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Organizational Climate and Employee Engagement

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Abstract

Organizational Climate and Employee Engagement

by

Romie Mejalli, BS, MA

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Although research shows that disengaged employees contribute to increased health and hiring costs in for-profit organizations, there is a gap in the literature concerning the relationship between organizational climate (OC) and employee engagement (EE) in nonprofit organizations (NPOs). In this study, it was hypothesized that employee answers to the Utrecht Work Engagement Scale-17 (UWES-17) and OC surveys (for example, of management styles and innovation) would predict EE in a NPO. The study further addressed the question of whether age or the division in which the employees worked influenced the relationship between OC and EE. Kahn's engagement theory served as the theoretical framework. An electronic survey-questionnaire was used to measure OC; questions from the UWES-17 were included to measure the EE of 116 full-time NPO employees working across four different divisions. Results demonstrated that the EE subfactor vigor has a significant impact on OC. However, neither age nor division were found to be significant factors. The EE subfactors dedication and absorption were statistically insignificant in the regression models and thus were not influencers of the organizational climate management (OCM) relationship. Further analysis of the data also showed that employees at the mental health division of the NPO scored significantly lower in engagement than did their colleagues working in the other divisions. This study contributes to positive social change by illuminating the issue of EE in NPOs. With more understanding of the OC factors that contribute to low levels of EE, managers may be able to produce a more engaged workforce and increase the revenue of NPOs.

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Dedications

This study is dedicated to my parents to whom I am forever grateful, to my mother who inspired me every day, as I worked through this process, and continues to do so now. To my father who showed me what hard work truly is and that family is always the priority. He taught me more in 13 years than anyone could have in a lifetime. To my siblings for never doubting me, well as far as I know anyway. To my two beautiful daughters, who unknowingly provided me with moments of clarity I so desperately needed during those long nights as I would take breaks to watch them sleep. They never let me work when they were awake because they knew their priorities better than I did. They get that from their Gidoh. To my lovely wife for everything you do. I hope this serves as motivation to my children and future generations to follow that success is a real thing obtainable to anyone willing to work hard and sacrifice a lot of sleep. Lastly, I dedicate this to the Yonkers chapter of the JBM foundation, to whom I am eternally grateful for all of the life lessons that they taught me. In loving memory of my dear grandmother Eideh Hasso, you are forever in our memories.

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Chapter 1: Introduction to the Study

Nonprofit organizations (NPOs) have a significant presence in the United States as employers and providers of services. According to the National Center for Charitable Statistics (2015), the Internal Revenue Service registered approximately 1.41 million NPOs in 2013. The Internal Revenue Service reported that NPOs spent over $1.7 trillion in expenses in 2013 (National Center for Charitable Statistics, 2015). In 2010, NPOs accounted for 9.2% of all wages and salaries paid in the United States (National Center for Charitable Statistics, 2015). It is important to note that in 2009, volunteer employees saved NPOs upwards of $260 billion in expenses and filled 26.8% of the staffing requirements of NPOs (Kitching, Roberts, & Smith, 2012).

NPOs face increasing struggles regarding budget cuts from government agencies and subcorporations, along with a decrease in corporate funding (Stid & Shah, 2012). Some NPOs spend considerable time and employee hours to design activities to earn revenue. Board members and other stakeholders are forcing NPOs to be more transparent in their daily operations (Dart, 2004) and have mandated that the organizations evaluate the performance of individual programs (Carman & Fredericks, 2010). According to Carman and Fredericks (2010), government-funded agencies are also mandating that NPOs track quantifiable performance. One example of this is the New York State Early Recognition Program. The program provides screenings to families for the identification of mental health concerns in early childhood (ANDRUS Early Recognition Program, 2020). To maintain funding, program staff must produce annual reports detailing all the projections completed and the results of each screening (ANDRUS Early Recognition

Program, 2020). A thousand screenings are needed a year, or the grant is terminated (ANDRUS Early Recognition Program, 2020).

Gauging the effectiveness of NPOs has shown to be problematic primarily as NPOs do not have a common goal, and their products and services are typically intangible (Word & Park, 2009). Furthermore, the energy and dedication of employees are not tracked and accounted for by NPO leaders. Shadur et al. (1999) linked the level of employee task performance to organizational climate (OC). Engagement is defined as the influence of sharing information within the organization and the degree of employee participation in decision-making (Shadur et al.1999). This definition does not take into account employees' energy and dedication. It is conceivable that employees are competent in their work but lack the energy and enthusiasm for what they are doing. The dedication and energy of employees are essential aspects that relate to and result in employee engagement (EE). Smith and Wallace (2016) linked OC to employee involvement and employees' perceptions of OC to creativity.

However, studies linking OC with EE are lacking, based on my review of the literature. Many NPOs struggle to find ways to increase EE (Bhavesh & Aman, 2016). Researchers have noted the importance of both OC and EE (Shadur et al. 1999, Smith & Wallace, 2016, Oppenauera & Van De Voordeb, 2016). The nature of the relationship between OC and EE is unclear in an NPO. Kitching et al. (2012) stated that the social impact of researching the gap in the literature concerning the relationship between OC and EE in NPOs would directly improve client care by improving the quality of work done by staff in NPOs. Although researchers know the potential importance of OC, they

do not know how it relates to EE in an NPO. I conducted this study to address this gap in the literature.

Background

In 2007, NPOs in the United States reported nearly $2 trillion in revenue overall (Ridder & McCandless, 2010). However, literature linking the effects of NPOs' earnings on EE is limited according to Diego and Meneghini (2016). By its nature, an NPO is not in the business of making a profit; however, it is still vital to have a revenue-generating program to cover organizational costs (Ridder & McCandless 2010). EE remains a top priority of NPO leaders to maintain organizational profitability (Ridder & McCandless, 2010). If the work is not significant employees become less mentally invested in the organization, leading to a lack of motivation to complete work-related tasks and lower levels of EE that have adverse effects on the success of an organization (Oppenauera & Van De Voordeb, 2016).

According to Oppenauera and Van De Voordeb (2016), engaged employees have greater motivation levels compared to unengaged employees at work. Chalofsky and Krishna (2009) showed that employees who believe that their job is meaningful have a more balanced life and experience less workplace turmoil. These employees also have lower levels of stress according to Chalofsky and Krishna (2009).

According to Naldoken and Tengilimoglu (2017) the physical, technological, social, political, and economic environment of an organization represent the elements of OC that influence EE. Kurt Lewin first used *climate* to describe the work environment in the 1930s in his psychological study (Tagiuri & Litwin, 1968). In the 1960s the term *OC*

appeared fully developed (Naldoken and Tengilimoglu, 2017). The origins of OC went back to the joint studies conducted by Lewin and Stringer in 1968 on motivation and organizational climate and continued with the work of Tagiuri and Litwin (1968). Originally, OC was a topic that researchers investigated in order to explain organizational efficiency (Tagiuri & Litwin, 1968), but its relationship with EE and application within NPOs remain largely unexplored.

