fight or flight response in our sympathetic nervous system. These hormones are useful in emergencies, but they place our body under duress and, when released too often, will weaken our immune system, and

contribute to cardiovascular disease, cancer, diabetes, increased blood pressure, put us at heightened risk for heart failure, and high levels have been linked to obesity, anxiety, and depression (Shuck et al., 2022). This recent study is the first to assess the impact of engagement on health from a nervous system perspective and offers useful insight into the degree to which employers influence the health of their employees.

Conceptual Framework

Employers have a vested interest in assisting employees in living healthy lifestyles. Research finds a host of advantages of a healthy workforce and no disadvantages. The path employers have taken to create a healthier employee population revolves around a couple of concepts: workplace safety and employee wellness programs. The challenge is that neither has a successful track record of improving the health of an employee population in the aggregate to the degree that productivity metrics are improved, or employment costs are reduced. We know a great deal about motivating employees to work with greater effort and commitment, but we have not successfully used those tools to motivate them to live healthier lives. The construct of employee engagement is showing promising collateral health benefits, and that research is only starting to emerge. There remains a research gap in our understanding of how to use our collective knowledge about employee health, motivation, wellness programs, and engagement to improve employee health to the benefit of employees and employers. The research questions connect employee engagement and health-related lifestyle choices in the interest of synthesizing our existing knowledge about employee health and engagement with employee action. The research questions are: are employee engagement and employee health-related

lifestyle choices correlated? Do employee engagement tactics improve the health-related lifestyle choices of an employee population?

Summary of Literature Review

The business interest in a healthy employee population in the United States has evolved from protecting employees as an investment (Felton, 1976; Abrams, 2001) to partnering with employees to garner goodwill as a motivational tactic (Heinselmann & Bagley, 1970; Wernimont et al., 1970) to create a workforce with stress resiliency and protection from illness (Mattke et al., 2013; Jones et al., 2019), to building an engaged workforce that applies the entirety of their efforts to their work role (Kahn, 1990; Schaufeli et al., 2002; Shuck, 2021). The influence of work on an individual's health is an area of growing interest for researchers (Shuck et al., 2022) as the array of benefits of a healthy employee population is well-established, but there remains a gap in the research about how to motivate unhealthy employees to live healthier lives. The emergence of a connection between workplace culture, engagement, and physical health from a stress response perspective highlights the importance of solving the riddle of employee health. Traditional employee wellness programs have not been broadly successful (Mattke et al., 2013; Song & Baicker, 2019; Jones et al., 2019). It appears that a person knowing they are unhealthy is not motivating, but perhaps there is an opportunity for an individual's work to be so valuable to them that they are moved to live a healthier lifestyle so they can perform better. That is the research gap, is of keen interest to HRD professionals, and this work should shed light on this under-researched topic.

Chapter Three – Research Design

Problem Statement

Employees that suffer from chronic disease are less productive than healthier peers, are more expensive to insure, have higher rates of absenteeism, and are more prone to suffer from high levels of stress and burnout (Shuck et al., 2021; Jones et al., 2019; Mattke et al., 2013). The problem is that employee wellness programs are often not effective at improving the health of employee populations (Song & Baicker, 2019; Jones et al., 2019; Merrill et al., 2011) and an alternative approach to employee health improvement has not been widely explored (Shuck et al., 2022). Employers and employees have a joint interest in the health of the employee population yet the current approach to improving employee health is ineffective (Song & Baicker, 2019; Jones et al., 2019; Merrill et al., 2011).

Purpose Statement

The purpose of this quantitative analysis is to understand whether an employer should expect a change in the health-related lifestyle of an employee population in sync with a change in employee engagement and use this information in the design of an employee wellness program. There is evidence that employee health is impacted by the workplace culture and related employee engagement (Shuck et al., 2021), that employee performance and health are positively correlated (Reijseger et al., 2017; Mattke et al., 2013), that employee engagement and profitability are positively correlated (Mueller, 2019), that employee engagement and turnover are negatively correlated (Reina et al., 2018), but there remains a gap in the research regarding the relationship between employee health-related lifestyle choices and employee engagement.

General overview of the research design

This study is a non-experimental design that evaluates whether there is a connection between employee engagement and health-related lifestyle choices in an employee population in an East Central Illinois hospital in 2023. Employee engagement will be measured using Schaufeli & Bakker's (2004) Utrecht Work Engagement Scale. Employee health-related lifestyle choices will be measured using the Good Health Practices Scale (Hampson et al., 2019). Participants will complete both instruments and results will be compared to assess whether engagement level correlates with healthy lifestyle choices (Appendices A & B).

Research Questions and Hypotheses

Research question 1: Are employee engagement and healthy lifestyle choices correlated?

Hypothesis: Employee engagement and healthy lifestyle choices are correlated.

Research question 2: Do employee engagement tactics improve the health-related lifestyle choices of an employee population?

Hypothesis: Employee engagement tactics improve the health-related lifestyle choices of an employee population.

