Culture of Health, Organizational Support for Employee Health, and

Employee Engagement

Emilia Broberg

A Dissertation Proposal Submitted to the Faculty of

The Chicago School of Professional Psychology

In Partial Fulfillment of the Requirements

For the Degree of Doctor of Philosophy in Business Psychology

Dr. Robert Miller, PhD

Dr. Ian Rosen, PhD

Dr. Niary Gorjian, PhD

February 15, 2023

Culture of Health, Organizational Support for Employee Health, and

Employee Engagement

A Dissertation Submitted to the Faculty of

The Chicago School of Professional Psychology

In Partial Fulfillment of the Requirements

For the Degree of Doctor of Philosophy in Business Psychology

Emilia Broberg

2023

Approved By:

Dr. Robert Miller, PhD, Chairperson
Associate Professor, The Chicago School of Professional Psychology at Los
Angeles

Dr. Ian Rosen, PhD, Member
Assistant Professor, Core Faculty, The Chicago School of Professional
Psychology at Los Angeles

Dr. Niary Gorjian, PhD, Member
Associate Professor, The Chicago School of Professional Psychology at Los Angeles

Acknowledgments and Dedications

I would like to express my gratitude to my committee members, Drs Niary Gorjian, Ian Rosen, and Robert Miller for their attention, support, and feedback throughout the completion of my dissertation project. I am especially grateful for the invaluable guidance, dedication, commitment, and teaching of Dr. Miller, the chair of my dissertation committee, without whose support I would not have been able to complete this project.

As I achieve another academic goal in my life, I would like to dedicate this dissertation to my father, Asatour Nazarian, who was a source of inspiration and instilled in me the love of learning since early childhood. His dedication to self-education and his modesty, despite the wealth of knowledge he possessed, are continuous reminders for me to be a better person every day. His kindness and care for all human beings has shaped me become who I am in my professional and personal life.

Since the topic of this dissertation is in the area of health in workplace, I would like to dedicate the findings to all who have suffered from adverse health circumstances in their workplace. I hope the information gained from the results of this research project facilitates building better support systems conducive to improving employee health in all types of workplaces.

As the process of degree completion took place during an unprecedented time of a global pandemic, I would also like to acknowledge the hard work of all my fellow graduate students for their perseverance under unusually difficult circumstances. I am particularly appreciative of the support I received from my cohort and will never forget the comradery and teamwork experiences we shared. I wish them all the best in their future endeavors.

Abstract

This study examined the indirect effect of organizational support for employee health (OSEH), and culture of health (COH) on employee engagement through the mediating effects of job satisfaction, communication satisfaction, and employee empowerment. The sample consisted of 151 full time employees who were 25 years or older, U.S. residents, and employed for at least 6 months at their current workplace, who voluntarily completed an online questionnaire. A path analysis was conducted through the Mplus software program to analyze the data. Employee engagement is a predictor of major constructs related to productivity in the workplace and is a predictor of increased job performance (Natrajan et al., 2019). Employers are interested in health promotion in the workplace due to a concern for health-related financial costs (Trusić et al., 2017). COH is related to a health climate influencing health-related attitudes and behaviors (Kaluza et al., 2019), and OSEH is related to employees' perspective on the value employers attach to their health (Lin et al., 2019). The findings allow employers to increase the efficiency of the use of health-related resources in the workplace towards a higher level of engagement. Results indicated that OSEH has a significant positive indirect effect on employee engagement through the serial mediating effects of COH, job satisfaction, and employee empowerment. COH has a significant positive indirect effect on employee engagement through the mediating effects of job satisfaction and employee empowerment. OSEH sets the occasion to increase COH and create a climate supportive of a desired change toward a higher level of engagement.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction

Nature of Study

This study examined the constructs of employee engagement in relationship to organizational support for employee health (OSEH) and culture of health (COH) in the workplace. Employee engagement, as defined by Kahn (1990), is a psychological aspect of one's involvement in their job and its environment. It is currently a subject of interest globally by businesses (Istiningsih et al., 2020), and has been documented as a major construct contributing towards increased productivity levels in the workplace (Bakker, 2002, as cited in Natrajan et al., 2019). It is an essential factor in the increase of productivity in workplace and positive outcome (Rasheed et al., 2013; Pieters 2017), as it impacts overall performance (Kassahun, 2007, as cited in Pieters, 2017). OSEH in the workplace has been found to positively affect organizational outcome (Kirsten, 2008, 2010, Lowe, 2003, & Saha, 2013, as cited in Qaisar et al., 2018).

The results of this study increase knowledge in the field of business psychology by assisting employers in efforts made to increase productivity levels in the workplace. The results obtained from this study provide an added resource for cost-benefit analyses conducted to support decisions regarding health promotion in the workplace. Specifically, by gaining a better understanding of the mechanisms through which COH and perceived OSEH affects engagement, employers can make more informed decisions in the type of resources to add in the workplace. Understanding the effects of social variables and its comparison to that of the tangible ones in the outcome related to health promotion financially benefits employers by allowing them an opportunity to allocate their resources in the more effective areas related to health promotion.

Background of the Problem

Employers are interested in making changes in their employees' behaviors if it would result in a higher level of productivity, as they depend on the strength of their human resources for their organization's outcome (Kirsten, 2008, 2010, Lowe, 2003, & Saha, 2013, as cited in Qaisar, 2018). Human behaviors are complex, however, and affected by variables in their social and physical environment. The environmental variables affecting each behavior can be manipulated to increase or decrease the probability of their occurrences. Application of behavior change strategies (e.g., stimulus control and discrimination training), requires the systematic presentation of antecedent and consequence events to increase and decrease the future probability of behavior occurrences resulting in desired changes (Mayer et al., 2012). Contextual variables can be manipulated to increase or decrease the value of previously effective stimuli in behavior change processes, leading to altered levels of motivation to engage in targeted behaviors of interest (e.g., participation in workplace health promotion programs). These strategies are effective after a careful functional analysis is conducted to identify variables that contribute towards maintenance of the unwanted behaviors (Cooper et al., 2006).

As the workplace is considered to be one of the most influential settings for health promotion as it is a context where a minimum of 8 hours per day is spent by employees working full time, the importance of leadership's contribution in health promotion in the workplace is crucial (Shain et al., 2004). Leadership's perspective on employee's health and wellness and the value they attach to it influences the COH (i.e., an environment conducive to health promotion) which is linked to employee's overall wellbeing (Kaluze et al., 2020).

Problem Statement

Employee engagement is a predictor of major constructs related to productivity in the workplace. It is a predictor of increased job performance (Pieters, 2017; Natrajan et al., 2019), job satisfaction (Reissová & Papay, 2021; Nguyen, et al., 2021), and organizational commitment (Anindita & Adventia, 2018), as well as reduced turnover intention (Anindita & Adventia, 2018; Santhanam & Srinivas, 2020; Reissová & Papay, 2021). Employee engagement is also positively influenced by major constructs related to productivity. Job satisfaction (Pieters, 2017; Istiningsih et al., 2020), elements of employee empowerment (Natrajan et al., 2019), including self-efficacy, social support, autonomy, quality of feedback, opportunities for development, and coaching (Jan et al., 2021) predict employee engagement. Also, various aspects of communication satisfaction (Pongton & Suntrayuth, 2019) predict employee engagement.

COH is defined as workplace social environment's health climate, representing an overall understanding and perception of health, as well as the level of awareness and importance attached to it, influencing the health-related attitude and behaviors of employees and employers (Kaluza et al., 2019). COH is positively related to employee engagement in social enterprises, through the mediating effect of employee self-rated health, while moderated by employee personal values attached to health (Nekula & Koob, 2021). The social elements of an organization's COH, specifically leadership and co-worker support, are positively associated with employee perception of health support provided in the workplace (Payne et al., 2018). The employee perceived organizational support for health (OSEH) in the workplace positively affects job performance and intent to remain on the job through the mediating effect of increased affective commitment, while employee participation in health and wellness programs is not a strong mediator of said variables (Lin et al., 2019).

Researchers have begun studying the relationships between social variables related to promotion of health in the workplace and predictors of productivity (i.e., Payne et al., 2018; Nekula & Koob, 2021). The body of knowledge regarding a direct positive effect of COH and OSEH on employee engagement is currently limited. Studies have started testing the mediating effect of some of the predictors of employee engagement related to perceived OSEH and productivity (Lin et al., 2019). The purpose of this study was to examine the indirect relationship between COH and OSEH with employee engagement. This study tested the indirect effect of OSEH and COH on employee engagement through the mediating variables of job satisfaction, employee empowerment, and communication satisfaction.

Research Questions

RQ1: Do job satisfaction, communication satisfaction, and employee empowerment mediate the effect of perceived OSEH on employee engagement?

RQ2: Do job satisfaction, communication satisfaction, and employee empowerment mediate the effect of COH on employee engagement?

Application of Results

There is a positive relationship between employees engaging in health risk behaviors and as a result suffering from higher rates of developing medical conditions (e.g., hypertension, diabetes) and the rate of their illness related absenteeism from workplace (Asay et al., 2016). Employee illness related absenteeism leads to loss in overall productivity and a direct financial cost which has been shown to relate to increased health risk behaviors of employees. The financial costs of reduced productivity urges employers to start paying attention to cost analysis of lost productivity vs. potential cost of increased health and wellness promotion programs in the workplace (Trusić et al., 2017). Effective measurement tools have been the subject of studies to

track the cost and savings related to addition of health and wellness promotion programs in the

workplace (Baxter et al., 2015). Employers tracking the cost should also be informed that the

wellness of individual employees can also affect an entire team's productivity in the workplace

(Haddon, 2018).

　　Employee participation in health and wellness programs is a human behavior and like any

other behavior is affected by many contextual variables in the workplace. There is a range of

variables that are associated with participation in health and wellness programs (Nohammer et

al., 2010). The level of social support, the amount of leisure time available, the level of work

demands and a sense of self control over one's job are some of the variables linked to the level of

participation in health and wellness programs in the workplace (Jorgensen et al., 2016). Higher

levels of job satisfaction related to the amount of work demands is another variable shown to be

associated with higher levels of participation in the health and wellness programs in the

workplace (Reindardt et al., 2020).

　　Another social environmental variable associated with higher levels of participation by

employees has to do with their perception of employers' level of support and the importance they

attach to their employees' participation in health and wellness programs and their improved

health, drawing importance on the relationship between establishment of a COH in the

workplace and employee participation in health and wellness programs (Kilpatrick et al., 2017;

Grossmeier, 2020).

　　Lin et al. (2018) demonstrated a relationship between employee perception of higher-

level support due to provision of health and wellness promotion in the workplace and job

engagement. Job engagement is a major construct related to the productivity level in the

workplace (Bakker, 2002) which is related to job performance, job satisfaction, intent to remain

on the job, and organizational commitment (Reissová & Papay, 2021; Anindita & Adventia, 2018; Pieters, 2017). This study will examine the relationship between the social environmental variables of perceived OSEH and COH with employee engagement, which will be an additional resource to be applied when employers engage in a cost benefit analysis of adding health and wellness programs in their workplace.

Theoretical Framework

Systems theory takes into account the role of interrelated systems in an organization as it relates to social and physical environments – issues related to relationships, structure, and interdependence between human and organizational functions (Hall & Fagen, 1956; Katz & Kahn, 1966; Miller, 1971; Weiss, 1971; Roane et al., 2015). A Total Performance System (TPS) views the workplace as a system. From this viewpoint, the subsystems of a workplace function by way of processing information received from outside and inside resources and applying them for greater productivity levels shown in the output (Brethower, 1972, 1982, 2001; Brethower & Dams, 1999; Roane et al., 2015). In this model three levels of functioning are examined: The first relates to the organizational level encompassing its goals, the second has to do with the structure of operation and the strategies used to achieve the goals, and the third reflects the performer level focusing on the behavior of both management and the employees working under their leadership (Rummler, 2004, 2001; Rummler & Branche, 1995; Roane et al., 2015).

Applied behavior analysis (ABA) is a science of changing behaviors. It applies techniques derived from the principles of behavior and involves identification of variables maintaining a behavior of interest in its context; a specific physical and social environment to make lasting changes in targeted socially significant behaviors (Cooper et al., 2007). ABA and the system theoretical approach come together through behavioral systems theory (BST) and

behavior system analysis (BSA) frameworks when application of ABA strategies to change

behaviors (i.e., employee performance) are evaluated in a broader system (i.e., the workplace

environment). A workplace as a system adapts to its larger environmental demands from the

outside and survives over time by way of developing and adjusting its subsystems (Ludwig &

Houmanafar, 2010; Roane et al., 2015).

Prior to making environmental changes in behaviors in a context, the maintaining

variables of the behaviors are assessed through a process called functional behavioral assessment

(FBA; Cooper et al., 2006). Organizational behavior management (OBM), an extension of ABA,

applies strategies of behavior analysis to intervene and make changes to employee behaviors in

the workplace (Frederiksen, 1982; Johnson, Mawhinney, & Redemon, 2001; Luthans & Kreitner,

1985; O'Brien, Dickinson, & Rosow, 1982; Roane et al., 2015). As the antecedents and

consequences of employee engagement are identified as social environmental variables (Merill et

al., 2013), and as an organization's culture is identified by way of its social environmental

constructs (Kaluza et al., 2019), a behavior systems analysis (BSA) theoretical approach will be

applied in discussing further knowledge gained from the result of this study.

Definition of Terms

Health Risk Behaviors

Health risk behaviors are behaviors that are aversive to health and wellness, lead to the

development of symptoms or biological indicators (e.g., body mass index, blood pressure,

cholesterol levels) related to an increased probability of developing medical condition (e.g., heart

disease, diabetes; Vaughan et al., 2017). Common examples of health risk behaviors

demonstrated to put the human body at higher risk of developing medical conditions and

increased illness related absenteeism from work are low levels of physical activity, alcohol and

tobacco use, and poor dietary habits (Shain & Kramer, 2004; Marzec et al., 2011; Fitzgerald et al., 2016; Priyadharshini, 2019).

Health-Related Financial Cost in Workplace

The health-related financial cost is defined as direct increases in medical costs related to reduced productivity due to a higher rate of illness related absenteeism and associated cost (Trusić et al., 2017). Health costs of employees who participate in health programs in the workplace reduces as a result of decrease in illness related absenteeism and reduction in cost of health insurance by way of improved overall health condition (Goetzel et al., 1996; Yen et al., 2006; Chapman et al., 2005; Ozminkowski et al., 2002; Leininger et al., 2015).

Workplace Health Promotion Programs

Health promotion programs in the workplace are described as a "set of strategic and tactical actions that seek to optimize worker health and business performance" (Chenoweth, 2011). These programs may include activities with the purpose of facilitating involvement of employees in health conducive behaviors (e.g., better nutrition, reducing stress, engaging in higher level of physical activity), all shown to be related to lower rates of incidents in developing medical conditions (e.g., cardiovascular diseases; Byrne et al., 2011, Finkelstein et al., 2003, Fisher & Fisher, 1995, Haines et al., 2007, Gold et al., 2007, Leininger et al., 2013, & Tunceli et al., 2005, as cited in Leininger et al., 2015).

COH in Workplace

A workplace social environment's health climate, representing an overall understanding and perception of health, as well as the level of awareness and importance attached to it, influencing the health-related attitude and behaviors of employees and employers, is the definition of COH in the workplace (Kaluza et al., 2019).