Problem Statement

The problem addressed in this research study is the gap in the literature concerning the relationship between OC and EE in NPOs. I also examined the impact of the employee engagement subfactor variables vigor, dedication, and absorption, as well as the employee's age and division in the NPO, have on that relationship.

Purpose of the Study

The purpose of this research was to identify if any of the Utrecht Work Engagement Scale-17 (UWES-17; Schaufeli, Salanova, Gonzalez-Roma & Bakker, 2002) subfactors have a strong influence on OC. These subfactors are categorized within the UWES-17 survey and include vigor, dedication, and absorption. Additionally, I examined the impact of age and division within the NPO where respondents work.

In reviewing the literature, I found that researchers conducting OC studies had not considered whether these factors affect EE. The problem driving this study is that the lack of EE, defined as the degree of employee contribution (Shadur, 1999), negatively affects organizational effectiveness and increases operational and organizational costs in for-profit organizations. Research on this topic does not span across all branches of

business; the existing research in this area mostly pertains to the for-profit sector (Yadav, 2015). This lack of research is problematic because many NPO leaders struggle to find ways to increase EE (Bhavesh & Aman, 2016). In addition, although researchers have noted the importance of both OC and EE (Diego & Meneghini, 2016), the nature of the relationship between OC and EE is unclear in NPOs. Furthermore, although researchers have found a connection among OC, employees' well-being, and employees' perceptions of OC for creativity (Huang & Cheng, 2016), they have not considered whether these factors affect EE (Yadav, 2015). Leaders of the mid-sized, New York-based social service NPO participating in this study had never examined how EE affects its revenue.

Research Questions and Hypotheses

The research questions (RQs) and hypotheses for this study were as follows:

RQ1: What is the relationship between OC and EE in a NPO and is age or division within the NPO a factor?

$H_0$1: There is no relationship between OC, as measured by the Organizational Climate Measurement (OCM), and EE, as measured by the Utrecht Work Engagement Scale (UWES-17) in nonprofit organizations.

$H_1$1: There is a relationship between OC, as measured by the OCM, and EE, as measured by UWES-17, in nonprofit organizations.

RQ2: Does vigor impact the relationship between OC and EE, and, if so, is it influenced by age or division within the NPO?

$H_0$2: Vigor has no impact on the relationship between OC and EE, as measured by the UWES-17.

$H_1$2: Vigor has an impact on the relationship between OC and EE, as measured by the UWES-17.

RQ3: Does dedication have an impact on the relationship between OC and EE and is age or division within the NPO a factor?

$H_0$3: Dedication has no impact on the relationship between OC and EE, as measured by the UWES-17.

$H_1$3: Dedication has an impact on the relationship between OC and EE, as measured by the UWES-17.

RQ4: Does absorption have an impact on the relationship between OC and EE, and, if so, is it influenced by age or division within the NPO?

$H_0$4: Absorption has no impact on the relationship between OC and EE, as measured by the UWES-17.

$H_1$4: Absorption has an impact on the relationship between OC and EE, as measured by the UWES-17.

Theoretical Framework

For this study's framework I drew from Kahn's (1990) research on EE. Kahn was among the first to examine the effect of EE on organizational outcomes. Kahn noted that other researchers had emphasized the variables revealing how individuals perceive themselves and their work but had failed to consider the implications resulting from the conscious and subconscious actions of others within a given organization. Kahn noted that understanding the way organizational factors influence behavior requires looking more in-depth into employees' reactions during task performance. In Kahn's examination

of EE, applied cognitive and physical withdrawal in a psychological context, meaning those organizational factors influence care provided to the client. In this case, the level of care and treatment provided in a community mental health NPO were examined.

Kahn (1990) was able to define the psychological conditions of employees personally engaged and disengaged at work. Kahn's framework consisted of three variables: performance, motivation, and training (Kahn, 1990). In Kahn's framework, performance is the dependent variable, and training is the independent variable. Employee motivation is essential in influencing the employees to accomplish individual and organizational goals according to Kahn (1990). In this framework, motivation increases performance (Kahn, 1990).

The findings of this study may have implications for the previous results. This study added to the existing research by expanding the focus to include NPOs. Kahn's research yielded a grounded theoretical framework that was designed to illustrate how psychological experiences of work shape the practices of people during task performances.

Nature of the Study

In this quantitative study, I investigated EE and OC among NPOs and the impact vigor, dedication, and absorption, as well as age and NPO division, have on that relationship. The participants were direct care staff working within NPOs. I used an electronic survey questionnaire to collect employee information. I worked along with the NPO to recruit participants for this research. The surveys were posted to the SurveyMonkey website and available to all participants. UWES-17 provided composite

scores for EE; the OCM provided OC scores. The OCM contains 17 scales divided into four quadrants: human relations, internal process, open systems, and rational goal (Patterson et al. 2005). The response scale is 1= *definitely false*, 2 = *moderately false*, 3 = *mostly true*, and 4 = *definitely true* (Patterson et al. 2005). The UWES-17 is a work engagement scale developed by Utrecht University in the form of a short questionnaire (Schaufeli, Salanova, Gonzalez-Roma & Bakker, 2002). I used this scale because it quantifies the specific areas of EE in this study. The three scales of measurement in the UWES-17 are vigor, dedication, and absorption (Schaufeli, Salanova, Gonzalez-Roma & Bakker, 2002). The male and female participants in my study ranged in age from 18 to 60 and worked in one of four divisions: main campus, mental health division, community, and Andrus Early Learning Centre (AELC). This sample represented the entire population of the mental health-NPO direct care staff.

Definitions

Following are definitions of terms used in this study:

Absorption: The state of being fully concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work (Schaufeli & Bakker, 2003).

Dedication: Strong involvement in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge in it (Schaufeli & Bakker, 2003).

Disengaged: A state that occurs when individuals fail to express themselves in the workplace through their actions and behavior leading them to provide minimal effort and physically withdraw from their roles (Kahn, 1990).

Employment engagement (EE): The ability to be connected and focused on work by being physically, cognitively, and emotionally immersed in it (Kahn, 1990).

For-profit organization: An organization motivated by profit earnings to offer goods or services (Bouvee & Thill, 2006).

Human Relations quadrant in OCM: A quadrant in the OCM survey comprising the Involvement, Autonomy, Supervisory Support, Integration, Welfare, Training, and Effort subfactors of the survey.

Internal Process quadrant in OCM: A quadrant in the OCM survey comprising the Formalization and Tradition subfactors of the survey.