Research Design

This is a correlational, cross-sectional, non-experimental quantitative study as it reflects a point-in-time experience using numerical data from two survey instruments and the results cannot be extrapolated to another population. This strategy of inquiry is a correlational design as it uses a correlational statistic to measure the relationship between two variables (Creswell, 2014). The independent variable is employee engagement, expressed as a score from the Utrecht Work Engagement scale. The dependent variable is health-related lifestyle choices,

expressed as a score from the Good Health Practices Scale (Hampson et al., 2019). The data analysis uses simple linear regression with a 95% confidence interval. This design addresses the question of whether employee engagement correlates with health-related lifestyle choices by assessing corresponding changes in each metric using data taken from the same person at the same time across a sample of this employee population.

Population and sample

The population of a study is a group that is restricted to a specific geographical region or institution (Martinez-Mesa et al., 2014). The target population for a study is the group about which we want to draw conclusions or make inferences (Enarson et al., 2004). The study population is those that participate in the study (Martinez-Mesa et al., 2014). The population involved includes healthcare workers that work in East Central Illinois, and the target population is the employees of a single hospital. The study population will be the employees of that hospital that agree to participate. The target population for this study is the employees of Kirby Medical Center, a rural critical access hospital in Monticello, Illinois. There are 360 employees working in 20 different departments, and five different physical locations. Employees occupy jobs characteristic of a hospital, including but not limited to Registered Nurses, Physical Therapists, Physicians, Registration Clerks, Environmental Service Workers, Medical Lab Technologists, etc. The hospital conducts annual employee engagement surveys, so the employees are familiar with the term and concept of engagement, and approximately 50% of the employees participate in a bi-annual employee wellness program that includes fasting labs gathered via blood draw, height, and weight, body fat percentage, waist

circumference, a one-on-one meeting with a dietitian to discuss the results. The population selected is one of convenience as this researcher works at Kirby Medical Center.

The sample of a target population aims to yield a population for the study that is representative of the entire population, large enough to minimize the effects of random variation and adequately represents all groups of interest (Enarson et al., 2004). We will apply Bonett's method of determining a sample as the study has a small number of variables with a small possible data range (Chen & Peng, 2015). The sampling process for this effort, by its nature of including anyone that completes the survey instruments, is probability-based and randomized. Probability sampling makes it equally likely that any member of the study population will be included, and the inclusion of all voluntary participants categorizes the sampling as a simple random selection (Stratton, 2021). There is no way to predict the sample size until the surveys are collected, and the surveys will not identify individual participants. The minimum sample is calculated using the point biserial model with an effect size of 0.3, confidence interval of 95%, and a power of .80 to get a minimum sample of sixty-four. This was calculated using G*Power software, version 3.1.9.7.

Sampling Procedure

The survey instruments will be distributed to 100% of the target population of approximately 360 employees, and the study sample will be the returned surveys. The target population is accessible via work email address, and the surveys will be distributed electronically to each email address that includes a Qualtrics link to the surveys. The first page of the Qualtrics survey is a consent form that participants must accept to be included.

Instrumentation

The Utrecht Work Engagement Scale measures employee engagement across three factors: dedication, vigor, and absorption. These three factors are subscales that represent the fundamental concept of work engagement (Schaufeli & Bakker, 2004). Dedication refers to being strongly involved in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties. Absorption is characterized by being fully concentrated and happily engrossed in one's work, whereby time passes quickly, and one has difficulties with detaching oneself from work (Schaufeli & Bakker, 2004). The instrument asks 17 questions with numeric scoring answers across a seven-point scale (0-6) from Never to Always. The instrument is scored using an average total score, and subscale scores are obtained similarly. A higher score indicates higher engagement. Five questions fall within the dedication subscale and six questions relate to each of the other two subscales, vigor, and absorption. The Utrecht Work Engagement Scale remains a valid instrument for testing work engagement (Guys et al., 2019; Carmona-Halty et al., 2019; Kulikowski, 2017;).

The Good Health Practices Scale is a 16-question survey that asks participants about their health habits using a 1 (not like me) -5 (very much like me) Likert scale across topics such as smoking, exercise, sleep, and others (Hampson et al., 2019). The scale is an updated version of the Health Behaviors Checklist, which struggled with credibility given its roots in testing young, healthy Navy service members' health habits. The Good Health Practices Scale is designed for use with any population (Hampson et al., 2019). A mean score is calculated from

each of the 16 scored answers for a total health habits score. A higher score equates to healthier habits than a lower score.

Validity and Reliability

The Utrecht Work Engagement Scale (UWES-17) is a validated instrument for measuring work engagement, is the most current version, and is more credible than the smaller nine-question version (UWES-9) (Musenze & Mayende, 2020; Guys et al., 2019; Carmona-Halty et al., 2019; Kulikowski, 2017). The use of the UWES-17 in a healthcare setting is well-established as a credible measure of work engagement (Musenze & Mayende, 2020). The data collection method using a Qualtrics link distributed to the target population via work email at the same time controls for organizational or other changes to the work environment that may influence the work engagement level of the study population in different ways.

The Good Health Practices Scale gathers self-reported health habit data from the study population across 16 questions with a 1-5 Likert scale. A mean score is derived from the aggregation of the answers to individual questions (Hampson et al., 2019). The use of this scale is not yet widespread as it was created in the last three years, but initial and early testing of its validity reveals that it is a credible instrument for measuring a participant's health habits across 16 lifestyle areas, and is used in healthcare research (Kraft et al., 2022). The data collection method using a Qualtrics link distributed to the target population via work email at the same time controls for health variables such as lifestyle changes, the onset of illness, or other factors that could confound any relationship between work engagement and health-related lifestyle choices.