OSEH

The employee perspective on the value their employers attach to their health and well-being, and the level of support they receive from their organization regarding their health, is called the OSEH (Eisenberger et al., 1986; Lin et al., 2019).

Job Satisfaction

Job satisfaction is defined as the extent to which an individual experiences pleasant feelings and has a positive attitude towards their job (Locke, 1976, as cited in Pongton & Suntrayuth, 2019). It is also defined by the measure of consistency between employee expectation from their job and what is provided to them in the workplace (Nguyen et al., 2021).

Job Performance

Job performance refers to how well employees meet the requirements of their job description and fulfill the employer's expectation of successful completion of responsibilities towards reaching the organization's goals (Nguyen et al., 2021). It has been defined both as a measure of employee quality of work (Zahra & Mui Hung Kee, 2019), and the level of productivity based on the employer's goals (Pongton & Suntrayuth, 2019).

Communication Satisfaction

Communication satisfaction is defined as overall employee experience of satisfaction regarding the flow of information as it relates to fulfilling job tasks and in terms of interpersonal exchange (Redding, 1978, as cited in Pongton & Suntrayuth, 2019). Downs and Hazen (1977) measured communication satisfaction in dimensions which included communication efficiency also in terms of exchanges among all levels of employees, across group and individual settings, and the quality of feedback delivered during performance reviews.

Employee Psychological Empowerment

The psychological aspect of employee empowerment is defined as a "process" that occurs contingent upon employee motivation affected by their work environment (Manojlovich, 2007; Schumaher et al., 2019). Spreitzer (1995) defined and measured psychological empowerment in 4 dimensions of meaning, competence, self-determination, and impact. These 4 dimensions reflect the employee perception of the purpose their job serves, how confident they feel about their job performance, the extent to which they believe in themselves and their skills, and how much they are influenced by their work environment in terms of the expected deliverables, respectively (Spreitzer, 1995; Schumaher et al., 2017).

Employee Engagement

The measure of employee personal energy spent on work performance (Christian, Garza, & Slaugther, 2011; Jan et al., 2021), towards reaching work objectives related to the place of work (Bakker et al., 2008; Jan et al., 2021), and reflecting the level of their motivation to dedicate their time and energy towards the success of their workplace is the definition of employee engagement (Jan et al., 2021). Employee engagement has been measured in many ways including three dimensions of vigor, dedication, and absorption. Mental engagement, defined as showing resilience after spending a high amount of energy, feeling inspired, and completely focused on one's work has also been described as part of employee engagement (Schaufeli et al., 2006; Jan et al., 2021; Nguyen et al., 2021).

Chapter 2: Review of Literature

Chapter Overview

This chapter reviews and evaluates the literature related to the theoretical background and the terms defined in the previous chapter. The terms defined are constructs examined in this study and include OSEH, COH, job satisfaction, communication satisfaction, employee empowerment, and employee engagement.

Review of Theoretical Background

Employee engagement is defined as a psychological aspect of one's involvement with their job and the work environment (Santhanam & Srinivas 2019; Kahn, 1990), it has been measured through three terms identified as dedication, vigor, and absorption (Schaufeli et al., 2006; Nguyen et al., 2021). The definition involves the extent to which an employee is not just able but willing to contribute to the success of their organization as it relates to their job (Perrin, 2003; Istiningsih, 2020), and therefore relationship between an employee and their company's social environment (Istiningsih, 2020).

From the perspective of job demand-job resources theoretical model (Karasek et al.,1979; Nekula & Koob, 2021; Reissová & Papay, 2021), employee engagement is affected by resources available that would influence their ability to meet the requirements of their job description, and in turn their motivation to contribute towards workplace success (Nekula & Koob, 2021; Reissová & Papay, 2021). The social environment variables in the workplace can be arranged to be resourceful for employees (e.g., creating an atmosphere of respect and trust, providing encouragement and opportunities for growth), influencing motivation and engagement in the workplace (Merill et al., 2013).

The effect of social environmental variables is hence emphasized when considering the addition of OSEH and wellness in the workplace as a type of resource (Lin et al., 2019). Kwon et al. (2015) stresses the role of the social environment on employee behaviors from a social-ecological model, and addition of a systems-based approach when describing a COH in the workplace. In his book called *The Fifth Discipline* (2006), Peter Senge describes the role of systems and taking a systems approach towards success of an organization. Systems theory concerns itself with interrelation between subsystems of an organization, taking into account the role of the social and physical environment related to relationships, structure, and interdependence of humans and organizational functions (Hall & Fagen, 1956; Katz & Kahn, 1966; Miller, 1971; Weiss, 1971; Roane et al., 2015).

ABA is a science of changing behaviors and examines the contextual variables that maintain a behavior in its context (Cooper et al., 2007). OBM is a field within ABA that concerns itself with making functional assessments, applying systematic changes in employee behavior in the context of a workplace (Frederiksen, 1982; Johnson, Mawhinney, & Redmon, 2001; Luthans & Kreitner, 1985; O'Brien, Dickinson, & Rosow, 1982; Roane et al., 2015). The application of systems theory to take into account the role of an organization's systems, processes, and business environment is essential in identification of contextual variables when changing employee behaviors through application of OBM strategies (Ludwig & Houmanafar, 2010; Malott, 2003; McGee & Diener, 2010; Roane et al., 2015). Prior to the development of OBM strategies, a Behavior Systems Analysis (BSA) model grew out of the application of a behavior analytic view in studying performance behavior in the context of a system (Maley, 1974; Malott, 1974; Ludwig & Houmanafar, 2010; Roane et al., 2015), connecting systems theory with behavior analysis. In this view, systems of an organization are maintained by

meeting the demands of their bigger environments influenced by external and internal factors;

hence viewing systems as behaviors would be viewed in their context when changing human

behaviors (Houmanfar, 2010; Roane et al., 2015).

Review of Current Research Literature

Job Satisfaction and Employee Engagement

Employee engagement concerning the psychological aspect of one's relationship to their

job and workplace environment (Bakker et al., 2008; Pieters, 2017), is positively affected by job

satisfaction (Sehunoe et al., 2015; Pieters, 2017). Job satisfaction is an employee self-rated level

of happiness with their job and workplace environment (Judge & Nammeyer-Mueller, 2012, as

cited in Pieters, 2017), defined as a state of happiness influenced by one's relationships and

interactions with the workplace social environment (Pinikahana & Happell, 2004; Pieters, 2017).

Job satisfaction has been a well-documented variable influencing employee engagement (Saks,

2006; Alarcon & Lyons, 2011; Abraham, 2012; Bhatnagar, 2013; Yalabik et al., 2013; Ali &

Farooqi, 2014; Sugandini et al., 2018; Brunetto et al., 2012; Rothmann, 2008; Sehunoe et al.,

2015; Pieters, 2017; Pongton & Suntrayuth, 2019; Istiningsih et al., 2020; Sahni, 2021), having a

positive impact and increasing employee motivation to contribute towards higher quality of work

(Malherbe & Pearse, 2003; Pieteres, 2017).

Job satisfaction as it concerns employee happiness and the extent to which employees

enjoy their job and find it a pleasant experience (Scheff, 1967; Steele & Plenty, 2015; Locke,

1976; Pongton & Suntrayuth, 2019) has a positive effect on employee engagement defined as

one's attitude towards their workplace, work relations, and overall emotional attachment to it

(Raya, 2014; Balakrishnan & Masthan, 2013; Kahn, 1990; Pongton & Suntrayuth, 2019). The

studies are found to be consistently and continuously pointing at job satisfaction as a variable

having a direct positive effect on employee engagement (Pieters, 2017; Pongton & Suntrayuth, 2019; Istiningsih et al., 2020).

Communication Satisfaction and Employee Engagement

The long term, positive impact of effective communication on employee engagement appears in studies of the most recent years as well (Welch & Jackson, 2007; Waters, 2010; Mohan et at., 2008; Gustamo, 2018). Gustamo et al. (2018) conducted an experimental analysis of the effect of the use of "storytelling" as a style of communication on employee engagement. Storytelling defined as a form of communication (Bhirud et al., 2005; Perkin, 2006; Gustamo et al., 2018) where a message is conveyed through a contrived perspective to strengthen a viewpoint or an idea important to an organization (Wilkins, 1978; Witherspoon, 1997; Kaye, 1995; Gustamo et al., 2018). This study found a strong positive relationship between storytelling as a manner of communication and employee engagement reflected in employee expressive writing.

Anindita et al. (2018) studied and measured a three-dimensional influence of individual factors (Robinson et al., 2014) on employee engagement, one of which was identified as good communication. Communication satisfaction is a variable found to have a direct positive effect on employee engagement (Iyer & Israel, 2012; Pongton & Suntrayuth, 2019). Communication satisfaction is defined as employee high rating of information flow or exchange (Downs & Hazen, 1977; Pongton et al., 2019). It also reflects the employee satisfaction with how the information is exchanged reflecting the manner of communication in context of an organization (Redding, 1978; Punyanunt-Cater, 2008; Pongton, 2019). The result of this study demonstrated a direct positive effect of communication satisfaction on employee engagement, and a direct

positive effect of communication satisfaction on job satisfaction, which also has been found to have a direct positive effect on employee engagement (Pongton et al., 2019).

A research review by Strom (2020) found a positive relationship between an authentic leadership affecting their manner of communication and employee engagement through the mediating effect of building a positive empowering relationship with employees. This definition was derived in this study from the authentic leadership theory (Avolio & Gardner, 2005; Strom, 2020). A study by Patnaik and Dubey (2019) found that a perceived high-quality exchange between leaders and their employees is a predictor of higher levels of employee engagement. Sanaria and Singh (2019) study correlates leadership influence in the workplace with employee engagement. This study views leadership influence in the context of an organizational culture promoting the following constructs: "Openness," "Confrontation," "Trust," "Authenticity," "Proaaction," "Autonomy," and "Collaboration." Ashfaq et al. (2021) hypothesized and found a significant indirect positive effect of ethical leadership on employee engagement mediated by increased self-efficacy and organizational commitment.

Employee Empowerment and Engagement

Natrajan et al. (2019) and Rumman et al. (2020) found out a direct positive effect of employee empowerment on employee engagement. Natrajan et al. emphasizes the role of autonomy (Carless, 2004; Humborstad et al., 2008) and enrichment (Eccles, 1993; Spreitzer et al., 1999; Spreitzer, 2006). Rumman et al. (2020) studies empowerment, training, and promotion as three ways to increase motivation towards engagement and defines empowerment as what allows employees to problem solve independently. The effect of self-efficacy (Na-Nan et al., 2021), along with job autonomy (Manguc et al., 2013; Sahni, 2021; Gebregiorgis & Xuefeng, 2021), opportunities for development, and coaching (Jan et al., 2021) are among some of the

recently documented variables related to employee empowerment affecting employee engagement.

The use of rewards for employees has been shown to positively relate to employee engagement (Sugandini et al., 2018; Istiningsih et al., 2020). Sahni (2019), finds a positive relationship between overall quality of work-life and employee engagement, where work-life is discerned in 7 dimensions of job satisfaction, work conditions, work-life balance, stress free work, social relationships, organizational culture, and commitment. From the seven, job satisfaction, work conditions, and work-life balance had highest scores contributing to quality of work-life. Sahni (2021), finds that job characteristics defined by autonomy, performance feedback, use of variety of skills, supervisory support, and meaningfulness are strong predictors of higher levels of employee engagement.

COH in the Workplace

COH in the workplace has been studied in the context of its relationship to employee perception of self-health affecting their engagement behaviors (Nekula & Koob 2021). It has been evaluated through the influence of social environmental variables in the workplace on employee perspective of OSEH (Payne et al., 2018), and its influence on leaders' mindset, sequentially affecting leaders' health promotion behaviors, and employee engagement (Kaluza et al., 2019).

Nekula and Koob (2021) measured COH in dimensions of leadership vision and allocation of resources related to employee health, supervisor and coworker support, policy/procedure related to health, and employee values, mood, and role modeling of health conducive behaviors in the workplace. Their study predicted a positive relationship between COH and employee engagement through the medicating effect of employee self-rated health (i.e., how they rated

their general state of health), and through the moderating effect of employee personal value of

health (i.e., rank their priority related to taking care of their health).

    The results were supportive of the hypothesis showing a relationship between employee

engagement and COH through the mediating effect of employee self-rated health and the

moderating effect of employee self-rated value attached to health. This study was conducted in

social enterprises where social variables may be influenced by the nature of the homogenous

context specific to said organizations (Nekula & Koob, 2021).

COH has also shown to have a direct positive effect on job satisfaction, bringing attention

to the benefits of health support that goes beyond employee physical health, and again

emphasizing the influence of social environment in an organization (Kwon & Marzec, 2016).

The influence of a workplace culture, especially through the quality of the relationship between

management and employees on the level of engagement (Ennis & Harrington, 1999) is not new

to the literature. The role of the top and middle management on implementation of workplace

health promotion in the workplace (Just et al., 2017) is how communication satisfaction as part

the workplace relationship is also connected to COH. Communication satisfaction is measured

through constructs of horizontal communication, supervisory communication, media quality,

organizational perspective, organizational integration, communication climate, personal

feedback, and subordinate communication (Gray & Laidlaw, 2004).

OSEH

Payne et al. (2018) studied how employee perceived organizational support for health is

impacted by various elements of COH and the extent to which it effects health risk behaviors

(i.e., smoking tobacco, nutrition, and physical activity related behaviors). The constructs

described and measured in this study as components of COH included leadership and coworker

support, structural, physical environmental, and programmatic support, motivational

interventions, related policies and procedures, and communication. It was expected that all

components of COH to be influential on employee perception of organizational support for

health and health risk behaviors. The results indicated there is a relationship between COH and

OSEH and specifically, social environmental components of leadership and coworker support are

positively related to employee perception of organizational support for health (Payne et al.,

2018).

In 2019, Kaluza et al., hypothesized a direct relationship between perceived

organizational health climate to leaderships' mindset, leaders' health mindset to leaders' health

promoting behavior in the workplace, and an indirect relationship between perceived

organizational health climate to leaders' health promoting behavior as it is mediated by leaders'

health mindset. They also studied the relationship between leaders' organizational identification

as a moderator of relationship between perceived organizational health climate and leaders'

health mindset. Lastly, it was predicted that leaders' health promoting behavior is negatively

related to employee exhaustion and positively related to employee engagement.

The results supported all four hypotheses, indicating a strong relationship between

perceived organizational health climate and leaders' mindset, their mindset affecting their health

promotion behaviors in the workplace, and the health promotion behaviors influencing employee

engagement in a positive direction and exhaustion in a negative direction. However, the

moderating effect of leaders' organizational identification with their perceived organizational

health climate was not significant (Kaluza et al., 2019). In this study the organizational health

climate is measured from the leaders' perspective in lieu of employees' perspective.

The mechanisms by which employee support for organizational health increases intent to remain on the job and job performance was studied by Lin et al. (2019). The results found that increases in OSEH is positively related to self-reported job performance. Lin et al. (2019) study also found that the employee participation in wellness programs is not a strong mediator of increases in job performance and intent to remain on the job but relates to increases in OSEH in the workplace. The reliability and validity measures of an assessment tool adapted for application in this study was evaluated by Della et al. (2008).