Nonprofit organization (NPO): An organization that answers to a board of directors and whose primary goal is not motivated by profit. Some NPOs receive government funding (Bouvee & Thill, 2006).

Open Systems quadrant in OCM: A quadrant in the OCM survey comprising the Reflexivity, Innovation & Flexibility, and Outward Focus subfactors of the survey.

Organizational climate (OC): The expectations of one's actions as dictated and supported by the policies, practices, and procedures within an organization (Schneider & Reichers, 1983).

Rational Goal quadrant in OCM: A quadrant in the OCM survey comprising the Clarity of Organizational Goals, Pressure to Produce, Quality, Performance Feedback, and Efficiency subfactors of the survey.

Vigor: High levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties (Schaufeli & Bakker, 2003).

Assumptions

Engaged employees reduce health care costs (Bhavesh & Aman, 2016). Data will be collected via an electronic survey-questionnaire, and the questions were written in English using simple terminology. All participants were assumed able to read and able to understand the issues. Even though the technical literacy of each participant will vary, the assumption was all participants would be computer literate and able to access an electronic survey. A final assumption was that the responses to the study would not be influenced by employee corrective action, or positively impacted by a pay increase.

Scope and Delimitations

Specific aspects of the problem statement addressed in this study include the examination of the impact of the employee engagement subfactor variables vigor, dedication, and absorption, as well as the employee's age and division have on OC within a single, health care based NPO.

Limitations

One reason offered to explain why researchers identify constraints is to expose a weakness in the study (Creswell, 2003). According to Bhavesh and Aman (2016), much

of the research on EE and OC using the UWES has focused on the relationship between the climate of the workplace and the EE of factory workers. The self-assessment used was subjective, so the answers would not be driven by the employees' feelings toward the organization on the date that the questions were asked. Finally, this study was designed for individuals who worked in NPOs and for volunteers, but only those who worked full time hours. This research has not been generalized to other populations.

Significance

After an extensive search of the literature, no studies were able to address specifically the gap in the literature concerning the relationship between OC and EE in NPOs and the impact vigor, dedication, absorption and age or divisional influence have on that relationship. This study contributes to positive social change by helping NPOs to identify obstacles they face with engagement. This study will also contribute to the field of organizational psychology and will be useful as a foundation for future studies. Generalizing these findings to other populations will help management to identify engaged and disengaged employees. Primarily, understanding the factors of OC that contribute to low levels of EE is useful in changing the OC, consequently producing a more engaged workforce and increasing revenue.

Summary

In this chapter, the foundation for the study included a discussion of the significance and an introduction to the problem. The problem statement has described what this study will address, specifically, the relationship between OC and EE. NPOs are looking for the reasons for disengagement and new ways to re-engage employees and to

also understand the impact vigor, dedication and absorption have on that relationship. This research will also address if age or the division within which the respondents worked have an impact on vigor, dedication, and absorption as this has been identified as a gap in the literature. This study will provide a better comprehension of the problem. Chapter 2 includes the literature review. Included in Chapter 3 is an explanation of the methodology and description of the population from which the sample will be drawn, the instruments that will be used, and the data collection process that will be employed. Chapter 4 will explain the findings and analyzes the data. In Chapter 5, an interpretation of the results, a discussion of their implications and recommendations for future studies are offered.

Chapter 2: Literature Review

Introduction

The problem addressed in this research study is the gap in the literature concerning the relationship between OC and EE in NPOs. Although previous researchers have noted the importance of both OC and EE (Shadur et al. 1999, Smith & Wallace, 2016, Oppenauera & Van De Voordeb, 2016), studies linking OC with EE, and defining the relationship between these two factors within NPOs are lacking, based on my review of the literature. In this chapter I will outline the literature search strategy and summarize the key previous literature.

Literature Search Strategy

I prepared the literature review for this study using multiple databases from Walden University Library, including ProQuest, Business Premier Source, EBSCO, PsycINFO, Sage Journals Online, and PsycARTICLES. Keywords used in the search included engagement, employee engagement, organizational climate, a nonprofit organization, social change, UWES-17, motivation, self- determination, organizational behavior, organizational citizenship, consideration, initiating structure, systems thinking, and Maslow. The literature was evaluated to identify relevant information for the study that used scientific methods of research, provided the results of former studies, and identified historical and theoretical perspectives. I used the literature as a basis for discussion, to verify or dispute researchers' conclusions, and to put previous research in context.

Theoretical Framework

I based the study's framework on Kahn's (1990) research on EE. Kahn was among the first to examine the effect of EE on organizational outcomes. According to Kahn, other researchers had emphasized the variables revealing how individuals perceive themselves and their work but had failed to consider the implications resulting from the conscious and subconscious actions of others within a given organization. Kahn noted that understanding the way organizational factors influence behavior requires probing employees' reactions during task performance. Kahn applied cognitive and physical withdrawal in a psychological context in his examination of EE, meaning those organizational factors that influence client care provided to the client. I used Kahn's theory to examine the level of care and treatment provided in a community mental health NPO.

Kahn (1990) was able to define the psychological conditions of employees personally engaged and disengaged at work. Kahn's framework consisted of three variables: performance, motivation, and training (Kahn, 1990). In Khan's framework, performance is the dependent variable and training is the independent variable. Employee motivation is essential in influencing the employees to accomplish individual and organizational goals according to Khan (1990). In this framework, motivation increases performance (Khan, 1990).

Literature Review Related to Key Variables and/or Concepts

In this review, I discuss the literature and the theories of EE, motivation, and OC, and their relationship to this study. The importance of EE and its positive connection to

organizational effectiveness is emphasized in the literature (Seymore & Geldenhuys, 2018). Seymore and Geldenhuys (2018) stated that engaged employees are more motivated, responsive, and more likely to perform demanding work activities. Additionally, Seymore and Geldenhuys stated that engaged employees are shown to be more productive, to increase revenue for their company, and to create loyalty amongst clients and customers. Engaged employees contribute to good OC where employees are productive, ethically sound, and accountable for their actions. These employees remain with their organization for longer periods of time and are more committed to quality and growth than actively disengaged employees (Seymore & Geldenhuys, 2018). According to Seymore and Geldenhuys, engaged employees are viewed as extremely valuable in today's unstable economic environment.

Johnson, Nguyen, and White (2018) investigated the relationship between the prevalence of workplace aggression and employee engagement. Johnson et al. proposed that the level of EE within the organization could help explain workplace aggression. They found that the potential benefits of management policies aimed at preventing workplace aggression also support greater EE (Johnson et al., 2018). The implication is that EE can reduce workplace aggression and is vital to an organization's success (Johnson et al., 2018). On a global scale, the cost of workplace aggression to organizations is vast, resulting in the loss of millions of dollars each year (Johnson et al., 2018). In the United States, workplace aggression caused 521 deaths and 570,000 nonfatal assaults in 2016 (Johnson et al., 2018). Johnson et al. (2018) noted that these figures only represent the most severe incidents of workplace violence.