The comparison between health data and work engagement is a recent evolution in engagement research (Shuck, 2021; Shuck et al., 2022), and enough consistency is found to warrant continued comparisons.

Data Collection

Data will be collected using Qualtrics, with a survey link emailed to the target population using their work email address, with a one-week response timeframe to complete the surveys. Both the Utrecht Work Engagement Scale and the Good Health Practices Scale will be included in the survey design, along with a front page consent that notifies participants that the surveys will be used for research in support of a dissertation, survey respondents are not identified in the collection of data as no identifying information is requested, survey results will be accessible only to this researcher in a private Qualtrics account, and the published results will be aggregated so no individual responses could be identified. Participants will be asked to indicate whether they consent to the use of their data for this purpose given the described conditions. Employees will be encouraged to complete the survey at work on a computer that is uniquely accessible to them by their login credentials. The computers are owned by Kirby Medical Center, a healthcare organization that is beholden to HITECH Act security measures with substantial protections in place to guard against data breaches. Qualtrics results will be tallied by this researcher using an Excel spreadsheet on a Kirby Medical Center owned computer. The Qualtrics account will be deleted by this researcher once the information is transferred, and the Excel spreadsheet data summary will be saved in a secure network folder on Kirby Medical Center's internal network.

Data Analysis

Participant responses will be received via Qualtrics and transferred to an Excel spreadsheet. Data analysis will use simple linear regression with a 95% confidence interval and a minimum sample size of 64. The independent variable is the UWES-17 score, and the dependent variable is the Good Health Practices Scale score. The Pearson Correlation Coefficient is the most appropriate statistical test as it measures the strength of a linear association between two variables using their respective mean (Sedgwick, 2012). The mean of the independent variable (x), work engagement, scores will be compared to the dependent variable (y), health-related lifestyle choices, to evaluate the strength of the relationship using the Pearson Correlation Coefficient formula:

$$r = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2 \sum (y_i - \bar{y})^2}}$$

The confidence interval of 95% will be applied and a range will be calculated to assess the probability that the study results are representative of the target population.

Ethical Considerations

Participation in this research is voluntary and, by design and intent, respects the autonomy of participants. Participants will be informed through a pre-survey consent and pre-study live presentation by the researcher of the intent of the study, the use of their information, the privacy protections in place to ensure their survey responses are anonymous, and the availability of the results of the study. No individuals are involved with diminished capacity to make independent decisions, so no consideration is needed for such a population. This effort is clearly within the realm of research as no practical application will be proposed or administered.

This study does not include any elements that can harm participants. Survey responses are anonymous, participation is voluntary, data is accessible only to the researcher, and data security is strong and in compliance with the federal HITECH Act. Similarly, there is no element of unjust treatment within this study. The randomized sample of self-selected participants from a pool of 100% of the available population, lack of researcher-participant interaction, and the absence of benefit to any participant ensure that the ethical consideration of justice is intact.

Chapter three summary

This research effort evaluates whether the independent variable of employee, or work, engagement correlates with the dependent variable of health-related lifestyle choices. The Utrecht Work Engagement Scale will assess engagement degree, the Good Health Practices Scale will assess health-related lifestyle choices, and a Pearson Correlation Coefficient with a 95% confidence interval will yield an answer as to whether there is a relationship between these variables. The population includes healthcare workers in East Central Illinois, the target population is the employees of a critical access hospital in Monticello, IL, and the study population is the employees of that hospital that self-select to participate in the study. Surveys will be administered via work email to 100% of the Kirby Medical Center employee population and the respondents will be the study population. Surveys will be administered using Qualtrics with a survey link, and the survey's cover page will be a consent to participate in this research effort.

The next chapter offers a detailed description of the survey results, the degree of relationship between the variables, the size of the study population relative to the target population, and a discussion that connects the hypothesis to the data results.

Chapter Four – Presentation of the Data

Participant Demographics

The survey participants were current employees of Kirby Medical Center in Monticello, IL. Every employee received an email invitation to participate in the survey. Participation was anonymous. There are 373 employees that received the invitation and 118 completed the survey and consent form. While it is not known who completed the survey, the demographic composition of employees, reported by Human Resources, includes age ranges from 18 – 70 years of age, 72% are female and 18% male, 94% Caucasian, and all live within 60 miles of Monticello, IL except for one employee that lives in Florida and works remotely. Household income levels are not known though every participant is employed part-time or full-time.

Presentation of the Data

Surveys were distributed via email to all 373 employees with a completion timeframe of June 28 – July 1, 2023. There were 118 completed surveys and consents returned representing 31.64% of participant invites. Responses were anonymous, and the only data collected was the consent and two surveys. The minimum sample of 64 was exceeded by 54 surveys, making the sample size large enough to be statistically valid. The independent variable is employee engagement and its three subscales vigor, dedication, and absorption, measured using the 17-question Utrecht Work Engagement Scale (UWES-17). The UWES-17 uses a 6-point Likert scale from 0-6 with “Never” as 0 and “Always” as 6. The UWES-17 uses three categories of questions, or subscales, vigor, dedication, and absorption, applying an average to each category and an overall average of 0-6 to derive an overall engagement level. The dependent variable is health-related lifestyle choices, measured using the 16-question Good Health Practices Scale (GHPS).