Evaluation of Research Literature

There is a tremendous amount of research studies demonstrating a direct, positive effect of job satisfaction on employee engagement (Saks, 2006; Rothmann, 2008; Alarcon & Lyons, 2011, Abraham, 2012, Brunetto et al., 2012; Bhatnagar, 2013, Yalabik et al., 2013, Ali & Farooqi, 2014; Sehunoe, et al., 2015; Pieters, 2017, Sugandini et al., 2018 ; Pongton & Suntrayuth, 2019, Istiningsih et al., 2020; Sahni, 2021). A great body of research also points at the direct positive effect of variables concerning communication effectiveness and satisfaction in workplace (Welch & Jackson, 2007; Waters, 2010; Mohan et at., 2008; Gustamo, 2018; Anindita et al., 2018; Pongton & Suntrayuth, 2019) on employee engagement.

A variety of research studies demonstrate a positive effect of employee empowerment in the form of increased training and career development, higher level of self-efficacy, and autonomy (Manguc et al., 2013; Natrajan et al., 2019; Rumman et al., 2020; Na-Nan et al., 2021; Sahni, 2021; Gebregiorgis & Xuefeng, 2021; Jan et al., 2021), as well as the influence of resources including rewards, quality of work-life, and job characteristics (Sugandini et al., 2018; Istiningsih et al., 2020; Sahni, 2019) on employee engagement.

Although OSEH was shown to relate to performance and intent to remain on the job through the mediating effect of affective commitment by Lin et al. (2019), there aren't any studies that include the possible mediating effect of job satisfaction, communication satisfaction, and employee empowerment; on employee engagement. While Nekula and Koob (2021) found a positive relationship between COH and engagement, this study was completed specifically in context of social enterprises and the impact of perceived OSEH was not studied outside the context of employee self-rated health as a mediating variable.

The link between workplace culture and perceived organization support in general and assessing the outcome of any type of resources offered to employees, is the social environmental variables, specifically, through relationships and communication. Studies show leadership's influence in communication effectiveness (Patnaik & Dubey, 2019; Ashfaq et al., 2021), and how it is reflected in other dimensions of exchanges between leaders and employees (e.g., trust and openness; Sanaria & Singh, 2019). Research also shows influence of perceived organizational support and psychological empowerment on employee well-being (Posa, 2020), as well as direct effect of social support and empowerment on engagement (Jan et al., 2021). Hence, in a study analyzing relationship between COH and perceived OSEH on engagement, the possible mediating influence of the above said variables should not be discounted. This study will lead the future research in better understanding of the mechanisms through which addition of resources in the workplace can affect employee engagement specifically by adding knowledge about the mediating effects of those variables that have been known to predict employee engagement.

Chapter Summary

The results of this research study were analyzed from the perspective of systems theory (Baridon & Loomis, 1931; Roane et al., 2015) as the information was applicable and relevant to subsystems functioning in the workplace environment. The information was specifically related to social aspects of the workplace environment and therefore analyzed and applied from (Hall & Fagen, 1956; Katz & Kahn, 1966; Miller, 1971; Weiss, 1971; Roane et al., 2015), the perspective of behaviors systems analysis, where the science of behavior change (i.e., engagement) is applied in context of a system (i.e., workplace environment, Harshbarger & Maley, 1974; Malott, 1974; Ludwig & Houmanafar, 2010; Roane et al., 2015).

Review of the literature demonstrates that job satisfaction (Pieters, 2017, Sugandini et al., 2018; Pongton & Suntrayuth, 2019, Istiningsih et al., 2020; Sahni, 2021), empowerment (Amani et al., 2020; Na-Nan et al., 2021; Sahni, 2021; Gebregiorgis & Xuefeng, 2021; Jan et al., 2021), and communication (Gustamo, 2018; Anindita et al., 2018; Pongton & Suntrayuth, 2019; Patnaik & Dubey, 2019; Ashfaq et al., 2021), have a direct positive effect on employee engagement. Elements of the COH, specifically leadership and co-worker support (Payne et al., 2018), leaders' perception of health climate, mindset and awareness related to health, and health promoting behaviors (Kaluza et al., 2020), relates to perceived OSEH; while employee self-rated perception of health, COH, and engagement are related in social enterprises (Nekula & Koob, 2021). Perceived OSEH was shown to relate to performance and intent to remain on the job through affective commitment (Lin et al., 2019). Research led us to examine the effect of social environmental variables (i.e., workplace culture and perceived organizational support) on employee engagement through the mediating effects of known predictors of engagement (i.e., job satisfaction, communication satisfaction, and employee empowerment).

Chapter 3: Research Design and Method

Chapter Overview

In this chapter, the problem statement, hypotheses, and their rationales are reviewed and described in detail, followed by explanation about the design of this research study. The design section includes research methodology, definitions and the levels of the variables being measured, participants' information and the procedures by which data was collected, processed, and analyzed. This chapter includes explanation of the assumptions, anticipated limitations of the methodology, and ethical concerns related to this study.

Problem Statement

Employee engagement is a predictor of major constructs related to productivity in the workplace. It is a predictor of increased job performance (Pieters, 2017; Natrajan et al., 2019), job satisfaction (Reissová & Papay, 2021; Nguyen, et al., 2021), and organizational commitment (Anindita & Adventia, 2018), as well as reduced turnover intention (Anindita & Adventia, 2018; Santhanam & Srinivas, 2020; Reissová & Papay, 2021). Employee engagement is also positively influenced by major constructs related to productivity. Job satisfaction (Pieters, 2017; Istiningsih et al., 2020), elements of employee empowerment (Natrajan et al., 2019), including self-efficacy, social support, autonomy, quality of feedback, opportunities for development, and coaching (Jan et al., 2021), predict employee engagement. Also, various aspects of communication satisfaction (Pongton & Suntrayuth, 2019) predict employee engagement.

COH is positively related to employee engagement in social enterprises, through the mediating effect of employee self-rated health, while moderated by employee personal values attached to health (Nekula & Koob, 2021). The social elements of an organization's COH, specifically leadership and co-worker support, are positively associated with employee

perception of health support provided in the workplace (Payne et al., 2018). The employee

perceived organizational support for health (OSEH) in the workplace positively affects job

performance and intent to remain on the job through the mediating effect of increased affective

commitment, while employee participation in health and wellness programs is not a strong

mediator of said variables (Lin et al., 2019).

Researchers have begun studying the relationships between social variables related to

promotion of health in the workplace and predictors of productivity (i.e., Payne et al., 2018;

Nekula & Koob, 2021). The body of knowledge regarding a direct positive effect of COH and

OSEH on employee engagement is currently limited. Studies have started testing the mediating

effect of some of the predictors of employee engagement related to perceived OSEH and

productivity (Lin et al., 2019). The purpose of this study was to examine the indirect relationship

between COH and OSEH with employee engagement. This study tested the indirect effect of

OSEH on employee engagement as well as the indirect effect of COH on employee engagement

through the mediating variables of job satisfaction, employee empowerment, and communication

satisfaction.

Hypotheses and Their Rationales

RQ1: Is there an indirect effect of perceived OSEH on employee engagement, through

job satisfaction, communication satisfaction, and/or employee empowerment?

Null Hypothesis 1: Perceived OSEH does not have an indirect effect on employee

engagement, through job satisfaction, communication satisfaction, and/or employee

empowerment.

Alternative Hypothesis 1: Perceived OSEH has a positive indirect effect on employee engagement, through job satisfaction, communication satisfaction, and/or employee empowerment.

Rationale for alternative hypothesis: Job satisfaction is a predictor of employee engagement (Pieters, 2017; Istiningsih et al., 2020), and in general related to human health (Oshagbemi, 1999). Communication satisfaction is a predictor of employee engagement (Pongton & Suntrayuth, 2019). Employee empowerment is a predictor of employee engagement (Rumman et al., 2020). A recent study by Lin et al. (2019) found a positive indirect effect of perceived OSEH on constructs related to productivity, including job performance and intent to remain on the job, through the mediating effect of affective organizational commitment. Employee engagement has a direct impact on job performance (Natrajan et al., 2019), job satisfaction (Reissová & Papay, 2021; Nguyen, et al., 2021), turnover intention (Santhanam & Srinivas, 2020), and organizational commitment (Anindita & Aventia, 2018).

Statistical Result to reject null hypothesis: The regression coefficient for one or more of the tests of the indirect effect is significantly different from zero ($p < .05$).

RQ2: Is there an indirect effect of COH on employee engagement, through job satisfaction, communication satisfaction, and/or employee empowerment?

Null Hypothesis 2: COH does not have an indirect effect on employee engagement, through job satisfaction, communication satisfaction, and/or employee empowerment.

Alternative Hypothesis 2: COH has a positive indirect effect on employee engagement, through job satisfaction, communication satisfaction, and/or employee engagement.

Rationale for alternative hypothesis: Job Satisfaction is a predictor of employee engagement (Pieters, 2017; Istiningsih et al., 2020), and in general related to human health

(Oshagbemi, 1999). Communication satisfaction is a predictor of employee engagement

(Pongton & Suntrayuth, 2019). Employee empowerment is a predictor of employee engagement

(Rumman et al., 2020). A recent study by Nekula and Koob (2021) found a positive direct effect

of COH (COH) on employee engagement.

Statistical result to reject null hypothesis: The regression coefficient for one or more of

the tests of the indirect effect is significantly different from zero ($p < .05$).

Research Design

Research Method

A quantitative cross-sectional research method was used in this research study to examine

the relationships between the independent variables of primary interest (i.e., perceived OSEH

and COH) on the dependent variable (i.e., employee engagement) through the mediating effect of

three independent variables known to predict the dependent variable (i.e., job satisfaction,

communication satisfaction, and employee empowerment).

Operational Definitions of the Research Variables

The dependent variable in this study was employee engagement. Two independent

variables of primary interest were OSEH and COH. In the original conceptual model, the three

mediating variables included job satisfaction, communication satisfaction, and employee

empowerment. Control variables included demographic information. See Table 1 for description

of the variables and levels of measurement.

Table 1

Operational Definitions of the Variables and Levels of Measurement

Variables	Definitions
Employee Engagement (Continuous interval)	The extent to which an employee experiences positive feelings towards their job, measured in dimensions of vigor, dedication, and absorption.
OSEH (Continuous interval)	Defined and measured in 4 subscales of: • Business alignment with health promotion objectives • Awareness of the link between health and worker productivity • Worksite support for health promotion • Leadership support for health promotion
COH (Continuous interval)	Perceived work environment supporting health measured in dimensions of support provided through senior leadership, supervisors and coworker support, policies and procedures, programs, rewards, role modeling, quality assurance, norms, and moods.
Job Satisfaction (Continuous interval)	Measure of intrinsic, extrinsic, and general job satisfaction in dimensions of perceived independence, variety, recognition, accomplishment & work conditions.
Communication Satisfaction (Continuous interval)	Perceived happiness with communication measured in dimensions of horizontal communication, supervisory communication, media quality, organizational perspective, organizational integrity, communication climate, personal feedback, and subordinate communication.
Employee Empowerment (Continuous interval)	Measure of empowerment based on the concepts of meaning, competence, self-determination, and impact.

Instrumentation

Demographics Survey

A demographics survey was used to measure gender, workplace setting, education level, income level, length of employment, and age. Gender and workplace setting were measured as categorical variables. Education level, income level, length of employment, and age were continuous variables. See Appendix A for the demographics sheet.

The Utrecht Work Employee Scale (UWES)

The UWES, developed by Schaufeli in 1999, was utilized to measure employee levels of engagement (Schaufeli & Bakker, 200). It measures work engagement in three scales of "vigor,"

"dedication," and "absorption." There are total of 17 questions, 6 for "vigor" and "absorption" scales, and 5 for "dedication." Example questions include: "At my work, I feel bursting with energy," "My job inspires me," and "Time flies when I am working," measuring "Vigor," "Dedication," and "Absorption," respectively.

Scoring of the measures is as follows. The questions are answered based on a 7-point Likert scale ranging from (0) never to (6) every day (Schaufeli & Bakker, 2004). Higher scores indicate higher vigor, absorption, and dedication, as well as higher job engagement overall. There are no reverse scored items. The mean scale score of the three UWES subscales is computed by adding the scores on the particular scale and dividing the sum by the number of items of the subscale involved. A similar procedure is followed for the total score. Hence, the UWES yields three subscale scores and/or a total score that range between 0 and 6.

Schaufeli and Bakker (2004) reported on the psychometric quality of this scale after reviewing the results of 25 studies conducted from 1999 to 2003 for employees of various organizations with over 9000 participants of diverse occupations. There is a high correlation between the 3 dimensions (Schaufeli & Bakker, 2004) demonstrating satisfactory internal consistency that ranges between .80 and .90, which is equal or higher than the expected Cronbach's alpha value of .70. Specifically, Cronbach's alpha for the total scale is .93 and .83, .92, and .82 for the three subscales of vigor, dedication, and absorption. The test-retest reliability (rt) demonstrated high levels of stability of .63 and .72 in two separate sample groups (Schaufeli & Bakker, 2004).

The construct validity studies demonstrate that work engagement and burnout are negatively correlated (Schaufeli & Bakker, 2004). Also, engagement is differentiated from the concept of workaholism. Although the two have one similar element of "working excessively,"

engagement produces positive feelings and is triggered by available resources in workplace

increasing one's motivation to engage. Overall, the measure appears valid (Schaufeli & Bakker,

2004). See Appendix B for a copy of the UWES questionnaire and its scoring directions.

The Minnesota Satisfaction Questionnaire (MSQ)

The MSQ was used to measure employee levels of job satisfaction. Developed and

validated by Weiss et al. (1967), it was derived from the work adjustment theory and projects at

the University of Minnesota. The short form used in this study contains 20 items and 3 scales of

intrinsic, extrinsic, and general satisfaction. Items 1, 2, 3, 4, 7, 8, 9, 10, 11, 15, 16, and 20

measure intrinsic satisfaction. Items 5, 6, 12, 13, 14, and 19 measure extrinsic satisfaction. Items

1 through 20 measures general satisfaction (Weiss et al., 1967).

Scoring of the measures is as follows. The respondents are asked to respond to the

questions based on a 5-point Likert scale representing levels of satisfaction ranging from (1) very

dissatisfied to (5) very satisfied. A higher score indicates higher general job satisfaction. There

are no reverse scored items. Intrinsic Satisfaction is scored by obtaining the mean of ratings from

questions 1 2, 3, 4, 7, 8, 9, 10, 11, 15, 16, 20. Extrinsic Satisfaction is scored by obtaining the

mean of ratings from questions 5, 6, 12, 13, 14, 19. General Satisfaction is scored by obtaining

the mean of ratings from questions 1 – 20. For the purposes of this study only a general

satisfaction score is obtained.

Internal consistency of this scale consists of a Cronbach's alpha score of .86. .80, and .90

for intrinsic, extrinsic, and general satisfaction scales, respectively. Although in general the

scales have a high level of reliability, there are some variations across groups. Construct validity

of the measure was derived from the Minnesota Importance Questionnaire based on the Theory

of Work Adjustment and the results demonstrated good construct validity (Weiss et al., 1967).

See Appendix C for a copy of the MSQ questionnaire and its scoring directions.