Although EE has received sufficient attention by both academics and practitioners, the conceptualization of EE continues to be ambiguous and unclear, according to Johnson et al. (2018). Most early researchers conceptualized EE at the individual level (Johnson et al., 2018). Johnson et al. adopted Kahn's (1990) original notion of engagement explained as the employee's emotional attachment to the organization and behaviors directed towards achieving the organization's goals and not self-interest. Many annual reports include EE scores based on the UWES-17 survey used in this study alongside traditional measures of success (Seymore & Geldenhuys, 2018). The management of organizations frequently advocate for organizational change to enhance engagement as the way to improve bottom-line outcomes (Seymore & Geldenhuys, 2018). Johnson et al. reported that disengaged employees on average cost U.S. corporations $350 billion annually. Other researchers have also found that disengaged employees negatively affected the financial performances of U.S. organizations (Ladyshewsky & Taplin, 2018).

Corporate industries are successful when they maximize profits from existing capabilities while adjusting to the actuality that what works today may not work tomorrow (Johnson et al., 2018). To make or maintain their companies' profitability, leaders of companies must work hard to engage employees (Johnson et al., 2018). Improved employee productivity had a positive effect on organizational financial performance, and this productivity was fueled by higher levels of EE, Ladyshewsky and Taplin (2018) found. Negative effects on productivity could be caused by adverse interpersonal behaviors that lower EE (Ladyshewsky & Taplin, 2018). U.S. corporations

that include strategic EE behaviors may experience higher employee productivity (Ladyshewsky & Taplin, 2018).

Johnson et al. (2018) explored strategies that some communication business leaders use to engage their employees to increase profits. The Jackson communication business leaders who learned and deployed effective employee engagement strategies noted better organizational cohesion and productivity (Johnson et al., 2018). Satisfaction and the need for satisfaction have been found to directly relate to the dedication of employees (Vandenabeele, 2014). Meaningful work allows employees to realize how valuable they are within the organization, and this is what makes them engaged (Ladyshewsky & Taplin, 2018).

The failing state of the current global economy has created a shift in the way business takes place according to Osborne and Hammoud, (2017). With strict regulations in many organizations, EE will continue to challenge organizations (Osborne & Hammoud, 2017). Organizations that have higher levels of EE have greater profits than organizations that do not, as well as higher levels of customer satisfaction, and employee productivity (Osborne & Hammoud, 2017). Engaged employees provide improved organizational and individual performance. Osborne and Hammoud reported that leaders who implement EE strategies noted higher levels of EE and improved customer satisfaction, as well as lower levels of employee accidents. They also reported in their findings that applying successful EE strategies is pivotal to an organization's success.

EE has appeared as one of the most significant challenges in today's workplace (Osborne & Hammoud, 2017). Based on the findings of Osborne & Hammoud, (2017)

practical actions were recommended. The first recommendation is communication focusing more on rewards and recognition, the second was empowering employees, and finally building a bond between leaders and employees as strategic objectives (Osborne & Hammoud, 2017).

Ladyshewsky & Taplin (2018) reported an increase in the disengagement of employees over the past ten years. As the review of the literature has shown, EE is a broad term without one concise and specific definition. According to Ladyshewsky & Taplin (2018) the two main definitions of engagement from the literature state that in engagement, people employ and express themselves physically, cognitively, emotionally and mentally during role performances. The second popular definition of work engagement according to Ladyshewsky & Taplin (2018) is a positive and fulfilling work-related state of mind characterized by vigor, dedication, and absorption.

The most widely used work engagement scale is the UWES (Ladyshewsky & Taplin, 2018). There has been some recent criticism of this scale specifically with the factor structure and the correlations between them with the idea that all three scales fit better into one scale (Saks & Gruman, 2014). The UWES contains 17 items in the extended version and 9 items in the short version. The scale is scored on a 7-point scale ranging from “0” (never) to “6” (always).

Existing literature suggested that positive OC directly leads to increased levels of organizational commitment (Osborne & Hammoud, (2017). It has been shown that the attitudes and perceptions of the employees influence how they deliver services. Berberoglu (2018) aimed to evaluate healthcare employees’ perceptions of OC and test

the hypothesized impact of OC on perceived organizational performance. Berberoglu (2018) reported OC is highly correlated with OC and EE. According to Berberoglu (2018), outcomes supported OC having a significant impact on predicting organizational commitment and performance. Berberoglu (2018) reported a positive and linear relationship between OC and EE. OC was reported to be statistically significant in determining the organizational commitment of the employees according to Berberoglu (2018). The results of the study stated that if the employee positively perceived the OC, they would have higher levels of EE (Berberoglu, 2018). OC is one of the main factors regarding the organizational environment, which has a direct relationship with employee behavior (Berberoglu, 2018). Berberoglu, (2018) explained OC as individual perceptions; recurring behaviors, attitudes, and feelings of employees. Berberoglu, (2018) argues that the existing literature explains the relationship between OC, EE, the need for achievement, and individual performance to be the dependent variables and consequences of OC. Berberoglu, (2018) found that a regression analysis suggested that OC has an impact on predicting organizational commitment and perceived organizational performance of the employees. OC was shown to be statistically significant in determining the organizational commitment of the employees (Berberoglu, 2018).

OC can be affected by several variables and that it is difficult to measure has caused some researchers to create different classifications of organizational climate types (Naldoken and Tengilimoglu, 2017). Organizations need more efficient uses of organizational resources in order to survive in competitive markets; this has encouraged innovative organizational approaches (Naldoken and Tengilimoglu, 2017).

Employee Engagement

Employee engagement focuses on drawing on employees' knowledge and ideas to improve products and services and increase innovation at work. Employee engagement draws out a deeper commitment from employees so sick absences reduce, conflicts and grievances go down, and productivity increases (Hyeung,& Matusik, 2016). Employee engagement refers to organization actions that are consistent with the organization's values. Employee engagement also refers to kept promises or an explanation as to why promises are broken (Hyeung &Matusik, 2016). Organizations have changed their approach from being authoritarian to guiding and mentoring (Pandita & Singhal, 2017).

To survive and gain a competitive advantage in this rapidly changing environment, organizations have been placing more importance on their workforce (Karumuri, 2016). An engaged workforce will always provide a competitive advantage over rivals (Karumuri, 2016). Engaged employees are the ‘backbone of good working environments where people are industrious, ethical and accountable' (Karumuri, 2016). The EE concept initiator, Kahn (1990) defined engagement as "harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances" (p. 694). Kahn asserts engagement as a psychological presence at work (Kahn, 1990, 1992).