The GHPS uses a 5-point Likert scale with “Not like me” as 1 and “Very much like me” as 5 and derives a health-related lifestyle score using a raw total of the aggregated 1-5 selection across all 16 questions. The average employee engagement score among the 118 participants is 3.77 out of a possible 5, and the average health-related lifestyle score was 56.05 out of a possible 80.

The data were analyzed using simple linear regression with a 95% confidence interval, using SPSS to generate the summary in Tables 1-4. The purpose was to understand whether a change in employee engagement level or its subscales influences an employee’s health-related lifestyle choices.

Table 1

Overall employee engagement and health-related lifestyle choices

Variable	Estimate	Std Error	t	p	95% CI
Intercept	45.977	6.049	7.6	8.35E-12	[33.995, 57.958]
Lifestyle choices	2.675	1.585	1.688	.0941	[-.464, 5.814]
R ²	.02397				

Note: n=118. The independent variable is overall employee engagement. The dependent variable is health-related lifestyle choices.

The coefficient estimate for overall employee engagement is 2.675, indicating that a single unit change in engagement influences a 2.675 change in health-related lifestyle choices, but the multiple R-squared of 0.023970 reveals that only 2.3% of the variance in health-related lifestyle choices is explained by engagement. The p-value of 0.0941 is greater than the significance level of 0.05. These factors reveal there is a connection between the variables, but

it is too weak to conclude that a change in engagement has much effect on health-related lifestyle choices. Hypothesis A and B are rejected, and the null hypothesis is accepted.

The data reveals that employees of Kirby Medical Center are not motivated to a significant degree to live healthy lifestyles because of their work engagement level. The data does not evaluate the specific reasons employees are engaged, nor does it reveal the reasons employees make specific health-related lifestyle choices, and those factors are likely important given the weakness of the relationship between overall engagement and overall health-related lifestyle choices. Those categorical topics may be too nuanced and complex to evaluate at this high level.

Table 2

Vigor subscale and health-related lifestyle choices

Variable	Estimate	Std Error	t	p	95% CI
Intercept	46.224	5.13	9.011	4.91E-15	[36.063, 56.384]
Lifestyle choices	2.555	1.309	1.952	.0534	[-.0379, 5.148]
R ²	.03179				

Note: n=118. The independent variable is the employee engagement subscale Vigor. The dependent variable is health-related lifestyle choices.

Vigor is characterized by high levels of energy, mental resilience, persistence at work, and a willingness to invest effort (Schaufeli, 2004), and is the independent variable. The dependent variable remains the GHPS health-related lifestyle choices score. The coefficient estimate for the vigor subscale is 2.555, indicating that a single unit change in vigor influences a 2.555 change in health-related lifestyle choices, but the multiple R-squared of 0.03179 reveals that only 3.1% of the variance in health-related lifestyle choices is explained by vigor. The p-

value of 0.0534 is slightly greater than the significance level of 0.05. These factors reveal there is a connection between the variables, but it is too weak to conclude that a change in vigor has much effect on health-related lifestyle choices.

Table 3

Dedication subscale and health-related lifestyle choices

Variable	Estimate	Std Error	t	p	95% CI
Intercept	49.694	5.83	8.524	6.61E-14	[38.147, 61.241]
Lifestyle choices	1.578	1.426	1.106	.271	[-1.246, 4.402]
R ²	.01040				

Note: n=118. The independent variable is the employee engagement subscale Dedication. The dependent variable is health-related lifestyle choices.

Dedication is a feeling of significance and enthusiasm for one's work (Schaufeli, 2004), and is the independent variable. The dependent variable remains the GHPS health-related lifestyle choices score. The coefficient estimate for the dedication subscale is 1.578, indicating that a single unit change in dedication influences a 1.578 change in health-related lifestyle choices, but the multiple R-squared of 0.01040 reveals that only 1.0% of the variance in health-related lifestyle choices is explained by dedication. The p-value of 0.271 is greater than the significance level of 0.05. These factors reveal there is a connection between the variables, but it is too weak to conclude that a change in dedication has much effect on health-related lifestyle choices.

Table 4

Absorption subscale and health-related lifestyle choices

Variable	Estimate	Std Error	t	p	95% CI
Intercept	50.296	4.726	10.642	<2E-16	[40.935, 59.656]
Lifestyle choices	1.67	1.341	1.245	.216	[-0.9859, 4.325]
R ²	.013190				

Note: n=118. The independent variable is the employee engagement subscale Absorption. The dependent variable is health-related lifestyle choices.

Absorption is a state of full concentration and happy devotion to the work you do (Schaufeli, 2004), and is the independent variable. The dependent variable remains the GHPS health-related lifestyle choices score. The coefficient estimate for the absorption subscale is 1.67, indicating that a single unit change in absorption influences a 1.67 change in health-related lifestyle choices, but the multiple R-squared of 0.01319 reveals that only 1.3% of the variance in health-related lifestyle choices is explained by absorption. The p-value of 0.216 is greater than the significance level of 0.05. These factors reveal there is a connection between the variables, but it is too weak to conclude that a change in absorption has much effect on health-related lifestyle choices.