The Communication Satisfaction Questionnaire (CSQ)

The CSQ, developed by Downs and Hazen in 1977, was used to measure satisfaction

with communication in an organization. This includes not just efficiency of the flow of

information but also the exchange of information through various employment relations and

settings. It measures communication satisfaction in areas of horizontal communication,

supervisory communication, media quality, organizational perspective, organizational

integration, communication climate, personal feedback, and subordinate communication. It

includes some open-ended questions inquiring about job satisfaction, demographics, and

productivity level which will not be included in this study. Items 4 to 38 ask questions

specifically regarding communication satisfaction from employee perspective, and items 42 to 47

ask questions regarding communication satisfaction from management perspective. These 40

items are the ones measuring communication satisfaction which will be included in this study.

(Gray & Laidlaw, 2004; Greenbaum et al., 1988).

Scoring of the measure is as follows. The respondents are asked to respond to the

questions based on an 11-point Likert scale representing levels of satisfaction ranging from (0)

no satisfaction, (5) average satisfaction, and (10) maximum satisfaction. A higher score indicates

higher level of satisfaction. There are no reverse scored items. Communication satisfaction score

is calculated by dividing the sum of all ratings by the number of items.

The CSQ is reported to have a Cronbach alpha reliability coefficient of .94 indicative of a

high level of internal consistency (Greenbaum et al., 1988; Gray & Laidlaw, 2004). Coefficient

alpha reliabilities have been consistently high ranging from .72 to .96. Analysis of inter-item

correlations depicted a mean inter-item correlation ranging from .49 to .70 demonstrating

convergent validity, hence the items are adequate indicators of the seven dimensions they

measure. Also, the Pearson correlation matrix indicates positive and significant correlations

between all factors, ranging from .46 to .81, demonstrating that a single construct can be

measured of its 7 dimensions (Gray & Laidlaw, 2004). The CSQ has been validated as an

instrument with a high level of internal consistency, and convergent and criterion related

validity, overall, an appropriate measure of communication in an organization (Zwijze-Konin &

de Jong, 2007). See Appendix D for a copy of the CSQ questionnaire and its scoring directions.

The Psychological Empowerment Instrument (PEI)

The PEI, developed by Spreitzer (1995), was used to measure employee perceived levels

of empowerment through 4 subscales of meaning, competence, self-determination, and impact.

There are 12 items in this instrument which uses a 7-point Likert scale self-administered

questionnaire. Items 2, 5, and 10 measure meaning, 1, 9, and 12 measure competence, 3, 7, and 8

measure self-determination, and 4, 6, and 11 measure impact. This instrument is free to use by

researchers. The internal consistency of this instrument is a (check if there are separate one for

each of subscales and report here) Cronbach's alpha of .91 and is reported to have good construct

validity (Schumaher et al., 2018).

Scoring of the measure is as follows. A 7-point Likert rating scale measures levels of

agreement from (1) very strongly disagree to (7) very strongly agree. A higher score indicates

higher level of agreement. There are no reverse scored items. This scale is composed of 4

subscales: Meaning, competence, self-determination, and impact. The subscales are scored by

taking the mean of the ratings of the 3 items for each subscale and overall empowerment is

scored by taking the mean of the 4 subscale means (Spreitzer & Quinn, 2001).

A convergent and discriminant validity test of this instrument was conducted and

demonstrated a good measure of validity, around .80 typically. A test-retest reliability has shown

a reliability coefficient of .72 and .62 for two different samples, for the overall measure of

empowerment (Spreitzer & Quinn, 2001). See Appendix E for a copy of the PEI questionnaire

and its scoring directions.

Leading By Example (LBE)

The LBE questionnaire was used to assess OSEH in the workplace. This instrument was

developed, and its psychometric properties were assessed, by the Department of Health

Promotion and Behavior Change of Public Health University of Georgia. This instrument has

four subscales and 18 items. The four subscales include business alignment with health

promotion objectives, awareness of the link between health and productivity, worksite support

for health promotion, and leadership support for health promotion (Della et al., 2008; 2010;

2012).

Scoring of the measures is as follows. A 5-point Likert scale measures the level of

respondents' agreement from (1) strongly disagree to (5) strongly agree. A higher score indicates

a higher level of perceived OSEH. There are no reverse scored items. A mean rating score is

calculated for each of the subscales as well as a mean rating score for the measure as a whole.

An exploratory and confirmatory factor analyses to assess the discriminant validity and

results demonstrated validity of the four-factor. The initial analysis demonstrated Cronbach's

alpha reliability coefficient for 4 factors as .82, .61, .65, and .77, respectively (Della et al., 2008).

The overall consistency is Cronbach's alpha reliability coefficient of .89 (Lin et al., 2019). See

Appendix F for a copy of the LBE questionnaire and its scoring directions.

The Workplace COH Survey

      The Workplace COH survey was developed by the University of Michigan, pilot tested in 2010, and revised in 2011 and 2013. This survey measures two constructs of workplace environment and workplace culture. The sections of role modeling, supervisor support, co-worker support, mood, values, and norms measure the construct of workplace COH included in this study. Items 10, 25, and 38 ask questions about role modeling, items 26, 27, 28, and 29 ask questions about supervisor support, item 39, 40, 41, 42, and 43 ask questions about co-worker support, items 31, 32, 33, 34, 35, 36, and 37 ask questions about mood, items 9, 27, and 30 ask questions about values, items 44, 45, 46, and 47 ask questions about norms.

      Scoring of the measures is as follows. A 7-point Likert scale is used to measure levels of agreement, ranging from (1) strongly disagree to (7) strongly agree for items 9, 10, and 25 through 43. A higher score indicates higher level of endorsement of a perceived COH in the organization. For items 44 through 47, a 5-point Likert scale is used to measure number of co-workers engaging in behaviors consistent or inconsistent with good health (overweight, eat healthy, exercise, smoke, or chew tobacco, respectively), indicated by 1 (8-10 coworkers), 2 (6-7), 3 (4-5), 4 (2-3), 5 (0-1), and 6 (don't know). A higher score indicates lower number of co-workers engaged in a particular behavior. There are total of 3 reverse scored items (36, 44, 47) in the sections included in this study. For this study, a measure of COH score will be obtained by calculating the mean rating of the section scores (Section 1 – items 10, 25, and 38), Section 2 – items 26 to 29, Section 3 – items 39 to 43, Section 4 – items 31 to 37, Section 5 – items 9, 27, and 30, Section 6 – items 44 to 47) corresponding to the COH construct. The mean of the 6 section means will comprise an overall COH score.

Exploratory and confirmatory factor analyses were conducted by Kwon et al. (2015) to assess the factorial structure and validation. After removing some of the items and factors during the analyses, there are 36 remaining items and 5 factors. Factors include Leadership, Policies, Programs, Quality Assurance, Supervisor Support, and Coworker Support. The Cronbach alpha reflecting reliability coefficients for the five factors are .95, .94, .90, .97, and .95 respectively. In terms of convergent and discriminant validity, the scale shows that items within each factor are sufficiently correlated to one another (Kwon et al., 2015). See Appendix G for questions from the COH Questionnaire included in this study and its scoring directions.

Procedures

Individuals who volunteered to participate were presented with an opportunity to complete the process online. After a person acknowledged on the consent form that they would like to participate in the study, the person was presented with a series of screening questions to determine their eligibility to participate in the study. If it was determined that the person was not eligible to participate, the person was directed to a thank you screen where they were informed that they were not eligible to participate and were wished a good day. If it is determined that the person was eligible to participate, the person was presented with the first measure. There were six online survey measures to complete followed by a series of demographic questions. The order of administration of the six measures were randomly determined for each participant. The measures were provided to participants on Qualtrics survey panels. Qualtrics is a web-based company that can recruit participants from its survey panels and will recruit participants for this study. The following steps included in the procedures for participant recruitment and for collecting data.

An announcement for participation in this study was posted online through Qualtrics, targeted to attract appropriate participants.

- The announcement included a link that when clicked by the individuals interested in participation guided them through the steps involved to complete the process.

- The first step included acknowledging an informed consent to communicate their agreement to participate in this study. (See a copy of the informed consent in Appendix H).

- Then they were asked to complete a screening survey with the purpose of identifying a set of characteristics required to meet the criteria for participation (See Appendix I for a copy of the Screening Questionnaire).

- After the screening was completed, if they did not meet the required characteristics, they were presented with a prompt indicating that the researcher was thankful for their interest in participation, but they do not meet the characteristics required for participation.

- If they met the criteria, they were presented with the first measure.

- After completions of the sixth measure, they were asked to complete a demographic questionnaire.

- It was estimated that the time to complete all the steps took approximately 25 minutes.

Participants

Individuals of all education levels, genders, races, and ethnicities, employed in any type of industry and work setting, schedules, and pay rates were provided with an equal opportunity to participate in this study. A minimum of 151 individuals were selected for a sample group. A minimum sample size was calculated using GPower. GPower analysis is found in Appendix K. The criteria for selection of the participants are being 25 years and older, residing in the United States, and being employed full time for a minimum of 6 months in their present employment.

Data Processing

Path Analysis was used to assess the findings from the data collected through online questionnaires. Path analysis was conducted through Mplus software program. The indirect effect of the exogenous variables of interest (i.e., COH and OSEH) through the endogenous variables of interest (i.e., JoSa, CoSa, and EmEm) on the dependent variable of employee engagement were assessed. The results from the path analysis helped the researcher find out about the mechanisms through which a perceived OSEH and COH (i.e., the exogenous variables) were related to employee engagement (i.e., dependent variable) through a possible mediation effect of job satisfaction, communication satisfaction, and psychological empowerment (i.e., the endogenous variables). See a copy of the path model illustration in Appendix J.

Assumptions and Limitations in Method

The key assumption related to the data collection method in this study was that the individuals who volunteer to participate in completing the survey questionnaires responded to the questions with integrity and intended accuracy to their knowledge. Also, it was assumed that the items used in each scale contained sufficient clarity about the content intended to be measured. Selecting instrument tools with high levels of verified validity and reliability measures was used intention to reduce the probability of unintentional inaccurate responses and/or variability of responses due to differential understanding of the meanings. It was also assumed that the statistical procedures used during the data collection process involved a sample size large enough to be representative of the target population.

The limitations were related to the results being obtained from self-reported data through online survey questionnaires. The focus was obtaining answers to the research questions based on employees' perspective; hence subjectivity of the responses was part of the data relevant to

the study. However, the validity of the self-reported data was limited to the level of self-awareness of each individuals completing the survey. Self-awareness relevant to the topic of this study and answers to the questions presented in the questionnaires can be affected by each individual's life experiences outside the workplace. Also, the number of control variables included in this study were limited to the ones related to the social environment in the workplace. Therefore, the results did not account for the effect of external social environmental variables on employees' perspectives surrounding the topic.

Moreover, data collection via self-reported questionnaires is in general to an extent confounded by variables that may increase biased responses (e.g., social desirability effect). Another limitation related to sample pool delimitations. The intended target population was adults 25 or older employed full time for a minimum of 6 months who reside in the United States. However, due to the method of data collection (i.e., use of online questionnaires), the pool was limited to the volunteers who had access to the use of online questionnaires. Hence, the results were not representative of the general population who did not have access to online survey participation. Preferably, questionnaires should be available for those individuals as well in future studies.

Delimitations

The individuals volunteering to participate in this study were 25 years and older, resided in the United States, were employed full time for a minimum of 6 months during their participation and had access to online questionnaires. Hence, the individuals who were not 25 years or older, did not reside in the United States, were not employed full time for a minimum of 6 months, and did not have access to the use of online questionnaires were not included in this study.

Ethical Assurances

One ethical concern related to safeguarding of the participant's demographic information reported through the online questionnaires. To address this concern, participants were made aware of the risk involved in electronic sharing of their information and were requested to sign an informed consent prior to start of the completion of the process. The risk of exposure was reduced through the use of a software program/organization (i.e., Qualtrics), an entity with an established mechanism in place to ensure confidentiality of the information, hence measures were taken to keep the information collected from the participants confidential.

The purpose of this study was to provide increased knowledge for employers considering the addition of health and wellness resources to their workplace. The results are beneficial for employers, management level employees, and human resource personnel, as well as the employees of all ranks in all types of work settings and industries.

Chapter Summary

This chapter described the problem statement, hypotheses, research questions and the relevant rationale for each. The research design included the operational definitions of the variables being measured, the method of measurements, and their levels, followed by a section on procedures. The information about the participants and how the data was collected, stored, and analyzed was followed by sections explaining the assumptions of this study and the limitation of the methods. The chapter ended with an outline of delimitations regarding the participants and ethical assurances relevant to data collection method and the purpose of the study.

Chapter 4: Results

Chapter Overview

In this chapter the results of the statistical analysis from the data collected through an online questionnaire is reported. This information includes procedures used during each step and the order in which the data analysis was processed. Demographics information, descriptive statistics of the results including information regarding the psychometric analysis of the instruments, and findings from the path modeling was conducted to test the indirect effects of the variables of primary interest on the dependent variable.

Path analysis was conducted through Mplus software program. The indirect effects of the exogenous variables of primary interest (i.e., COH and OSEH) through the endogenous mediating variables (i.e., job satisfaction, communication satisfaction, and employee empowerment) on the dependent variable of employee engagement was assessed. The results from the path analysis will help the researcher find out about the mechanisms through which a COH and perceived OSEH (i.e., the exogenous variables) are related to employee engagement (i.e., dependent variable) through a possible mediation effect of job satisfaction, communication satisfaction, and employee empowerment (i.e., the endogenous variables). See path model illustration in Appendix J.

Demographics Information

The following steps were completed as part of the procedure for analyzing the quality of the sample data: The median duration of participants' responding was reviewed and 10 participants were removed due to exceeding speed criterion. Ten new participants were obtained as replacement for the ones that were removed. From the new data set, 1 participant was removed due to exceeding speed of responding and exhibiting a response set. Another participant

was removed due to being an influential case. A final data set of 151 participants was used for

the analysis. Missing data analysis was also conducted to ensure that all the participants whose

data was included in the sample had completed all the questionnaires in their entirety.

The sample data for this study consisted of 151 full time employees who were at least 25

years old, who reside in the United States, have been employed for 6 months or longer at their

current place of employment, and voluntarily filled out an online survey. The demographic

information consisted of age, gender, educational level, income level, workplace setting, and

length of employment. All participants were required to respond to the measures and the

demographics questionnaire (age, gender, education level, income level, workplace setting, and

length of employment) in their entirety. The highest percent of age range for participants was

between 31 and 35 years old which consisted of 18.5% of the respondents, and the lowest age

range was between 61 and 65 years of age which was 2.6% of the total respondents. A larger

percentage of the participants were females consisting of 56.3% of the total respondents,

compared to 43.7% who were male participants. In the category of education level, the largest

percentage of the participants (31.8%) reported having an undergraduate degree versus the

smallest percentage who reported having no high school diploma (0.7%). From the category of

income level, the highest percentage of the participants (26.5%) reported an annual income level

between $40,000 to $60,000, and the lowest percentage (2.6%) reported earning less than

$20,000 per year. Majority of the participants worked in office settings (58.3%) in comparison to

a smaller percentage who reported working remotely (15.2%). The percentage of participants

working in the field was 25.8. The largest percentage of the participants (49.0%) reported

working in their current workplace for more than 5 years, compared to the smallest percentage

(4.6%) having worked less than a year in the current workplace. See Appendix L for complete

demographics information with frequency and percentage for all the categories.