Employees play a vital role in managing the organizational effectiveness and depict the real picture of an environment and culture (Jha & Kumar, 2016). EE may be described as a two-way process between employees and an organization (Jha & Kumar,

2016). Focusing on OC is a strategy to enhance the productivity and performance of an employee; it is also a process to ensure the commitment and contribution of an employee towards accomplishing the goals and values of the organization. The organization must work to develop engagement of employees which encourages and motivates them to create positive behaviors which in turn will enable them to increase their performance to meet the objectives of an organization (Jha & Kumar, 2016).

Employee engagement has become one of the focus areas for organizations due to likely outcomes associated with it according to Yadav (2015). Engagement is perceived to promote employee performance and overall business growth (Yadav, 2015). The study by Yadav (2015) tries to understand the relationship between organizational support and engagement among academics across India. Engagement levels concerning gender were analyzed as well. Perceived organizational support (POS) was shown to strongly correlate and predict employee engagement (Yadav, 2015).

Organizational Climate

Hyeung and Matusik, (2016) took a multilevel approach to analyze the mechanisms that connect organizational climate and employee behavior. Using multisource data from 105 managers and 39 CEOs they found that innovative climate was positively related to employee creative behavior. In addition, the relationship between innovative atmosphere and passion for inventing was stronger as proactive climate increased. This study contributes to NPO research by highlighting the effects of various organizational climates on employee creative behavior (Hyeung & Matusik, 2016). The concept of organizational climate was formally introduced by the “human

relationists" in the late 1940s (Piaget, 1980). Organizational climate is also referred to as the "situational determinants" or "environmental determinants" which affect the human behavior (Piaget, 1980).

Organizational culture and organizational climate have been used interchangeably in the existing research. Some fundamental differences between these two terms do exist. According to Bowditch and Buono (2016), there is a connection between the nature of beliefs and expectations about organizational life, as climate is an indicator of whether these beliefs and expectations are being fulfilled. According to Schaufeli (2016), since no interaction effects have been observed it means that personality and organizational climate have an independent but also specific impact on both forms of massive work investment.

According to Forehand and Von Haller (1964), "Climate consists of a set of characteristics that describe an organization, distinguishing it from other organizations and are relatively enduring over time and influence the behavior of people in it." According to Sells (1988), "Organizational climate can be defined as a set of attributes specific to a particular organization that may be induced by the way that organization deals with its members and its environment. For the individual members within the organization, climate takes the form of a set of attitudes and experiences which describe the organization concerning both static characteristics (such as the degree of autonomy) and behavior outcome and outcome-outcome contingencies". The challenge in acquiring knowledge about the relationship between EE and OC, according to Chiavenato (2003), is the psychological and social environment that exists in an organization and influences

its members' behavior. This behavior is affected by many factors, such as leadership styles, organizational structure, and motivational strategies amongst others.

Gurpreet and Kuldeep (2015) produced a strong positive correlation between the overall organizational climate and organizational employee behavior ($r = 0.690$, $p < 0.01$). From this they were able to conclude that there is a significant positive relationship between organizational climate and employee behavior and thus they rejected the null hypothesis that states that there would be no significant relationship between organizational climate and employee behavior. When employees of the organization continuously perform beyond their job duties, they help in improving the overall functioning of the organization and to encourage other employees to duplicate this behavior (Gurpreet & Kuldeep K 2015). Organizations are continuously focusing on various determinants that support such behavior (Maamari & Messarra, 2012). Prosperous organizations need their employees to perform more than their usual job responsibilities, and this can be possible if the environment at the workplace is supportive and conducive to them (Maamari & Messarra, 2012).

Ötkena and Cenkcib (2015) conducted a study that examined which personality traits explain the amount of variance in organizational dissent and whether organizational climate has a moderating role on the relationship between organizational dissent. A convenience sampling was used, and 527 Turkish participants completed the survey questionnaire. They showed that conscientiousness, agreeableness, and openness to experience personality traits explain the variance in upward dissent. Overall, their results support the association between employee dissent and the partial moderating role of

organizational climate in this relationship. Organizations may utilize the results of their efforts to create an organizational climate that supports employees. Unit-level engagement represents the extent to which organizational members collectively invest their energies (physical, emotional, and cognitive) in their interdependent work (Parke, 2014). Parke (2014) argues that climate types influence unit productivity through their effects on collective engagement and added that strong climates are analogous to tough situations which affect performance outcomes.

Non-Profit Organizations

Professionalization in NPOs is the implementation of business strategies and the use of tools to help entities become market oriented (Dobrai & Farkas, 2016). Professionalization from the perspective of organizational sciences has become a current topic concerning nonprofit organizations (Dobrai & Farkas, 2016). According to Dobrai & Farkas, (2016), there is a medium-strength positive relationship between the age of the organization and the number of full-time employees, which implies that older organizations have a higher number of full-time employees.

According to Langer & LeRoux (2016) NPOs have historically been seen as the head of U.S. civil society, supplying places for innovation and change to flourish. They surmise that the Competing Values Culture Framework (CVCF), a developmental organizational culture, may help organizations respond to changes in their operating environments such as fostering external support, acquiring resources, and spurring growth. Furthermore, they suggest that nonprofit directors see organizational culture as more than a phenomenon. Finally, they present findings indicating that executive

directors perceive there to be a positive and significant relationship between developmental culture and effectiveness of their organization.

Langer & LeRoux (2016) describe NPOs as an integral part of the fabric supporting civil society in American life. They propose that NPO's often act as agents of democracy, encourage involvement and act as agents of the public interest. Today, the operating environments of NPOs are more complicated than ever (Langer & LeRoux, 2016). Reductions in philanthropic donations, cuts in government spending, and an expanded need for human services have challenged NPOs to search for new ways to respond to environmental demands (Young, Salamon, & Grinsfelder, 2012).

According to economic theory, managers make decisions to distribute resources based on marginal analysis, regardless of how such allocations influence performance measures (Kitching & Smith, 2012).

UWES and Its Relation to Vigor, Absorption, and Dedication

In this study, the UWES-17 will be used. The UWES-17, a self-administered assessment, takes 5 to 10 minutes to complete. Schaufeli et al. (2002) developed the UWES-17, a 17-item assessment with three subscales (Vigor, Absorption, and Dedication) using a 7-point Likert like scale. According to Schaufeli and Bakker (2003), high scores on the Vigor subscale are indicative of employees with high stamina and zest; low scores indicate employees whose energy level for work is low. High scores on the Dedication subscale indicate employees who find meaning in their work and are enthusiastic and proud of their work; low scores are indicative of employees who do not see their work challenging. High scores on the Absorption subscale indicate employees

who get lost in their work, and they lose track of time; low Absorption scores are indicative of employees who can quickly detach from what they are doing. The three subscales of Vigor, Dedication, and Absorption on the UWES-17 are correlated and have been found to have stability over time.