Presentation of Findings

The data shows that an employee's overall work engagement only mildly influences the health-related lifestyle choices listed on the GHPS. Similarly, the subscales of vigor, dedication, and absorption only explain a change in an employee's health-related lifestyle choices to a very small degree. The subscale "vigor" showed the most influence on health-related lifestyle

choices with a p-value slightly outside of the confidence interval, but the degree of influence was still quite small at 3.1%.

This was a first attempt at identifying a broadly applicable motivating factor within the workplace that influences the health-related lifestyle choices of employees. Previous studies that link work engagement to health use an outcomes-based metric such as diabetes, chronic kidney disease, and heart disease but do not consider whether engagement influences lifestyle choices (Santos, 2022; Arriola et al., 2021; Reijseger et al., 2017; Mattke et al, 2013). The goal here was to identify an interventional activity, such as improving employee engagement, to prevent the development of chronic disease or exacerbating mental health disorders. This study reveals that engagement level may offer a small degree of influence on an employee's lifestyle choice but not to a significant enough degree to be meaningful or serve as the basis for employer action. We can conclude that there are no subscale elements that influence health-related lifestyle choices to a meaningful degree.

Discussion

The purpose of this study was to advance our understanding of the role an employer can play in improving the health of employees. Employee wellness programs aimed at improving employee health are often not successful in substantially improving health across an entire workforce (Song & Baicker, 2019; Jones et al., 2019; Merrill et al., 2011). The intent of an employee wellness program is to improve the health-related lifestyle choices of employees in the interest of improving their mental and physical health, but programs are not broadly effective at improving health, suggesting they are not effectively motivating employees to live healthier lives. That leads researchers to evaluate other corollaries to employee health, recently

finding a connection between employee health and employee engagement (Leijten et al., 2015; Mueller et al., 2019; Shuck et al., 2021), but there remains a gap in our understanding as to why employees that are more engaged are also healthier (Shuck et al., 2022). This study evaluated whether the link between engagement and health relates to a correlation between engagement and health-related lifestyle choices. That would be a straightforward way to explain why employees that are engaged are also healthier. The data shows that a relationship exists between engagement and health-related lifestyle choices, but it is too small a degree to credibly suggest that improving an employee's engagement level will cause a corresponding improvement in their health-related lifestyle choices.

The scope of this data and related analysis are limited to a single site and point in time, preventing extrapolation beyond Kirby Medical Center and the sampled population. This limitation should inform researchers that there may be value in repeating this study across multiple sites with as diverse a population as possible, and a larger sample size. The data also does not consider socioeconomic factors, gender, race, age, or other details about the sampled population beyond their work location. These factors would offer a more robust understanding of whether there is a relationship between work engagement and health-related lifestyle factors within certain populations.

Summary of Chapter Four

The UWES-17 and GHPS survey instruments were distributed to all 373 employees of a rural Illinois hospital in July 2023 to evaluate whether work engagement level influences health-related lifestyle choices. There were 118 completed surveys and signed consents returned. The data was analyzed using simple linear regression and a 95% confidence interval, with the

UWES-17 overall score and three subscale scores as the independent variables, and the GHPS overall score as the dependent variable. The regression analysis revealed a weak correlation between employee engagement levels at an overall and subscale level, and health-related lifestyle choices. The coefficient estimates for each UWES-17 category revealed that a correlation exists, but the multiple R-squared was .03 or lower and the p-value fell outside of the confidence interval, revealing a weak relationship between the variables.

The literature connecting employee engagement and health is focused on outcome health measures but does not offer interventional solutions that inspire employees to make healthy lifestyle choices regarding addictive substances, nutrition, physical activity, regular medical and dental care, and vaccinations. This data considered whether engagement alone is a factor in an employee's health-related lifestyle choices. The data collected does not indicate that to be the case.

Chapter Five – Summary and Implications for Practice

This study gathered quantitative survey data from employees of a single hospital in East Central Illinois in 2023 to evaluate whether employee engagement levels relate to health-related lifestyle choices. Engagement included the overall work engagement and three subscales, vigor, dedication, and absorption, each serving as the independent variable. Health-related lifestyle choice was the dependent variable. The Utrecht Work Engagement Scale-17 (UWES-17) and the Good Health Practices Scale (GHPS) were used in a convenience sampling of 373 people with 118 participants responding by completing the consent and both surveys. The data was compared using simple linear regression to find that a relationship does exist but is not statistically significant among any of the variables when applying a 95% confidence interval. The null hypothesis was accepted for both hypotheses.

Research Questions

1. Are employee engagement and health-related lifestyle choices correlated?
2. Do employee engagement tactics improve the health-related lifestyle choices of an employee population?

Hypothesis

- A. Hypothesis: employee engagement is positively correlated with employee health-related lifestyle choices.
- B. Hypothesis: employee engagement tactics improve the health-related lifestyle choices of an employee population.

The evaluation of the effect of the workplace on health has historically considered environmental factors related to safe working conditions (Felton, 1976), the factors that

improve the productive capability of employees such as physical health and motivation (Heinselmann & Bagley, 1970; Pyle, 1979), and the connection between work engagement, workplace stress and chronic disease (Schuck et al., 2022; Reijseger et al., 2017; Mattke et al., 2013). There is also a great deal of research about the variety and effectiveness of workplace wellness programs, all designed to improve the health of employees through education and incentives, focused on lifestyle choices and habits (Gebhardt & Crump, 1990; Otenyo & Smith, 2017). Those programs stem from our knowledge of the deleterious effects of poor health on employee performance and inflated employment costs associated with unhealthy employees (Reijseger et al., 2017; Mattke et al., 2013).