<div align="center">**Descriptive Statistics**</div>

Evaluation of assumptions for multicollinearity, linearity, normality, and

homoscedasticity was conducted prior to regression analysis. Analysis demonstrated the

assumptions of linearity, and no multicollinearity were met and standardized residuals for the

dependent variable were normally distributed. There was an indication of some

heteroscedasticity in the data. See Appendix M for charts regarding the test of the assumptions.

Table 2

Multicollinearity Testing

Variable	Tolerance	VIF
1. LBE	.329	3.037
2. COH	.220	4.547
3. MSQ	.280	3.575
4. CSQ	.289	3.464
5. PEI	.569	1.759

The mean scores were obtained for each measurement tool used in sample data. The

dependent variable in this study was employee engagement with Mean of 5.0857 and Standard

Deviation of 1.32805. The independent variables of primary interest were perceived OSEH with

Mean of 3.5408 and Standard Deviation of .87276 and COH with Mean of 4.1294 and Standard

Deviation of .87946. The mediator variables in this study were job satisfaction with Mean of

3.8152 and Standard Deviation of .67799, communication satisfaction with Mean of 2.1690 and

Standard Deviation of .43490, and employee psychological empowerment with Mean of 5.3251

and Standard Deviation of .98914. See Table 3 below for descriptive statistics results.

Table 3

Descriptive Statistics Results

Variable	n	Min	Max	Mean	Sd
1. Employee Engagement (UWE)	151	1	7	5.0857	1.32805
2. Perceived Organizational Support					
For Employee Health (LBE)	151	1.06	5	3.5408	.87276
3. COH (COH)	151	1.73	5.65	4.1294	.87946
4. Job Satisfaction (MSQ)	151	1.45	5.0	3.8152	.67799
5. Communication Satisfaction	151	1.0	3.0	2.1690	.43490
6. Employee Empowerment (PEI)	151	1.83	7.0	5.3251	.98914

UWE = 7-point Likert Scale (1-7), LBE = 5-point Likert Scale (1-5), COH = 6-point Likert Scale (1-6),

MSQ = 5-point Likert Scale (1-5), CSQ = 3-point Likert Scale (1-3), PEI = 7-point Likert Scale (1-7)

Psychometric Analysis

Psychometric analysis included reliability check for all of the measurement tools were

analyzed and Cronbach's alphas reported in table 4 below.

Table 4

Psychometric Analysis Results

Variable	Cronbach's Alpha	Inter-item Correlation
MSQ	.942	.451
LBE	.975	.681
PEI	.918	.488
UWE	.943	.506
CSQ	.973	.470
COH	.957	.455

Note. For the CSQ, the scale from no satisfaction to maximum satisfaction occurred on a 3-point

Likert scale rather than the actual 7-point Likert scale, due to researcher error.

Inferential Statistics

Regression analysis of the demographic information showed that none of the demographic variables qualified to be covariates. Pearson correlations examined the strength and the direction of the relationship between the predictor variables in this study and the dependent variable. The results indicated a positive relationships among all variables. See table 5 below.

Table 5

Correlations Among Study Variables

Measure	1	2	3	4	5	6
1. LBE	___	.809**	.676**	.720**	.432**	.560**
2. COH	.809**	____	.776**	.802**	.522**	.620**
3. MSQ	.676**	.776**	____	.773**	.651**	.676**
4. CSQ	.720**	.802**	.773**	____	.549**	.625**
5. PEI	.432**	.522**	.651**	.549**	____	.613**
6. UWE	.560**	.620**	.676**	.625**	.613**	____

Note. N = 151

p < .05 **p* < .01

Results of Path Analysis for the Original Conceptual Model

No Model Fit Indices were provided by M-Plus for the original conceptual model as this was a saturated model in which all possible regression paths were included for testing.

The results of the direct effects of the original conceptual model are demonstrated in the path diagram below:

Figure 1

Original Conceptual Path Model
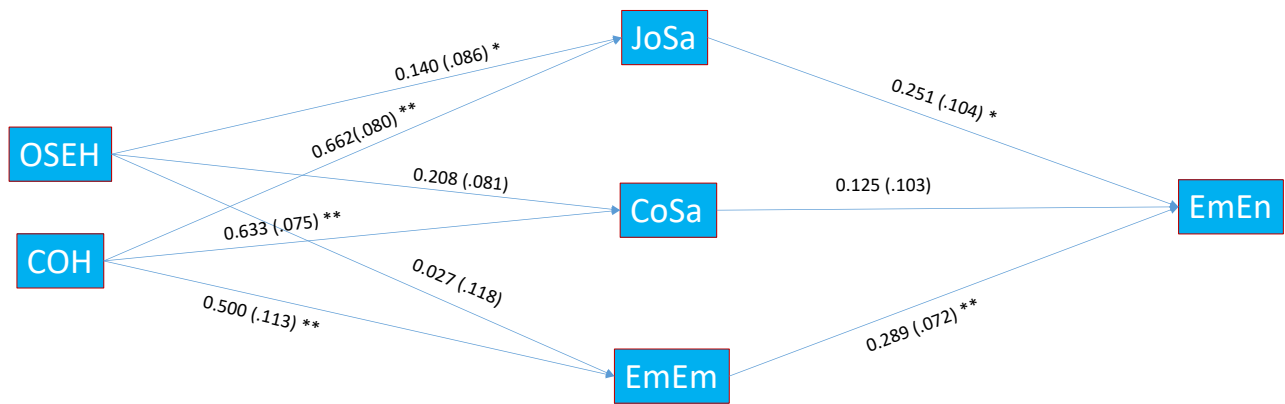
P <.05 *
P <.001**

EmEn = Employee Engagement (DV), **OSEH** = Organization Support for Employee Health (IV, vpi), **COH** = Culture of Health (IV, vpi), **JoSa** = Job Satisfaction (IV), **CoSa** = Communication Satisfaction (IV), **EmEm** = Employee Empowerment (IV)

Results of the indirect effects from the original conceptual model is reported in the Table

6 below (significant is bolded):

Table 6

Results of Indirect Effects for the Original Conceptual Model

Variables tested	Model Estimate	Standard Error	p-value
OSEH → JoSa → EmEn	0.035	0.026	.177
OSEH → CoSa → EmEn	0.026	0.024	.270
OSEH → EmEm → EmEn	0.008	0.034	.818
COH → JoSa → EmEn	0.166	0.072	**.021**
COH → CoSa → EmEn	0.079	0.066	.227
COH → EmEm → EmEn	0.145	0.049	**.003**

Results indicate that the indirect effect of OSEH on employee engagement through the mediating effects of job satisfaction, communication satisfaction, and employee empowerment are not significant. However, COH has a significant indirect effect on employee engagement through the mediating effects of job satisfaction and employee empowerment. The indirect effect of COH on employee engagement through the mediating effect of communication satisfaction is not significant.

Results of Path Analysis for the Post Hoc Model

Looking at the Model Fit Indices, they indicate a strong model fit. See Table 7 below for Model Fit Indices of the post hoc model:

Table 7

Model Fit Indices for the Post Hoc Model

Chi-Square (df = 2)	CFI	TLI	RMSEA	SRMR
2.928, p = .2313	0.998	0.991	0.055	0.012

The results of the direct effects of the post hoc model are demonstrated in the path diagram in Figure 2.

Figure 2

Final Path Model
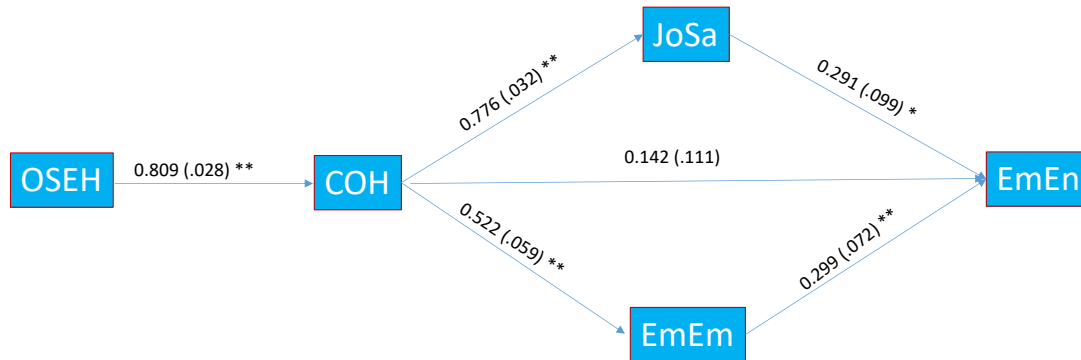
P <.005 *
P <.001 **

EmEn = Employee Engagement (DV), **OSEH** = Organization Support for Employee Health (IV, vpi), **COH** = Culture of Health (IV, vpi), **JoSa** = Job Satisfaction (IV), **EmEm** = Employee Empowerment (IV)

Results of the indirect effects from the post hoc path model is reported in Table 8

(significant is bolded).

Table 8

Results of Indirect Effects for the Post Hoc Model

Variables tested	Model Estimate	Standard Error	p-value
OSEH → COH →JoSa → EmEn	0.183	0.064	**.004**
OSEH → COH→ EmEm→ EmEn	0.126	0.034	**p<.001**
COH → JoSa → EmEn	0.226	0.078	**.004**
COH → EmEm → EmEn	0.156	0.042	**p<.001**
OSEH →COH→EmEn	0.115	0.090	.202

Results indicate that OSEH (OSEH) has a significant indirect effect on employee engagement through the mediating effects of COH, job satisfaction, and employee empowerment. The COH also has significant indirect effect on employee engagement through the mediating effects of job satisfaction and employee empowerment. The indirect effect of OSEH on employee engagement through the mediating effect of COH is not significant.

Chapter 5: Discussion

Chapter Overview

This chapter will include interpretation of the results and analysis of the findings in terms of their application, generalization, and contribution to the field of business psychology. Discussion will end with information regarding the limitations of this study and future recommendations.

Tests of Alternative Hypotheses Based on Results for Original Conceptual Model

No Model Fit Indices were provided by M-Plus for the original conceptual model as this was a saturated model in which all possible regression paths were included for testing.

Alternative Hypothesis 1 proposed a positive indirect effect of perceived OSEH (OSEH) on employee engagement through the mediating effects of job satisfaction, communication satisfaction, and employee empowerment. This hypothesis was only partially supported as the model demonstrated a significant positive indirect effect of OSEH on employee engagement through the mediating effect of job satisfaction only.

Alternative Hypothesis 2 proposed a positive indirect effect of COH on employee engagement through the mediating effects of job satisfaction, communication satisfaction, and employee empowerment. This hypothesis was only partially supported as the model demonstrated a significant positive indirect effect of COH on employee engagement through the mediating effects of job satisfaction and employee empowerment but not communication satisfaction.

In this model neither OSEH nor COH had positive indirect effects on employee engagement through the mediating effect of communication satisfaction. Communication

satisfaction did not have a positive direct effect on employee engagement and was only directly

affected by COH and not by OSEH.

Summary and Interpretation of the Results

The original conceptual model of this study was designed to examine the construct of

employee engagement in relationship to OSEH and COH through the mediating effects of job

satisfaction, communication satisfaction, and employee empowerment. Employee engagement is

a topic of interest for employers as it is demonstrated to be a major predictor of productivity and

higher-level performance in the workplace (Bakker, 2002; Rasheed et al., 2013; Pieters, 2017;

Natrajan et al., 2019). As employers are interested in increasing resources that would positively

impact productivity in the workplace (Kirsten, 2008; Lowe, 2003; Qaisar, 2018), the type of

resources that would affect employee engagement becomes of interest to them.

Employers consider the addition of health promotion in the workplace due to a concern

for health-related financial costs and illness related absenteeism, reducing productivity (Trusić et

al., 2017). COH is described as a health climate and its influence on health-related attitudes and

behaviors (Kaluza et al., 2019) and OSEH is described from the employees' perspective on the

value the employers attach to their health (Lin et al., 2019). Hence, COH and OSEH have both

been defined in terms of social environmental variables related to health in workplace.

The results of the original conceptual model showed that COH has a significant positive

indirect effect on employee engagement through the mediating effect of job satisfaction and

employee empowerment. Communication satisfaction was not shown to be a mediator of an

indirect effect of COH on employee engagement. The results did not show a significant indirect

effect of OSEH on employee engagement.

During the development of the post hoc model, it was observed that there was a strong correlation between OSEH and COH. It was hypothesized that perhaps employee perceptions of their leaders as being concerned about employee health may be associated with a larger organizational culture with concerns about health, which may have implications for employee engagement. A post hoc model was developed emphasizing consideration of these multilevel effects. The results of the post hoc model indicated that OSEH has a significant positive indirect effect on employee engagement through the serial mediating effects of COH, job satisfaction, and employee empowerment. COH continued to have a significant positive indirect effect on employee engagement through the mediating effects of job satisfaction and employee empowerment.

The results interpretation suggests two topics of discussion. First, the dual role that COH plays both as a predictor variable and a mediator indirectly influencing employee engagement. Second, the role of OSEH not as a predictor of increased engagement in and of itself but rather through the serial mediating effects of COH, job satisfaction, and employee empowerment. These two aspects open up new areas of discussion both in terms of application and generalization of the results and considerations for future research to further the knowledge of expressions of health in the workplace and employee engagement.

OSEH was measured by the LBE questionnaire. The subscales of this instrument define this construct in the following four areas. Business goals and objectives set to promote health in workplace, awareness of employees about the relationship between health and productivity, presence of health promotion programs, and leaders' support for health promotion programs (Della et al., 2008). The Workplace COH questionnaire has two sections. One called "workplace environment" and measures leadership strategy, policies, programs, and incentives (Kwon et al.,

2015), and one called "workplace culture" and was used in this study. Workplace culture

measures supervisor social support, coworker social support, role modeling by managers and

coworkers, values, mood, and norms that support health.

An interpretation of the findings is that planting the seeds of a culture conducive to health

promotion in a workplace and increasing employee perception of a workplace supportive of their

health should be widespread and embedded in all areas of an organization. An organization in its

entirety with all subcomponents and systems has to deliver the message that employee health is

important. Setting goals and objectives, developing policies and procedures, raising awareness,

role modeling and social support provided by the leaders, are all required components of creating

a workplace social environment that promotes health and increases employee engagement. This

finding and interpretation is consistent with the theoretical framework of this study referring to

the systems theory which views the workplace as a system, emphasizing the role of interrelated

systems in all aspects of an organization including its social relationships and interdependence of

its subsystems' functioning (Hall & Fagen, 1956; Katz & Kahn, 1966; Miller, 1971; Weiss,

1971; Roane et al., 2015).

Another interpretation of the findings points to the role of leaders in creating a change in

an organization. As shown in the post hoc model, OSEH is a predictor of COH. When business

goals and objectives are set by the leaders of an organization to promote health in the workplace

and policies, procedures, and programs are developed by the leaders to increase awareness about

the importance of health and its relationship to engagement and productivity in the workplace,

the seeds are planted to build a culture conducive of health. It sets the occasion for creating

values, mood, and norms, and a social environment that promotes support for health by way of

relations and role modeling of healthy behaviors vertically (e.g., modeling by managers) and

horizontally (e.g., coworker support). The vertical or multilevel effects on employee engagement are particularly prominent in the post hoc model.