Summary

The findings of this study will have implications for the previous results. This paper will build upon the existing research by expanding the literature to include NPOs. Kahn's research provided a detailed approach to yield a grounded theoretical framework. Kahn's framework was designed to illustrate how psychological experiences of work shape the practices of people during task performances.

Chapter 3: Research Method

Introduction

In developing the theoretical framework for this study, I drew from Kahn's (1990) engagement theory. Past researchers have suggested that a relationship exists between EE and other factors such as stress and job satisfaction (Schaufeli & Bakker, 2003). Though those relationships have been verified (Schaufeli & Bakker, 2003) researchers have not yet examined how OC connects to EE, according to my review of the literature. To maximize resources and operate effectively and efficiently, organizations need to have an engaged workforce (Seymore and Geldenhuys (2018); therefore, I investigated the relationship between OC and the dependent variable of EE of employees who work for NPOs as well as their age and the division within the NPO in which they worked.

Research Design and Rationale

This study consisted of a quantitative, nonexperimental design using a survey methodology. According to deductive logic, a theory is formed, followed by a hypothesis, data collection, and a conclusion (Creswell, 2003). I used the OCM (Patterson et al. (2005) to assess the independent variable OC and the UWES-17 (Schaufeli & Bakker, 2003) to evaluate the dependent variable EE. The research design was appropriate because it allowed me to establish whether a relationship existed between EE and multiple predictor variables. Quantitative researchers use a top-down deductive approach.

Methodology

Population

The NPO employed over 500 individuals at the time of the study. The participants in this study were representative of the population drawn. The employees ranged between 18 and 60 years of age; the number of years of service spanned 0 to more than 40 years. and they represented all divisions within the NPO. The organization has an ethically, racially, and professionally diverse pool of part-time and full-time male and female employees.

Sampling and Sampling Procedures

I conducted a power analysis using G*Power software to determine the appropriate sample size for the study. An a priori power analysis, assuming a two-tailed, fixed-model, single regression coefficient medium effect size ($f^2 = .15$), $\alpha = .05$, indicated that with five predictors, a minimum sample size of 91 participants would be required to achieve a power of .80. G*Power software is used in accurately conducting a priori, compromise, criterion, post hoc, and sensitivity analyses (Faul, Erdfelder, Buchner, & Lang, 2009).

I relied upon data drawn from employees of a nonprofit social service agency. All employees were full-time direct care staff. This meant that during the majority of each work shift they were in direct contact with the clients served. This organization was selected because of my affiliation with the organization. The organization's revenue is generated from grants and federal funding. With donors limiting the funds available to the NPO, and with federal requirements for funding becoming more stringent, funders

and other financial stakeholders asked the organization to create a more efficient business model, reduce costs, and identify revenue-generating opportunities.

Procedures for Recruitment, Participation, and Data Collection

I obtained data from a sample of employees of a midsized, New York social service NPO. Data were gathered over 90 days. Participants were asked to complete all questions from the UWES-17 and OCM. The research met three considerations of an appropriate research design as described by Creswell (2003): (a) the knowledge or claims that were made by the researcher, (b) the ways in which the strategies used informed the procedure, and (c) the process to collect the data and analyze the target population.

I sent the CEO of the organization a letter by e-mail explaining the purpose of the study and requesting permission to survey the employees of the agency. The survey questions came from two instruments that had been statistically validated previously (Schaufeli et al. 2002, Patterson et al. 2005). I designed the survey to allow only one response per participant. SurveyMonkey was used to administer the study. The survey questions were based upon a 4-point Likert scale of 1 to 4 (OCM) and a 7-point Likert scale of 0 to 6 (UWES). The OCM assessed OC, and the UWES-17 assessed EE. After obtaining permission from the CEO and Walden University's Institutional Review Board, and after receiving the e-mail addresses of the participants from the human resource director, an e-mail with a link to the survey was sent to all division employees to explain the study and solicit their participation.

Instrumentation and Operationalization of Constructs

Demographic questions. In order to help protect the identity of the respondents, and at the request of the NPO, I limited demographic-related questions to age and division of the respondent.

Utrecht Work Engagement Scale-17 (UWES). I incorporated questions from the UWES-17 in the survey I developed. The UWES-17, a self-administered assessment, takes 5 to 10 minutes to complete. Schaufeli and Bakker (2003) developed the UWES-17, a 17-item assessment with three subscales (Vigor, Absorption, and Dedication) using a 7-point Likert like scale of 0 (*never*), 1 (*almost never*), 2 (*rarely*), 3 (*sometimes*), 4 (*often*), 5 (*very often*), and 6 (*always*). According to Schaufeli and Bakker, vigor is manifested as constant levels of high energy and stamina when working. Individuals who are absorbed in their work find it difficult to detach from the job, and they typically lose track of time (Schaufeli & Bakker, 2003). According to Schaufeli and Bakker, high scores on the Vigor subscale are indicative of employees with high stamina and zest; low scores indicate employees whose energy level for work is low. High scores on the Dedication subscale indicate employees who find meaning in their work and are enthusiastic and proud of their work; low scores are indicative of employees who do not see their work challenging (Schaufeli & Bakker, 2003). High scores on the Absorption subscale indicate employees who get lost in their work and lose track of time; low absorption scores are indicative of employees who can quickly detach from what they are doing (Schaufeli & Bakker, 2003). The three subscales of Vigor, Dedication, and Absorption on the UWES-17 are correlated and have been found to have stability over time (Schaufeli & Bakker,

2003). According to Schaufeli and Bakker, the three-factor structure of the instrument is superior to the one-factor structure in measuring EE.

Organizational Climate Measurement (OCM). Patterson et al. (2005) developed the OCM by identifying the dimensions of OC most often used between 1960 and 2000 that fit within a competing values model. The OCM has 17 scales with acceptable levels of validity and reliability (Patterson et al., 2005). The OCM has been tested in 55 manufacturing organizations ranging in size from 60 employees to 1,929 employees (Patterson et al., 2005). Each item on the OCM has four possible responses on a Likert scale of 1 (*positively false*), 2 (*mostly false*), 3 (*mostly true*), and 4 (*definitely true*). The OCM was designed to address conceptual and methodological issues. The HR quadrant has six subscales: Autonomy, Integration, Involvement, Supervisory Support, Training, and Welfare; the Internal Process quadrant has two subscales: Formalization and Tradition; the Open Systems quadrant has four subscales: Innovation, Flexibility, Outward Focus, and Reflexivity; and Rational Goal has six subscales: Clarity of Organizational Goals, Efficiency, Effort, Performance Feedback, Pressure to Produce, and Quality (Patterson et al., 2005). Using the entire OCM in this study provided a benchmark for measuring the global aspects of OC objectively.