A missing element in historical research is whether there is a relationship between an individual's work environment and the choices they make about maintaining or improving their health. We know that an employee's engagement level impacts their overall stress level, and there is a causal connection between stress and chronic disease, and that link leads us to relate engagement level to chronic disease (Schuck et al., 2022). Stress places people at higher risk for the exacerbation of mental health disorders and development of chronic disease (Schuck et al., 2022), but so do certain lifestyle factors like smoking, poor nutrition, physical inactivity, and being unvaccinated against certain viruses (Li et al., 2020; Velten et al., 2018; Somes et al., 2018; Schafer et al., 2016). This study evaluated whether an employee's engagement at work influences their lifestyle choices in a way that affects their overall health, potentially explaining why engaged employees tend to be healthier than disengaged employees (Schuck et al., 2022).

The first analysis was a comparison of overall employee engagement level across a 0-6 Likert scale against an overall health-related lifestyle score across a 0-80 scoring spectrum. The

data showed a relationship but only 2% of the change in health-related lifestyle score was influenced by the change in engagement (Table 1). The purpose of this analysis was to apply the broadest test of the relationship between engagement and lifestyle to understand whether this is a pathway worthy of further study. The existence of a relationship was established but its influential significance is negligible.

The second analysis was a comparison of the UWES-17 subscale “vigor” to overall health-related lifestyle scores to evaluate whether the degree of effort an employee applies to their work relates to their health-related lifestyle choices. The purpose of this analysis is to understand whether a change in effort level at work results in healthier lifestyle choices, perhaps as connected concepts where employees living healthier lives are left with more energy to exert at work, as suggested by the Job Demands Resource Theory (Bakker & Demerouti, 2017). Like the first analysis, this one showed that a relationship exists, but it is not statistically significant (Table 2).

The third analysis was a comparison of the UWES-17 subscale “dedication” to overall health-related lifestyle scores to evaluate whether the level of enthusiasm one feels for their work relates to their health-related lifestyle choices, applying the same logic as the test of “vigor”. Employees that find meaning in the work they do apply more of their discretionary effort to their tasks (Khan, 1990), display high levels of dedication (Schuck, 2021), and may choose to live a healthier life to create the deepest possible well of energy to use at work. The study found a connection between the dedication subscale and health-related lifestyle choices but not to a statistically significant degree (Table 3).

The fourth analysis was a comparison of the UWES-17 subscale “absorption” to overall health-related lifestyle choices. Absorption is a full state of concentration and happy devotion to the work you do (Schaufeli, 2004). This evaluation applies Self-Determination Theory as intrinsic motivation is manifest at work as happy devotion and effort level (Gagné & Deci, 2005). The analysis considered whether an employee’s degree of absorption relates to their health-related lifestyle choices out of an intrinsic motivation to be as capable as possible at work in terms of their concentration level. The study found a connection between the absorption subscale and health-related lifestyle choices but not to a statistically significant degree (Table 4).

A literature review confirms that engagement and health are related, but previous studies link higher levels of engagement with lower levels of stress, depression, anxiety, and chronic disease (Agorastos & Chrousos, 2022; Gagné & Deci, 2005; Jamal, 2004; Jayaratne & Chess, 1984) without addressing whether the antecedent to those health benefits is a change in health-related lifestyle choices. While there may have been a change in health-related lifestyle choices in those studies, it is not mentioned, and this study does not conclude that improved engagement is likely to change an employee’s lifestyle choices. The missing antecedent is important as it connects with the motivational aspect of healthy lifestyle choices. Employee wellness programs aim to address that motivational element.

A review of the effectiveness of employee wellness programs reveals variable results with no evidence that they consistently improve the health of an entire workforce (Jones et al., 2019) despite being lifestyle focused (Otenyo & Smith, 2017). Early studies of employee wellness programs were promising as employees reported feeling like their employer cared

about them, which was unique (Pate & Blair, 1983). The challenge is that the impact of employee wellness programs may have lessened as they became more commonplace. Employee wellness is a ubiquitous term today among US hospital employers with 85% reporting the presence of a program (Romani et al., 2023), possibly diminishing the relational impact it had in the 1980's. Some studies found that targeted wellness programs designed to address specific chronic diseases and vaccination adoption were helpful (Romani et al., 2023; Arriola et al., 2021), though research has yet to identify the next evolution of broadly applicable motivational programs that generate a similar degree of goodwill between employees and employers.

The motivational element is particularly important in the subject of health-related lifestyle choices. Self-determination theory explains that extrinsic and intrinsic motivation are manifest in a desire to gain rewards, perform an activity that is enjoyable or interesting, avoid punishment, boost one's ego or avoid feelings of guilt, attain a valued personal goal, or express one's sense of self (Meyer & Gagné, 2008). Employee engagement is rooted in self-determination theory as it explains an individual's interest in doing meaningful work that is extrinsically and intrinsically rewarding. The same can be said about the motivation to make healthy lifestyle choices, and why employee wellness programs often miss the mark. Wellness programs that fail to connect employees with the tenets of self-determination theory are unlikely to drive long-term behavior change. This study evaluated whether the motivational forces underlying employee engagement have a similar effect on lifestyle choices, and while the data set did not reveal a significant connection, it does remove one substantial variable in the sea of variables influencing health-related lifestyle choice.