This interpretation is consistent with the behavior systems theory and behavior systems analysis (BSA) where creating a change in a social environment (e.g., workplace) and its subsystems begins by evaluating and manipulating social environmental variables towards a desired direction (Ludwig & Houmanafar, 2010; Roane et al., 2015). Here, the change is creating a social environment (i.e., a workplace culture) to promote a perception that health is important and that the workplace values health. When changes are made to systems of an organization (e.g., adding health promotion programs) without a supporting organizational context (e.g., changes in behaviors of individuals and groups within that organization who would support the change), no desired outcome will follow (McGee & Crowley-Koch; Houmanafar et al., 2022).

As the results of this study point out, the social environmental variables to be evaluated and manipulated in the workplace towards an increased OSEH (e.g., developing policies, increasing awareness about health risk behaviors) can be considered as antecedent events towards creating a COH to enhance a climate supportive of the desired change (e.g., supervisor and coworker social support) in a workplace.

Job Satisfaction as a Mediator

The results demonstrated that job satisfaction is a mediator of significant positive indirect effect that COH has on employee engagement. Job satisfaction as a predictor of employee engagement has been well documented (Sehunoe et al., 2015; Pieters, 2017). It has been defined as the extent to which an individual experiences pleasant feelings and has a positive attitude towards their job (Locke, 1976; Pongton & Suntrayuth, 2019) and was measured in this study by the Minnesota Satisfaction Questionnaire which defines it in terms of intrinsic, extrinsic, and

general job satisfaction dimensions of perceived independence, variety, recognition,

accomplishment and work conditions (Weiss, 1967). Questions are related to one's feelings

about their job and their relation to the social environment (e.g., how satisfied one is in terms of

freedom to use their own judgement, the praise they get for doing a good job).

Employee engagement concerns the psychological aspect (e.g., attitude, emotional

attachment) of one's relationship to their job and work environment. This construct was

measured by asking questions about one's dedication, vigor, and absorption related to their job.

Elements measuring COH included social support by supervisors and co-workers, values, moods,

norms, and role modeling by managers. All three constructs of COH, job satisfaction, and

engagement are defined and measured through social emotional components and relate to social

environmental variables in the workplace (e.g., attitudes and work relations).

An interpretation of this finding is that when adding health related resources to a

workplace environment, if employee's job satisfaction increases, so will their engagement in

their job. In other words, to achieve the goal of increased engagement by way of establishing a

climate conducive of health promotion (i.e., COH), employers may consider focusing their

attention and allocating resources towards social aspects related to job satisfaction. Also, if the

idea is to have healthier employees who are less absent and more engaged, starting with making

changes in the social environment to show care and support for their health seems to lead to a

higher level of employee job satisfaction, and ultimately engagement. Little mention has been

made in the literature of the influence of COH on job satisfaction. The present research indicates

a positive effect of COH on job satisfaction with positive implications for employee engagement.

Employee Empowerment as a Mediator

Results demonstrated that employee empowerment is a mediator of significant positive indirect effect of COH on employee engagement. Employee empowerment defined and measured through 4 dimensions of meaning, competence, self-determination, and impact (Spreitzer, 1995), has been shown as a predictor of employee engagement. Psychological concepts of perceiving their job as having a purpose, feeling confident in their performance, believing in themselves (Spreitzer, 1995; Schumaher et al., 2017), autonomy (Carless, 2004; Humborstad et al., 2008), enrichment (Eccles, 1993; Spreitzer, 2006), and self-efficacy (Bandura, 1977; Na-Nan et al., 2021) have been identified to relate to empowerment.

In analyzing the effect employee empowerment as a mediator of the indirect effect of COH has on employee engagement, one finds an overlapping area of social support influencing elements of definitions attached to both variables. For example, performance feedback, training, and promotion which contribute towards employee autonomy in problem solving and a higher level of self-efficacy (Rummen et al., 2020), are social support related to empowerment. Supervisor and co-worker social support are elements of COH. These findings then mean that social support through relationships in the workplace especially what is obtained and delivered through the supervisors (i.e., resources for proper training and feedback) play a role in employees' level of engagement in their job. Specifically, when the resources are set to increase employee health and the extent to which their workplace values their health, their engagement in their job increases by way of enhanced psychological empowerment influenced by social support provided in the workplace as an intrinsic part of COH.

Employee Engagement and Summary of Findings

The dependent variable of interest in this study was employee engagement. A construct that is known to affect turnover reduction (Anindita & Adventia, 2018; Santhanam & Srinivas, 2020; Reissová & Papay, 2021), organizational commitment (Anindita & Adventia, 2018), job performance (Kassahun, 2007; Pieters, 2017; Natrajan et al., 2019), and productivity (Bakker, 2002; Rasheed et al., 2013; Pieters, 2017; Natarajan et al., 2019). Hence a topic of interest for leaders of organizations who are interested in increasing their growth in productivity. It is also a construct known to be affected by job satisfaction (Sehunoe et al., 2015; Pieters, 2017), communication satisfaction (Welch & Jackson, 2007; Waters, 2010; Mohan et at., 2008; Gustamo, 2018), and employee empowerment (Natrajan et al., 2019; Rumman et al., 2020).

The purpose of this study was to examine the indirect effect of COH and OSEH on employee engagement through the mediating effects of job satisfaction, communication satisfaction, and employee empowerment. The findings demonstrated that job satisfaction and employee empowerment are mediators of significant positive indirect effect of COH on employee engagement. The findings also indicated that OSEH has a significant positive indirect effect on employee engagement through the serial mediating effects of COH, job satisfaction, and employee empowerment.

Application and Generalization

The financial cost of illness related absenteeism, its relation to reduced productivity due to increases in medical conditions and its association to health risk behaviors has gained employers attention (Trusić et al., 2017). There is a body of research indicating that employees' increased engagement in health conducive behaviors when health promotion programs are added in the workplace is directly related to decreased illness related absenteeism (Goetzel et al., 1996, 1998;

Yen et al., 2006; Chapman et al., 2005; Ozminkowski et al., 2002; Leininger et al., 2015). Hence, employers have been interested in cost analysis of lost productivity vs. financial cost of adding health and wellness promotion resources in the workplace. This study focused on social variables related to health promotion in the workplace and how they may affect employee engagement, a predictor of increased productivity. Specifically, social variables that are elements of COH and OSEH were studied.

An application of the results is related to organizations' interest in increased employee engagement. This study shows that establishing OSEH and COH will lead to increased engagement thorough the mediating effects of increased job satisfaction and employee empowerment. An area of generalizing this application will be in conducting a cost analysis by employers who are interested in adding health promotion programs in their workplace. As the findings suggest, when determining the budget and identifying the specific type of resources related to health promotion in the workplace, the first step is to begin establishing a change in the right direction in social environmental support. This is consistent with the theoretical framework of this study in analyzing the results, indicating that any change in the workplace has to begin with arranging the social environmental variables that support it. While behaviors of human beings are complex and employees' actual use of health promotion programs added in the workplace may be affected by many external variables outside their workplace (Nohammer et al., 2010), creating a social environment that supports employee health may be sufficient in increasing their engagement and productivity.

Another area of generalization will be in the context of identifying the type of leaders when it comes to establishing a COH and OSEH. Being capable of aligning business design with health promotion, raising awareness regarding health, leadership support and role modeling,

creating a new culture reflected in norms, mood, values, and through role modeling of the

managers, are components of OSEH and COH. Hence, they should all be considered as qualities

sought in leadership selected for an organization. This reminds us that a change in an

organization starts with leadership. The leaders of the organization are the ones who are in

control of identifying, adding, and utilizing any resource in an organization, in this case one that

is conducive to health promotion. Hence, when it comes to hiring, training, and making decisions

in the type of leaders organizations would like to employ, if increased engagement is of interest

through a change in OSEH and COH, their leadership influence should not be overlooked or

undermined.

Limitations

This study relied on self-reported information from volunteers who participated in

completing online surveys. An inherent limitation of self-report data has to do with reliance on

the assumption that participants responded to the questions with integrity. Another limitation has

to do with controlling the confounding effect of variables that may bias the responses (e.g., social

desirability effect) and participants' level of self-awareness. Also, the population pool was

limited to the volunteers who have access to online participation.

Another limitation of this study is related to the measurement method of communication

satisfaction. Communication satisfaction did not function as a mediator of an indirect effect of

COH on employee engagement in the original conceptual model and was removed in the post

hoc model. This was surprising as there was a significant direct effect of COH on

communication satisfaction in this study, and communication satisfaction has been well

documented as a predictor of employee engagement in other studies (Welch & Jackson, 2007;

Waters, 2010; Mohan et al., 2008; Gustamo, 2018).

Communication satisfaction is defined and measured through dimensions of horizontal communication, supervisory communication, media quality, organizational perspective, organizational integrity, communication climate, personal feedback, and subordinate communication by an instrument developed by Downs and Hazen (1977). In this study, a mean score was calculated for data collected from the communication satisfaction questionnaire overall. This method of calculation does not allow analyzing the individual effects of the subscales. Specifically, as results indicated no significant mediating effect of communication satisfaction based on a mean score, the researcher is unaware of possible relationship between subscales of the communication satisfaction measure and employee engagement. Also, an error was made in the Likert scale of the communication satisfaction measure which may have dampened the possibility of finding a significant effect. The range of the Likert scale as applied in this study was inadvertently less than the actual range on the measure.

Future Recommendations

The findings from this study provide a basis for future research on this topic. Specifically, in testing the mediating effects of job satisfaction and employee empowerment for the indirect effect of OSEH through COH on employee engagement, further research on the generalizability of this finding to other industries and workplaces would be warranted. Future research should be conducted regarding different industries and communities as to whether this model of OSEH and COH and employee engagement applies more generally. As social environmental variables related to the definition and measurement of OSEH and COH may differ in each specific workplace based on the specific type of industry, it may be beneficial to replicate this study in varied contexts. Nekula et al. (2021) studied the relationship between COH and employee engagement specifically in the context of a homogenous population of social enterprises, further

suggests future research in various industries. The current study contributed towards

heterogeneity of the sample group and further validated a relationship between COH and

employee engagement. It will be beneficial for future research to continue studying the

relationship between COH and employee engagement in context of specific industries, taking

into account the specific social ecological variables related to each.

This study also provides a platform to conduct longitudinal research concerning health

related psychosocial variables and employee engagement. Longitudinal research for example,

can be conducted focusing on the long-term effects of establishing leadership support for

employee health (OSEH) and a COH in the workplace and tracking its indirect effect on

employee engagement through the mediators examined here (i.e., job satisfaction and employee

empowerment) as well as other potential mediators (e.g., employee self-rated health (Nekula et

al., 2021)).

Researchers in the area of behavioral health may also expand on the findings of this study

and conduct series of experimental analyses specific to various employee behaviors associated

with the elements of COH (e.g., supervisor support) and its relationship to employee engagement

through specific components of mediating variables (e.g., effective training and feedback related

to empowerment).

References

Abu Rumman, Al-Abbadi, L., & Alshawabkeh, R. (2020). The impact of human resource

    development practices on employee engagement and performance in Jordanian family

    restaurants. *Problems and Perspectives in Management, 18*(1), 130–140.

Anderson, D. R., Whitmer, R. W., Goetzel, R. Z., Ozminkowski, R. J., Wasserman, J., &

    Serxner, S. (2000). The relationship between modifiable health risks and group-level

    health care expenditures. *American Journal of Health Promotion*, *15*(1), 45–52.

    https://doi.org/10.4278/0890-1171-15.1.45

Anindita, R., & Seda, A. E. (2018). How employee engagement mediates the influence of

    individual factors toward organizational commitment. *Problems and Perspectives in

    Management, 16*(1), 276-283. https://doi.org/10.21511/ppm.16(1).2018.27

Asay, G. R. B., Roy, K., Lang, J. E., Payne, R. L., & Howard, D. H. (2016). Absenteeism and

    employer costs associated with chronic diseases and health risk factors in the US

    workforce. *Preventing Chronic Disease*, *13*, E141–E141.

    https://doi.org/10.5888/pcd13.150503

Ashfaq, Abid, G., & Ilyas, S. (2021). Impact of ethical leadership on employee engagement:

    Role of self-efficacy and organizational commitment. *European Journal of Investigation

    in Health, Psychology and Education*, *11*(3), 962–974.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change.

    Psychological Review, 84(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

Baxter, Campbell, S., Sanderson, K., Cazaly, C., Venn, A., Owen, C., & Palmer, A. J. (2015).

Development of the Workplace Health Savings Calculator: A practical tool to measure

economic impact from reduced absenteeism and staff turnover in workplace health

promotion. *BMC Research Notes*, *8*(1), 457–457.

Chapman, L. S. (2005). Meta-evaluation of worksite health promotion economic return studies:

2005 update. *American Journal of Health Promotion*, *19*(6), 1–11.

Cooper, J. O., Heron, T. E., & Heward, W. L. (2020). *Applied behavior analysis* (3rd ed.).

Pearson Education.

Della, L. J., DeJoy, D. M., Goetzel, R. Z., Ozminkowski, R. J., & Wilson, M. G. (2008).

Assessing management support for worksite health promotion: Psychometric analysis of

the Leading by Example (LBE) Instrument. *American Journal of Health Promotion*,

22(5), 359–367.

Downs, C. W., & Hazen, M. D. (1977). A factor analytic study of communication satisfaction.

Journal of Business Communication, 14, 63-73.

Fitzgerald, Kirby, A., Murphy, A., & Geaney, F. (2016). Obesity, diet quality and absenteeism in

a working population. *Public Health Nutrition*, *19*(18), 3287–3295.

Gebregiorgis, A. K., & Xuefeng, Z. (2021). Exploring the relationship between Job autonomy

and employee engagement in turbulent times: The role of autonomous motivation.

International Journal of Research in Business and Social Science, *10*(2), 134–152.

Goetzel, R.Z., Kahr, T.Y., Aldana, S.G., & Kenny, G.M. (1996). An evaluation of Duke

University's Live for Life Health Promotion Program and its impact on employee

health. *American Journal of Health Promotion*, *10*(5), 340-342.

Gray, J., & Laidlaw, H. (2004). Improving the measurement of communication satisfaction. *Management Communication Quarterly: McQ, 17*(3), 425-448

Greenbaum, Clampitt, P., & Willihnganz, S. (1988). Organizational communication: An examination of four instruments. *Management Communication Quarterly*, *2*(2), 245–282.

Grossmeier, J., Castle, P. H., Pitts, J. S., Saringer, C., Jenkins, K. R., Imboden, M. T., Mangen, J., Johnson, S. S., Noeldner, S. P., & Mason, S. T. (2020). Workplace well-being factors that predict employee participation, health and medical cost impact, and perceived support. *American Journal of Health Promotion*, *34*(4), 349–358.

Gustomo, Febriansyah, H., Ginting, H., & Santoso, I. M. (2019). Understanding narrative effects: The impact of direct storytelling intervention on increasing employee engagement among the employees of state-owned enterprise in West Java, Indonesia. *The Journal of Workplace Learning*, *31*(2), 166–191.

Haddon, J. (2018). The impact of employees' well-being on performance in the workplace. *Strategic HR Review, 17*(2), 72-75.

Houmanfar, Fryling, M., & Alavosius, M. P. (2022). *Applied behavior science in organizations: Consilience of historical and emerging trends in organizational behavior management*. Routledge.

Istiningsih, I. D., Sugandini, D., & Wahyum, P. (2020). Antecedents and consequences of employee engagement in the SMEs of crafts. *International Journal of Research in Business and Social Science, 9*(7), 23-31.