Data Analysis Plan. Multiple linear regressions were used to assess the influence predictor variables such as the EE subfactors vigor, dedication, and absorption, and age and working division have on the criterion variable OC. Data was collected over 90 days. Questions from the OCM assessed the criterion variable of OC. Questions from the UWES-17 evaluated the predictor variables within the EE. The research design was

appropriate because it established the degree to which a relationship existed between the multiple predictor variables and EE. After data collection, data was exported from SurveyMonkey to SPSS and JMP for analysis.

The following research questions and hypotheses guided this study.

RQ1: What is the relationship between OC and EE, in a NPO, and is age or division within the NPO a factor?

$H_0$1: There is no relationship between OC, as measured by the Organizational Climate Measurement (OCM), and EE, as measured by the Utrecht Work Engagement Scale (UWES-17) in nonprofit organizations.

$H_1$1: There is a relationship between OC, as measured by the OCM, and EE, as measured by UWES-17, in nonprofit organizations.

RQ2: Does vigor impact the relationship between OC and EE, and, if so, is it influenced by age or division within the NPO?

$H_0$2: Vigor has no impact on the relationship between OC and EE, as measured by the UWES-17.

$H_1$2: Vigor has an impact on the relationship between OC and EE, as measured by the UWES-17.

RQ3: Does dedication have an impact on the relationship between OC and EE and is age or division within the NPO a factor?

$H_0$3: Dedication has no impact on the relationship between OC and EE, as measured by the UWES-17.

$H_1$3: Dedication has an impact on the relationship between OC and EE, as measured by the UWES-17.

RQ4: Does absorption have an impact on the relationship between OC and EE, and, if so, is it influenced by age or division within the NPO?

$H_0$4: Absorption has no impact on the relationship between OC and EE, as measured by the UWES-17.

$H_1$4: Absorption has an impact on the relationship between OC and EE, as measured by the UWES-17.

Threats to Validity

Threats to validity are results exhibiting behavior that would preclude use of multiple linear regression. This will include factors such as multicollinearity between variables, where two variables exhibit such similar behavior that the model cannot decide which one is more important and the end result is the erroneous conclusion that neither are important. Another potential problem is that of heteroschodastic data, in which the residual plots of the predicted data versus the actual data show pattern and do not follow a normal distribution. This is a sign on non-linearities in the data and so linear regression will not be appropriate. I will examine for these effects.

Ethical Procedures

This study complied with all ethical guidelines established by the American Psychological Association (APA) and Walden University. Before collecting any data, Walden University's Institutional Review Board granted the researcher permission to conduct this study. Schaufeli and Bakker's (2003) UWES-17 was used to measure the

dependent variable of EE, and Patterson et al.'s (2005) OCM was used to measure the individuals' perceptions of OC. The participants were made aware that their participation in the study was completely voluntary and that they could withdraw from the study at any time. No information provided by the respondents could identify them. All employees were invited to participate. To ensure the confidentiality and security of the data, all participant information was collected anonymously, and no incentives were offered. All of the original research documents were stored in a secure location. The consent statement identified the risks and the benefits associated with participating in the study. The participants were informed that the researcher would not divulge their names or their raw data to anyone.

Summary

In Chapter 3, the research design and approach were discussed, along with the sample, sampling frame, instruments, and materials used in this study. The methodology used to analyze the data, the tools and the psychometric properties of the devices were explained in this chapter. The findings from the analysis are discussed in Chapter 4, and the results and their implication for social change are presented in Chapter 5.

Chapter 4: Results

Introduction

In this chapter, I present the results of the survey and how I used them to answer the RQs. The descriptive statistics and raw data summary are given, followed by a description and justification of the statistical methodologies used to answer the four RQs along with results of these analyses.

Data Collection

The survey questions came from two instruments that had been statistically validated previously – the UWES-17 and the OCM (Schaufeli et al. 2002, Patterson et al. 2005). I designed the survey to allow only one response per participant. SurveyMonkey was used to administer the study, which was conducted over a 90-day period.

Sample Description

The only descriptive statistics used in this study were the age bracket of the participants and the division in which they worked. These statistics are summarized in Table 1. There was a total of 116 respondents, the highest proportion of whom were in the 31-40 age bracket (n = 55; 47%), followed by the 21-30 bracket (n = 31; 27%). The 41-50 age bracket comprised 17% of the respondents (n = 20) while the 51-60 age bracket accounted for 8% (n = 9). A single respondent was less than 21 years of age (1%).

The majority of the respondents completing the survey worked on Main Campus (n = 49; 42%), while 32 (28%) worked within the community. A total of 30 respondents

(26%) worked in the mental health division (MHD) location, while five were employed within the AELC location (4%).

Research Questions and Hypotheses Testing

I used the data collected from the NPO employees to answer the four RQs and to either accept or reject their associated null hypotheses. The results of the UWES-17 and the OCM surveys were compiled and used to predict if relationships existed between OC and EE in the NPO and if factors such as age, division, or the EE subfactors vigor, dedication, and absorption impacted these relationships. In the following sections, I will examine each of the RQs in turn.

Table 1

Descriptive Statistics Summarizing the Age Bracket of the Survey Respondents and the Divisions in Which They Work

Respondent age bracket and division	*n*	%
Age bracket		
< 21	1	1%
21-30	31	27%
31-40	55	47%
41-50	20	17%
51-60	9	8%
Division		
AELC	5	4%
Community	32	28%
Main Campus	49	42%
MHD	30	26%
Total	116	100%

Results

Research Question and Hypothesis 1

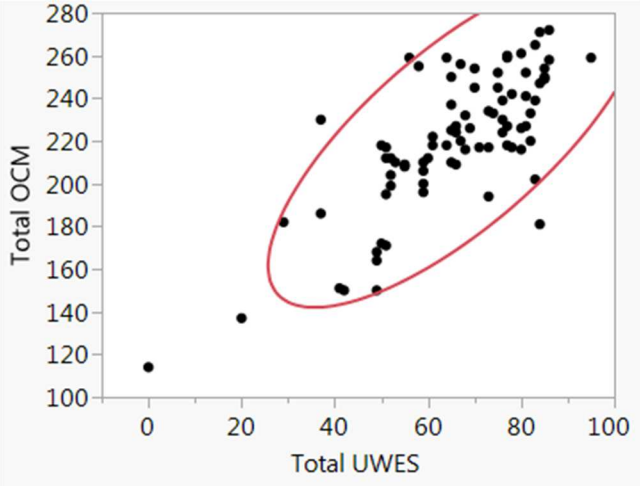
RQ1: What is the relationship between OC and EE in nonprofit organizations, and is age or division within the NPO a factor?