Implications for Practice

Employers have an interest in partnering with employees to improve employee health (Shuck et al., 2021; Jones et al., 2019; Mattke et al., 2013). The connection between employee engagement and health-related lifestyle choices exists but lacks the statistical weight to credibly say that an improvement in employee engagement is likely to improve an employee's health-related lifestyle choices. Employee engagement tactics are effective at improving the health of a workforce (Schuck, 2022), but not because of lifestyle changes inspired by or related to their engagement level. The source of this relationship commonly connects to employee stress levels. Lowering an individual's stress reduces their risk of mental health disorders, heart disease, chronic kidney disease, obesity, and diabetes (Santos, 2022; Arriola et al., 2021; Otenyo & Smith 2017). The effect of the workplace on an individual's overall stress level is significant (Shuck, 2021). Employers that want to improve the health of their workforce may begin by examining the workplace conditions that cause employees the greatest amount of stress. The relationship employers develop with employees through the process of addressing stress levels at work may create an opportunity for an employer to partner with employees to improve their health-related lifestyle choices on an individual basis. The success of targeted wellness programs suggests a good starting point for this partnership is the identification of specific lifestyle choices that directly correlate with low levels of health, such as smoking, poor nutrition, the absence of physical activity, and immunizations.

The significance of this study was to evaluate whether employers could improve both engagement and health-related lifestyle metrics by employing engagement tactics instead of a wellness program and enjoy the productive benefits of a wellness program as a collateral effect

of improved engagement. The data did not support that hypothesis within the sampled population, but it answers the question and gives researchers an opportunity to focus on other creative approaches employers can take to partner with employees in improving health-related lifestyle choices. It also leaves open the opportunity to broaden this research effort across a larger and more diverse population, apply additional sampling stratification to capture pockets of data including gender, race, age, socioeconomic status, specific job types, and other categories that may ferret out useful detail in the connection between engagement and health.

Perhaps the nuances of how an employer engages employees is pivotal to whether the tactic results in health-related lifestyle improvements rather than the engagement score alone. Arena et al. (2013) identified a health and wellness culture, championed by senior leaders within an organization, to have a recognizable effect on the success of targeted cardiovascular disease reduction programs within the workplace. Employers may look to the success of targeted programs like this in crafting health and wellness programs that address lifestyle choices.

Delimitations and Limitations

This study targeted employees of a single rural critical access hospital in Illinois in 2023. Employee participants will represent a variety of healthcare job classes and work shifts, educational backgrounds, work teams, and work environments, but they all work at the same location for the same employer. Similarly, they all live within 60 miles of the employer and have shared lifestyle experiences as it relates to living in close geographic proximity to each other. Participants have access to the same employee wellness benefit. The study results can only be

reflective of the work experiences and health-related lifestyles choices of these employees within the study timeframe.

The convenience sampling approach prevents these results from being extrapolated to other populations. Convenience sampling is less desirable than random sampling in quantitative research, but it remains a credible approach (Creswell, 2014). The sample size was sufficient for the data to be representative of this population though the population is so geographically and professionally concentrated that these delimitations and limitations may have affected the overall results. The limitation that likely influenced the findings most was the scope of this research. The study focused on engagement in its broadest context rather than the reason(s) employees become engaged or tactics employers use, health-related or not, to improve employee engagement, and it only studied a single population within a single employment pool.

Implications of Study and Recommendations for Future Research

The interest of an employer in improving an employee's health-related lifestyle choices, in its most basic form, is to maximize the value of the employee asset in terms of their productive capability, concentration, resilience to workplace challenges, while minimizing the variable costs associated with employing people such as health insurance, absenteeism, presenteeism, and workplace injury and illness management. Human Resource Development professionals' study and practice ways to accomplish that task in the interest of creating the most effective workforce (McLagan, 1989). The challenge that continues to confuse employers is how to affect health-related behavior change among employees such that employees are as healthy and productive as possible.

One potential issue with the lack of success of employer-based health programs is a lack of knowledge about how to create a data-driven workplace wellness program, and a lack of resources to design, launch, and maintain a program. The Centers for Disease Control and Prevention (CDC) created a Work@Health initiative designed to teach employers how to evaluate the health of employees and develop health programs to address identified health needs. In 2014 and 2015 the CDC conducted virtual and in-person training to 209 employers across Atlanta, Baltimore, Chicago, Oakland, Philadelphia, Raleigh, and other locations, then evaluated their confidence level in designing and launching a workplace wellness program (Cluff et al., 2018). They found that employer knowledge about wellness programs improved, but confidence level in the ability to design and launch a workplace wellness program decreased after the training. The conclusion was that employer-based workplace wellness programs, at least using the Work@Health model, are under resourced (Cluff et al., 2018). A similar issue emerged in a 2015 study of 705 employers across the United States that compared workplace wellness program perception of employers and employees (McCleary, 2017). They found employers twice as likely to report that workplace wellness programs were effective at improving employee health-related lifestyles and objective health measures than employees reported across the same questions. Employers believed they were delivering an effective workplace wellness program while employees either disagreed about its effectiveness, or that a wellness program existed at work (McCleary, 2017). Improving workplace wellness program effectiveness may begin with connecting employers and employees in its design, communication, intent, and performance metrics.