Jan, Essa, S., & Ahmed, W. (2021). From resources to performance: Work engagement and resources. *City University Research Journal*, *11*(1), 194–208.

Jørgensen, Villadsen, E., Burr, H., Punnett, L., & Holtermann, A. (2016). Does employee

    participation in workplace health promotion depend on the working environment. A

    cross-sectional study of Danish workers. *BMJ Open*, *6*(6), e010516–e010516.

Kaluza, A. J., Schuh, S. C., Kern, M., Xin, K., & Dick, R. (2020). How do leaders' perceptions

    of organizational health climate shape employee exhaustion and engagement? Toward a

    cascading- effects model. *Human Resource Management*, *59*(4), 359–377.

    https://doi.org/10.1002/hrm.22000

Kilpatrick, M., Blizzard, L., Sanderson, K., Teale, B., Jose, K., & Venn, A. (2017). Barriers and

    facilitators to participation in workplace health promotion (WHP) activities: Results from

    a cross-sectional survey of public-sector employees in Tasmania, Australia. *Health

    Promotion Journal of Australia*, *28*(3), 225–232. https://doi.org/10.1071/HE16052

Kwon, Y., Marzec, M.L., & Edington, D.W. (2015). Development and validity of a scale to

    measure workplace COH. *Journal of Occupational and Environmental Medicine, 57*(5),

    571-577.

Leininger, Adams, K. J., & DeBeliso, M. (2015). Differences in health promotion program

    participation, barriers and physical activity among faculty, staff, and administration at a

    university worksite. *International Journal of Workplace Health Management*, *8*(4), 246–

    255.

Lin, X., Kim, N. D., & McIntosh, C. R. (2019). The impact of organizational support for

    employees' health on organizational commitment, intent to remain and job performance.

    Evidence-Based HRM, 7(3), 281-299.

Marzec, Golaszewski, T., Musich, S., Powers, P. E., Shewry, S., & Edington, D. W. (2011).

Effects of environmentally focused interventions on health risks and absenteeism.

International Journal of Workplace Health Management, *4*(3), 200–215.

Mayer, G.R., Sulzer-Azaroff, B., & Wallace M. (2018). *Behavior analysis for lasting change*

(2nd ed.). Sloan Publishing.

Merrill, R.M. (2013). Self-rated job performance and absenteeism according to employee

engagement, health behaviors, and physical health. *Journal of Occupational and

Environmental Medicine*, *55*(1).

Natrajan, N. S., Sanjeev, R., & Singh, S. K. (2019). Achieving job performance from

empowerment through the mediation of employee engagement: An empirical study.

Independent Journal of Management & Production, 10(3), 1094-1105.

Nekula, P., & Koob, C. (2021). Associations between culture of health and employee

engagement in social enterprises: A cross-sectional study. *PloS One*, *16*(1), e0245276–

e0245276. https://doi.org/10.1371/journal.pone.0245276

Nguyen, P. V., Loi, T. N., Van Doan, K. N., & Tran, H. Q. (2021). Enhancing emotional

engagement through relational contracts, management receptiveness, and employee

commitment as a stimulus for job satisfaction and job performance in the public sector.

Equilibrium, 16(1), 203-224.

Nöhammer, E., Schusterschitz, C., & Stummer, H. (2010). Determinants of employee

participation in workplace health promotion. *International Journal of Workplace Health

Management, 3*(2), 97-110.

Ozminkowski, R.J., Ling, D., Goetzel, R.Z., Bruno, J.A., Rutter, R.R., Isaac, F., & Wang, S.

   Long-term impact of Johnson & Johnson's Health & Wellness Program on health care

   utilization and expenditures. *Journal of Occupational and Environmental Medicine*,

   44(1), 21-29.

Patnaik, A., & Dubey, R. (2019). Impact of leadership on employee engagement and intent to

   stay. *International Journal on Leadership, 7*(2), 58.

Payne, J., Cluff, L., Lang, J., Matson-Koffman Dyann, & Morgan-Lopez, A. (2018). Elements

   of a workplace culture of health, perceived organizational support for health, and lifestyle

   risk. *American Journal of Health Promotion: AJHP, 32*(7), 1555-1567.

Pieters, W. R. (2018). Assessing organisational justice as a predictor of job satisfaction and

   employee engagement in Windhoek. *SA Journal of Human Resource Management, 16*(1),

   1–11. https://doi.org/10.4102/sajhrm.v16i0.928

Pongton, P., & Suntrayuth, S. (2019). Communication satisfaction, employee engagement, job

   satisfaction, and job performance in higher education institutions. *ABAC Journal, 39*(3),

   90-110.

Posa, J. (2019). *Predictors of psychological well-being: perceived organizational support,

   work engagement, and psychological empowerment* [Doctoral dissertation, Capella

   University]. ProQuest Dissertations Publishing.

Priyadharshini, S. K. (2019). Redefining workplace wellness: Wearable technology and

   corporate wellness. *Ushus Journal of Business Management, 18*(2), 43-53.

Qaisar, M. N., Mariam, S., & Ahmad, F. (2018). Employee Wellness as Predictor of Productivity

   from Public Sector Management Perspectives: Conditional Process Analysis. *NUML

   International Journal of Business & Management, 13*(2), 104-116.

Reinhardt, A., Adams, J., Schöne, K., Rose, D.-M., & Sammito, S. (2020). Do working characteristics influence the participation at health measures? Findings from a trial phase of workplace health promotion. *Journal of Occupational Medicine and Toxicology (London, England)*, *15*(1), 11–18. https://doi.org/10.1186/s12995-020-00262-3

Reissová, A. & Papay, M. (2021). Relationship between employee engagement, job satisfaction and potential turnover. *TEM Journal*, *10*(2), 847-852.

Roane, J. E. R. (2015). *Clinical and organizational applications of applied behavior analysis.* Elsevier Science.

Sanaria, A., & Singh, N. (2019). Octapace organizational culture: Review and Synthesis. *Journal of Contemporary Management Research*, *13*(2), 1–14.

Santhanam, N., & Srinivas, S. (2020). Modeling the impact of employee engagement and happiness on burnout and turnover intention among blue-collar workers at a manufacturing company. *Benchmarking, 27*(2), 499-516.

Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. Journal of Organizational Behavior, 25(3), 293–315. https://doi.org/10.1002/job.248

Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement. With a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, *66*(4), 701–716.

Schumaher, M. L. N., Milani, D., & Alexandre, N. M. C. (2019). Psychometric properties evaluation of the Psychological Empowerment Instrument in a Brazilian context. *Journal of Nursing Management, 27*(2), 404–413. https://doi.org/10.1111/jonm.12701

Shain, M., & Kramer, D. M. (2004). Education: Health promotion in the workplace: Framing

the concept; reviewing the evidence. *Occupational and Environmental Medicine, 61*(7),

643–648. https://doi.org/10.1136/oem.2004.013193

Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions,

measurement, and validation. *Academy of Management Journal, 38*(5), 1442–1465.

https://doi.org/10.2307/256865

Sugandini, El-Qadri, Z. M., Kustyadji, G., & Muafi. (2018). Employee engagement in

entrepreneurship management: SMEs cases. *Academy of Entrepreneurship Journal*,

24(2), 1–8.

Strom, T. (2020). Authentic leadership and relational power increasing employee performance:

A systematic review of "leadership and power" as a positive dyadic relationship. *Journal

of Small Business Strategy*, *30*(3), 86–101.

Trusić, A., Fosić, I. & Pekanov Starčević, D. (2017). Invisible financial costs of employee

absenteeism. In Maloletko, A., Tipuric, D. & Cingula, M. (Eds.). *Economic and social

development* (pp. 817-826).

Vaughan, Jernigan, J., Barnes, S. P., Shea, P., Davis, R., & Rutledge, S. (2017). Evaluating

cross-cutting approaches to chronic disease prevention and management: Developing a

comprehensive evaluation. *Preventing Chronic Disease*, *14*, E131–E131.

Weiss, D. J., Dawis, R. V., & England, G. W. (1967). Manual for the Minnesota Satisfaction

Questionnaire. *Minnesota Studies in Vocational Rehabilitation, 22,* 120.

Wright., G. (1997). Leading change: by John P. Kotter.

The Journal of Product Innovation Management, *14*(6), 532–532. Elsevier Inc.

https://doi.org/10.1016/S0737-6782(97)90048-5

Yen, L., Schultz, A., Schnueringer, E., & Edington, D.W. (2006). Financial costs due to excess health risks among active employees of a utility company. *Journal of Occupational Environmental Medicine, 48*(9), 896-905.

Zahra M., & Mui Hung Kee, D.(2019). Predictors of job performance: Emotional intelligence, psychological capital and proactive personality. *International Journal of Recent Technology and Engineering, 8*(3S2), 440-447. https://doi.org/10.35940/ijrte.C1085.1083S219

Zwijze-Koning, & de Jong, M. (2007). Evaluating the Communication Satisfaction Questionnaire as a communication audit tool. *Management Communication Quarterly*, *20*(3), 261–282.

Appendix A

Demographic Survey

Please complete the following regarding your demographic's information:

1) Indicate your age range:
   a) Under 18
   b) 18-20
   c) 21-24
   d) 25-30
   e) 31-35
   f) 36-40
   g) 41-45
   h) 46-50
   i) 51-55
   j) 56-60
   k) 61-65
   l) Over 65
   m) Decline to state

2) Indicate your gender:
   a) Male _____
   b) Female _____
   c) Other _____
   d) Decline to state _____

3) Indicate your workplace setting:
   a) Virtual _____
   b) In Office _____
   c) In Field _____
   d) Decline to state _____

4) Indicate your educational level:
   a) No high school diplomas
   b) High school diploma (GED equivalent)
   c) Associate degree
   d) Undergraduate degree (BA/BS)
   e) Master's degree (MA/MS)
   f) Doctoral degree (PhD/PsyD/RhD/EdD/MD/J.D.)
   g) Decline to state

5) Select your current income level:
   a) Less than $20,000
   b) $20,000 to $40,000
   c) $40,000 to $60,000
   d) $60,000 to $80,000
   e) $80,000 to $100,000
   f) More than $100,000
   g) Decline to state

6) Indicate the length of your employment in your current workplace:
   a) Less than 1year _____
   b) 1 to 3 years _____
   c) 3 to 5 years _____
   d) More than 5 years _____
   e) Decline to state _____

Appendix B

Utrecht Work Engagement Scale: Short Form (UWES-9)

The following 17 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, cross the "0" (zero) in the space after the statement. If you have this feeling, indicate how often you feel it by crossing the number (from 1 to 6) that best describes how frequently you feel that way.

	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* (*VI1)*
2. _____I find the work that I do full of meaning and purpose *(DE1)*
3. _____Time flies when I'm working *(AB1)*
4. _____At my job, I feel strong and vigorous *(VI2)* *
5. _____I am enthusiastic about my job (*DE2*) *
6. _____When I am working, I forget everything else around me *(AB2)*
7. _____My job inspires me *(DE3)* *
8. _____When I get up in the morning, I feel like going to work *(VI3)* *
9. _____I feel happy when I am working intensely *(AB3*) *
10. _____I am proud on the work that I do *(DE4)* *
11. _____I am immersed in my work *(AB4)* *
12. _____I can continue working for very long periods at a time *(VI4)*
13. _____To me, my job is challenging *(DE5)*
14. _____I get carried away when I'm working *(AB5)* *
15. _____At my job, I am very resilient, mentally *(VI5)*
16. _____It is difficult to detach myself from my job *(AB6)*
17. _____At my work I always persevere, even when things do not go well *(VI6)*

- Shortened version (UWES-9); VI = vigor, DE = dedication, AB = absorption

The mean scale score of the three UWES subscales is computed by adding the scores on the particular scale and dividing the sum by the number of items of the subscale involved. A similar procedure is followed for the total score. Hence, the UWES yields three subscale scores and/or a total score that range between 0 and 6.

Appendix C

Minnesota Satisfaction Questionnaire

Instructions: On a scale of 1 (very dissatisfied) to 5 (very satisfied) ask yourself how satisfied you are with each aspect of your job.

1 Very Dissatisfied	2 Dissatisfied	3 Neutral	4 Satisfied	5 Very Satisfied

On my present job, this how I feel about . . .

1. Being able to keep busy all the time
2. The chance to work alone on the job
3. The chance to do different things from time to time
4. The chance to b "somebody" in the community
5. The way my boss handles his/her workers
6. The competence of my supervisor making decisions
7. Being able to do things that don't go against my conscience
8. The way my job provides for steady employment
9. The chance to do things for other people
10. The chance to tell people what to do
11. The chance to do something that makes use of my abilities
12. The way company policies are put into practice
13. My pay and the amount of work I do
14. The chances for advancement on the job
15. The freedom to use my own judgment
16. The chance to try my own methods of doing the job
17. The working conditions
18. The way my co-workers get along with each other
19. The praise I get for doing a good job
20. The feeling of accomplishment I get from the job

Scoring Directions:

Intrinsic Satisfaction:	Sum 1 2, 3, 4, 7, 8, 9, 10, 11, 15, 16, 20; divide by 12
Extrinsic Satisfaction:	Sum 5, 6, 12, 13, 14, 19; divide by 6
General Satisfaction:	Sum 1 - 20; divide by 20

Appendix D

Communication Satisfaction Questionnaire (CSQ)

Listed below are several kinds of information often associated with a person's job. Please indicate how satisfied you are with the amount and/or quality of each kind of information by placing the number 0-1-2-3-4-5-6-7-8-9-10 in the blank space provided. Let 0 represent no satisfaction, 5 represent average satisfaction, and 10 represent maximum satisfaction.

_____ Information about my progress in my job.
_____Personal news
_____Information about company policies and goals
_____Information about how my job compares with others
_____Information about how I am being judged
_____Recognition of my efforts
_____Information about departmental policies and goals
_____Information about the requirements of my job
_____Information about government action affecting my company
_____Information about changes in the organization
_____Reports on how problems in my job are being handled
_____Information about employee benefits and pay
_____Information about company profits and financial standing
_____Information about accomplishments and/or failures of the company
_____Extent to which my superiors know and understand the problems faced by subordinates
_____Extent to which company communication motivates and stimulates an enthusiasm for meeting its goals
_____Extent to which my superior listens and pays attention to me
_____Extent to which the people in my organization have great ability as communicators
_____Extent to which my supervisor offers guidance for solving job related problems
_____Extent to which the company's communication makes me identify with it or feel a vital part of it
_____Extent to which the company's publications are interesting and helpful.
_____Extent to which my supervisor trusts me
_____Extent to which I receive on time the information needed to do my job
_____Extent to which conflicts are handled appropriately through proper communication channels
_____Extend to which the grapevine is active in our organization
_____Extend to which my supervisor is open to ideas
_____Extent to which horizontal communication with other employees is accurate and free flowing
_____Extent to which communication practices are adaptable to emergencies
_____Extent to which my work group is compatible

Scoring Direction: For general satisfaction an average score is calculated by dividing the sum of all ratings by the number of items.

Appendix E

Psychological Empowerment Instrument (PEI)

Listed below are a number of self-orientations that people may have with regard to their work role. Using the following scale, please indicate the extent to which you agree or disagree that each one describes your self-orientation.