There is hope that well-resourced employers can affect health change within an employee population given the right set of circumstances. A seven-year longitudinal study at a large university with an academic medical center revealed a promising return on investment of \$2.53 for every dollar spent on health promotion within the employee population of 36,000 people (Dement et al., 2015). The employer uses a self-funded insurance plan that gives them access to employee health claims data. The health promotion activities targeted employees with health or lifestyle factors that place them at high risk for healthcare system utilization, such as a high BMI, cholesterol, smoking, and other factors (Dement et al., 2015). The university offered health coaching to targeted employees and enjoyed a significant return on investment as a result. This type of robust, targeted approach may be limited to large scale employers with significant health resources, such as an on-site medical center, but the success of this wellness program may offer insights into how employers can engage their highest risk employees in improving health-related lifestyle choices in the interest of making them more productive. A 2020 Canadian study supports the conclusion that large, well-resourced organizations are more likely to offer health promotion programs (Jessiman-Perreault et al., 2020). Researchers evaluated employer perceptions of workplace wellness programs in Alberta, Canada across organizations of various size in terms of employee population and found small employers to have little-to-no health promotion or workplace wellness programs despite having an interest in offering these benefits. The common thread among small employers was a lack of knowledge and resources to design, launch, and maintain employee health programs (Jessiman-Perreault et al., 2020).

Future research could look at engagement through a broader lens by evaluating whether the employers that embed health-related lifestyle elements into their engagement tactics effectively motivate employees to change their behavior and extract the successful elements of wellness programs found among large, well-resourced employers that can be applied among a small workforce. Opportunity exists to more deeply explore the elements of engagement and lifestyle choices to evaluate whether a stronger relationship exists between individual markers of each variable, for example, whether the UWES-17 subscale vigor correlates with lifestyle choices such as smoking or drinking alcohol. This deeper exploration may offer insights into whether there are specific tactics employers can embed in their employee engagement improvement programs that address one or more of their employee's health-related lifestyle choices.

Researchers may also explore the engagement tactics of individual employers to understand whether the way they engage employees influences employee lifestyle choices, instead of the engagement score alone. Some research exists already in this regard (Terry et al., 2013) but is generally aimed at understanding whether employees engage with a program or tactic rather than the employer or job. Studying overall engagement against health-related employee programs could yield useful information about how employers can marry engagement and healthy lifestyles.

Conclusions

Employee engagement and its subscales from the UWES-17 do not correlate to a statistically significant degree with health-related lifestyle choices. Employers, researchers, and HRD practitioners have had an interest in protecting and improving the health of workforces

over the last century because employee health positively correlates with work engagement and productivity, and negatively correlates with the health-related costs of employment (Leijten et al., 2015; Mueller et al., 2019; Shuck et al., 2021). The development and evolution of employee wellness programs follows that interest as a tactic employers use to improve the health of a workforce, but wellness programs are many and varied with no standard or best practice approach yet identified that yields measurable, broad workforce health improvements (Kunte, 2016; Song & Baicker, 2019; Merrill et al., 2011). This study evaluated whether employee engagement as a standalone independent variable could influence the health-related lifestyle choices of employees, but the relationship did not prove strong enough to reach that conclusion. The motivational ingredients of health-related behavior change are found in specific examples where a targeted effort, like flu vaccination, is successful because of a financial reward or consequence or is part of an educational campaign that focuses the culture of health on a specific activity (Romani et al., 2023). Future studies should evaluate those motivational elements with an interest in understanding how they can be applied to broad-based health-related lifestyle change.

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Appendix A

Utrecht work engagement scale (Musenze & Mayende, 2020)

			Almost never	Rarely	Sometimes	Often	Very often	Always
		0	1	2	3	4	5	6
		Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day
1	At my work, I feel bursting with energy							
2	I find the work that I do full of meaning and purpose							
3	Time flies when I'm working							
4	At my job, I feel strong and vigorous							
5	I am enthusiastic about my job							
6	When I am working, I forget everything else around me							

7	My job inspires me							
8	When I get up in the morning, I feel like going to work							
9	I feel happy when I am working intensely							
10	I am proud of the work that I do							
11	I am immersed in my work							
12	I can continue working for very long periods at a time							
13	To me, my job is challenging							
14	I get carried away when I'm working							
15	At my job, I am very resilient, mentally							
16	It is difficult to detach myself from my job							

17	At my work I always persevere, even when things do not go well							

Appendix B

Good Health Practices Scale (Hampson et al., 2019)

		Not like me	Slightly like me	Like me	Commonly like me	Very much like me
		1	2	3	4	5
1	I exercise to stay healthy					
2	I eat a balanced diet					
3	I take vitamins					
4	I see a dentist for regular checkups					
5	I watch my weight					
6	I limit my intake of foods like coffee, sugar, and fats					
7	I gather information on things that affect my health					
8	I watch for possible signs of major health problems					
9	I take health food supplements					
10	I see a doctor for regular checkups					
11	I use dental floss regularly					
12	I discuss health with friends, neighbors, and relatives					

13	I don't smoke					
14	I brush my teeth regularly					
15	I get shots to prevent illness					
16	I get enough sleep					