A. Very Strongly Disagree		E. Agree
B. Strongly Disagree	D. Neutral	F. Strongly Agree
C. Disagree		G. Very Strongly Agree

___ I am confident about my ability to do my job.

___The work that I do is important to me.

___I have significant autonomy in determining how I do my job.

___My impact on what happens in my department is large.

___My job activities are personally meaningful to me.

___I have a great deal of control over what happens in my department.

___I can decide on my own how to go about doing my own work.

___I have considerable opportunity for independence and freedom in how I do my job.

___I have mastered the skills necessary for my job.

___The work I do is meaningful to me.

___I have significant influence over what happens in my department.

___I am self-assured about my capabilities to perform my work activities.

This scale is composed of 4 subdimensions: Meaning, competence, self-determination, and impact. You may use the subdimensions (taking the mean of the 3 items measuring one dimension) or take the mean of the 4 subdimension means to create an overall empowerment score (Spreitzer & Quinn, 2001).

Appendix F

Leading By Example

Worksite Health Promotion Self-Assessment Tool

Instructions: Please first complete this survey as an individual member of the site wellness team.
Please indicate the extent to which you Disagree or Agree with the following statements.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. Our site leadership is committed to health promotion as an important investment in human capital.					
2. Our site leadership provides adequate financial support for health promotion.					
3. Our site health promotion programs are aligned with our business goals.					
4. All levels of management are educated regarding the link between employee health and productivity and cost management.					
5. Employees at all levels are educated about the true cost of health care and its effects on business success.					
6. Our site goals and plans advocate for the improvement of employee health.					
7. Site objectives for health improvement are set annually.					
8. Our site provides management support for health promotion by issuing messages from the site leader about the importance of employee health to the site.					
9. Our site provides support for participation in health promotion programs.					
10. Our work teams provide support for participation in health promotion programs.					
11. Our organization provides our site leadership training on the importance of employee health.					
12. Our health benefits and insurance programs support prevention and health promotion.					
13. This site offers incentives for employees to stay healthy, reduce their high-risk behaviors, and/or practice healthy lifestyles.					
14. Our leaders view the level of employee health and well-being as one important indicator of the site's business success.					
15. Overall, our site promotes a COH and well-being.					
16. The effectiveness of our health promotion programs is evaluated based upon accepted definitions of success.					
17. Site leadership shares information with employees about the effect of employee health on overall business success.					
18. All levels of employees are educated about the impact a healthy workforce can have on productivity and cost management.					

Scoring Direction: An average score of each subscale is calculated for more detailed reporting or an overall score is obtained by finding the average of the mean scores of the subscales.

Appendix G

The COH Questionnaire

(Health Management Research Center, University of Michigan)

The questions below are included in this study.

Role Modeling:
10. The senior leaders at the organization I work for are good role models for practicing healthy lifestyle.
25. My immediate manager is a good role model for practicing healthy lifestyle.
38. The people I work with practice healthy behaviors.

Supervisor Support:
26. My immediate manager shows support for the health and wellness programs at the organization I work for.
27. My immediate manager communicates that having healthy employees is important for success on the job.
28. My immediate manager cares about employees' health and wellbeing.
29. My immediate manager encourages me to take care of my health.

Co-worker Support:
39. The people I work with care about each other's health and well-being.
40. The people I work with encourage each other to take care of their health.
41. The people I work with encourage each other to exercise regularly.
42. The people I work with encourage each other to eat a healthy diet.
43. The people I work with encourage each other not to smoke.

Mood:
31. The people I work with have a sense of community.
32. The people I work with have a positive can-do attitude.
33. The people I work with have a shared vision about improving the health of employees.
34. The people I work with trust that organization I work for will make decisions to support the health and well-being of employees.
35. The people I work with are confident in the long-term success of the organization I work for.
36. The people I work with often seem stressed at work.
37. The people I work with are satisfied with their jobs.

Values:
9. One of the values at the organization I work for is that employee health is connected to the organization's success.
27. My immediate manager communicates that having healthy employees is important for success on the job.
30. The people I work with believe that having healthy employees is important for the success of the organization I work for.

Norms:
44. Thinking about the people you work with at your organization, about how many out of 10 are overweight?
45. Out of the people you work with, about how many out of 10 eat healthy?
46. Out of the people you work with, about how many out of 10 exercise?
47. Out of the people you work with, about how many out of 10 smoke or chew tobacco?

Scoring Directions: A measure of COH score is obtained by calculating the mean of the section scores corresponding to COH construct. In this study, each section score will be obtained by calculating the mean of the items answered from that section. Items that need to be reverse scored (36, 44, 47) will be reverse scored prior to final calculations

Appendix H

Informed Consent

TheChicagoSchool
of Professional Psychology

Investigator(s): Emilia Broberg

Study Title: Workplace COH, Perceived Organizational Support for Health, and Employee Engagement.

I am a student at The Chicago School of Professional Psychology. This study is being conducted as a part of my dissertation requirement for business psychology program.

I am asking you to participate in a research study about gaining more knowledge in what influences employee engagement related to health climate in the workplace. You will be asked to complete a screening questionnaire, and upon qualification to participate, to fill out a 7-component online survey questionnaires. This will take approximately 25 minutes of your time. This may cause you to feel frustrated. Although you may not benefit from it directly, it will help to understand how to increase productivity in the workplace.

Please take your time to read the entire document and feel free to ask any questions before signing the consent to participate.

Purpose: This study is being conducted to gain an increased knowledge in what influences employee engagement related to health climate in the workplace.

Procedures: You will be asked to complete a screening questionnaire with the purpose of identifying qualification criteria for participation in this study. If not qualified, you will be exiting the software platform hosting the questionnaire. If qualified, you will be asked to proceed to complete a 7-component online survey questionnaire which would approximately take 25 minutes to complete. The questionnaires will ask questions answers to which will help increase understanding of how to improve engagement and productivity in the workplace.

Compensation: The researcher will not compensate participants for participation in this study.

Risk to Participants: The survey link presented to volunteers to participate will be an anonymous link. There will be no personally identifying information included in the data set nor will IP addresses be included.

Benefits to Participants: The overall increased knowledge will be beneficial for all employees and employers interested in the benefits of health promotion in the workplace**.**

Alternatives to Participation: Participation in this study is voluntary. You may withdraw from the participation at any time without any penalty.

Confidentiality: During this study, information will be collected about your demographics for the purpose of this research. This includes information about your age, employment status, gender, education and income level, type of work setting, and the length of employment. There are steps taken to ensure anonymity of all participants and confidentiality of the information.

It is possible that your data may be used for future research or distributed to another researcher without your consent. However, information that could identify you will be removed.

Your research records may be reviewed by federal agencies whose responsibility is to protect human subjects participating in research, including the Office of Human Research Protections (OHRP) and by representatives from The Chicago School of Professional Psychology Institutional Review Board, a committee that oversees research.

Questions/Concerns: If you have questions related to the procedures described in this document, please contact Emilia Broberg at ebroberg@ego.thechicagoschool.edu or Dr. Robert Miller at rmiller@thechicagoschool.edu.

If you have questions concerning your rights in this research study you may contact the Institutional Review Board (IRB), which is concerned with the protection of subjects in research project. You may reach the IRB office Monday-Friday by calling 312.467.2335 or writing: Institutional Review Board, The Chicago School of Professional Psychology, 325 N. Wells, Chicago, Illinois, 60654.

Consent to Participate in Research

Participant:
I have read the above information and have received satisfactory answers to my questions.
I understand the research project and the procedures involved have been explained to me.
I agree to participate in this study. My participation is voluntary, and I do not have to sign
this form if I do not want to be part of this research project. I will receive a copy of this
consent form for my records.

Acknowledgement: Clicking below indicates that I have read the description of the study and I agree to participate in the study.
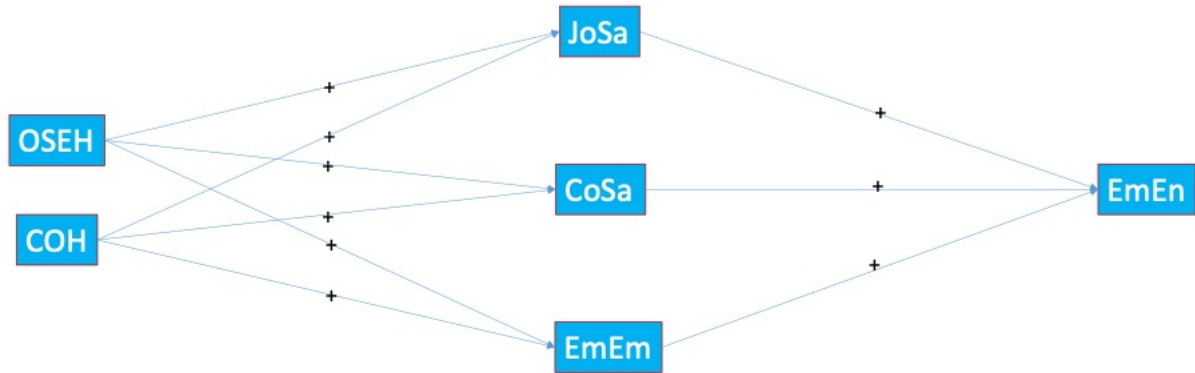
Appendix I

Screening Questionnaire

1. What is your age?

    a. Under 18
    b. 18-20
    c. 21-24
    d. 25-30
    e. 31-35
    f. 36-40
    g. 41-45
    h. 46-50
    i. 51-55
    j. 56-60
    k. 61-65
    l. Over 65

2. What is your employment status?

    a. Part time (less than 30 hours per week)
    b. Full time (30 hours or more per week)
    c. Temporary employee
    d. Independent contractor
    e. Retired
    f. Unemployed

3. Indicate the length of your employment in your current workplace:
    a. Less than 6 months _____
    b. 6 months to 1 year _____
    c. 1 to 3 years _____
    d. 3 to 5 years _____
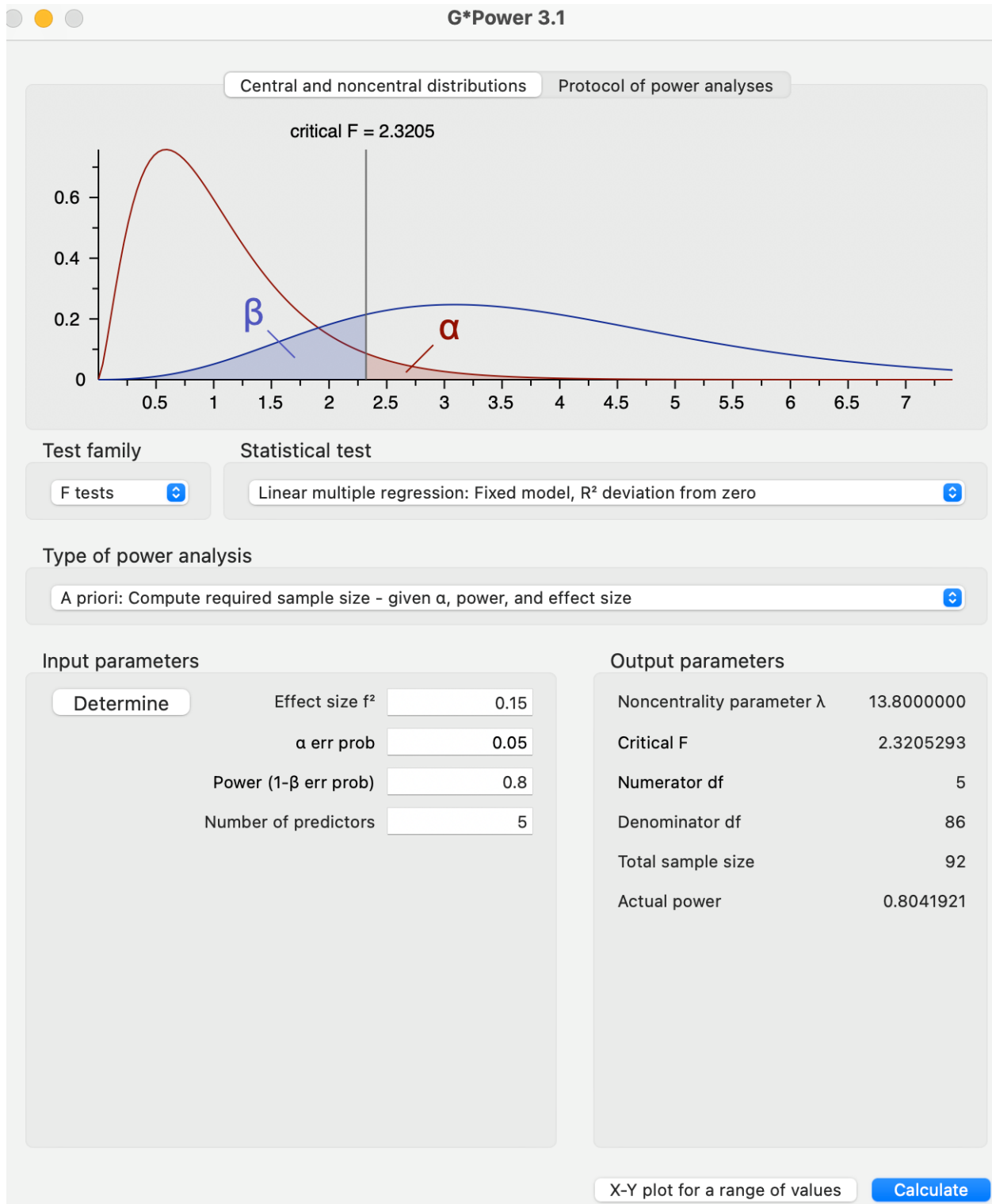   e. More than 5 years _____

Appendix J

Original Conceptual Model

EmEn = Employee Engagement (DV), **OSEH** = Organization Support for Employee Health (IV, vpi), **COH** = Culture of Health (IV, vpi), **JoSa** = Job Satisfaction (IV), **CoSa** = Communication Satisfaction (IV), **EmEm** = Employee Empowerment (IV)

Appendix K

G*Power Analysis

Appendix L

Demographic Information

Gender	Frequency	Percentage
Men	66	43.7
Female	85	56.3

Age	Frequency	Percentage
25-30	18	11.9
31-35	28	18.5
36-40	24	15.9
41-45	17	11.3
46-50	13	8.6
51-55	17	11.3
56-60	20	13.2
61-65	4	2.6
Over 65	10	6.6

Education Level	Frequency	Percentage
No high school diploma	1	0.7
High school diploma (GED equivalent)	41	27.2
Associate degree	26	17.2
Undergraduate degree (BA/BS)	48	31.8
Master's degree (MA/MS)	27	17.9
Doctoral degree (PhD/PsyD/RhD/EdD/MD/JD)	8	5.3

Income Level	Frequency	Percentage
Less than $20,000	4	2.6
$20,000 to $40,000	31	20.5
$40,000 to $60,000	40	26.5
$60,000 to $80,000	21	13.9
$80,000 to $100,000	23	15.2
More than $100,000	28	18.5
Decline to state	4	2.6

Workplace Setting	Frequency	Percentage
Virtual	23	15.2
In office	88	58.3
In field	39	25.8
Decline to state	1	.7

Length of Employment	Frequency	Percentage
Less than 1 year	7	4.6
1 to 3 years	26	17.2
3 to 5 years	44	29.1
More than 5 years	74	49.0

Appendix M

Test of Assumptions

Histogram
Dependent Variable: UWE_SC

Mean = 2.62E-15
Std. Dev. = 0.983
N = 151

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: UWE_SC

Scatterplot
Dependent Variable: UWE_SC