$H_0$1: There is no relationship between OC, as measured by the Organizational Climate Measurement (OCM), and EE, as measured by the Utrecht Work Engagement Scale (UWES-17) in nonprofit organizations.

$H_1$1: There is a relationship between OC, as measured by the OCM, and EE, as measured by UWES-17, in nonprofit organizations.

I measured the first question using a simple bivariate fit of the data between these two variables. The results of the bivariate fit of EE and OC are presented in Figure 1. The R-squared value for the linear fit was observed to be 0.565. The p-value was found to be < .0001, rejecting the null hypothesis that there was no relationship between EE and OC. The correlation coefficient was found to be 0.75, and, thus, a positive correlation as is clear from the plot was confirmed. Thus, I concluded that there is a linear, positive relationship between EE and OC.

Figure 1. Bivariate fit of total scores from the UWES survey versus total scores from the



OCM survey used to evaluate the relationship between EE and OC in the NPO. The red ellipse denotes the 95% confidence limits for the data.

Next, I wished to determine if age bracket or the division in which the respondents worked influenced this relationship. In order to accomplish this objective, I used multiple linear regression to attempt to fit the dependent variable total OCM score using the independent predictor variables age bracket and total UWES score. Note that age bracket is a categorical variable, and so it was assigned a code to represent the different age brackets. The results of the regression analysis are presented in Table 2 and the corresponding prediction equation in Figure 2. The p-values shown in the Prob > t column are fairly large for the age brackets, ranging from .3712 to .6427. Thus, the null hypothesis that age bracket has no effect on the regression was upheld. However, the p-values for both the intercept and the total UWES scores were < .0001, which meant that the null hypothesis was rejected and thus both the intercept and total UWES are highly

significant. Finally, the adjusted R-squared value indicated that the model explained 55% of the variance in the data.

Table 2

Results of linear regression analysis fitting total OCM with the variables total UWES (EE) and age bracket.

Term	B	Std Error	t Ratio	Prob>|t|	Lower 95%	Upper 95%
Intercept	121.047	10.481	11.55	<.0001*	100.188	141.906
Age bracket [21-30]	3.817	4.245	0.90	0.3712	-4.630	12.265
Age bracket [31-40]	2.840	3.938	0.72	0.4728	-4.996	10.678
Age bracket [41-50]	-2.252	4.837	-0.47	0.6427	-11.879	7.3739
Age racket [51-60]	-4.405	7.002	-0.63	0.5311	-18.341	9.530
Total UWES	1.489	0.147	10.13	<.0001*	1.196	1.781
Notes	R-squared = 0.572; R-squared adjusted = 0.551					

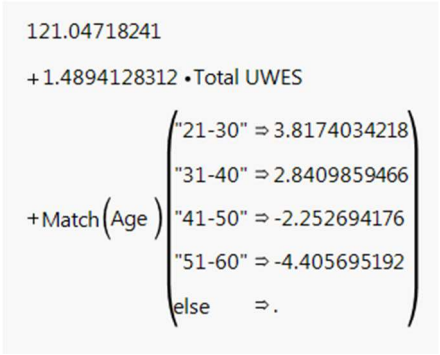


Figure 2. Prediction equation from regression model summarized in Table 2 fitting total OCM with the variables total UWES (EE) and age bracket.

Next, I wished to determine if the division in which the respondents work had an effect on the relationship between organizational climate and employee engagement. I used a similar procedure to account for the categorical nature of the divisional data. The results are presented in Table 3 and the prediction equation is presented in Figure 3. Again, the low p-values for the intercept and the total UWES scores ($p < .0001$) indicated they were highly significant in the model. However, the p-values for the divisional factors were all substantially greater than 0.05 indicating they were not significant in the model. Again, adjusted R-squared value explained roughly 55% of the variance in the data. Thus, I concluded that the division in which the respondents work bared no influence on the overall relationship between organizational climate and employee engagement. Thus, the results of the survey have led to the answer to the first research question. There was a strong positive correlation between organization climate and employee engagement and so null hypothesis H_{01} was therefore rejected. However, age bracket or the division in which the employees work did not influence this relationship.

Table 3

Results of linear regression analysis fitting total OCM with the variables total UWES (EE) and division.

Term	B	Std Error	t Ratio	Prob>|t|	Lower 95%	Upper 95%
Intercept	126.552	11.764	10.76	<.0001*	103.139	149.964
Total UWES	1.441	0.171	8.39	<.0001*	1.099	1.783
AELC	2.589	7.558	0.34	0.7328	-12.451	17.631
Community	1.916	4.346	0.44	0.6604	-6.733	10.566
Main Campus	-1.696	4.279	-0.40	0.6929	-10.213	6.820
MHD	-2.810	5.072	-0.55	0.5811	-12.904	7.283
Notes	R-squared = 0.569; R-squared adjusted = 0.548					

$$126.55199909 + 1.4414983989 \cdot \text{Total UWES} + \text{Match}\left(\text{Division}, \begin{cases} \text{"AELC"} & \Rightarrow 2.5899142711 \\ \text{"Community"} & \Rightarrow 1.9165306205 \\ \text{"Main Campus"} & \Rightarrow -1.696115531 \\ \text{"MHD"} & \Rightarrow -2.810329361 \\ \text{else} & \Rightarrow . \end{cases}\right)$$

Figure 3. Regression equation for OCM from the regression analysis in Table 3 fitting total OCM with the variables total UWES (EE) and division.

Research Question and Hypothesis 2-4

In this section I used the results of the survey to answer research questions 2-4 and either verify or reject the null hypotheses. These research questions revolved around the three subfactors of the UWES survey probing employee engagement: vigor, dedication and absorption. Multiple linear regression analyses were used to provide the answers to all three questions.

RQ2: Does vigor impact the relationship between OC and EE, and, if so, is it influenced by age or division within the NPO?

$H_0$2: Vigor has no impact on the relationship between OC and EE, as measured by the UWES-17.

$H_1$2: Vigor has an impact on the relationship between OC and EE, as measured by the UWES-17.

RQ3: Does dedication have an impact on the relationship between OC and EE and is age or division within the NPO a factor?

$H_0$3: Dedication has no impact on the relationship between OC and EE, as measured by the UWES-17.

$H_1$3: Dedication has an impact on the relationship between OC and EE, as measured by the UWES-17.

RQ4: Does absorption have an impact on the relationship between OC and EE, and, if so, is it influenced by age or division within the NPO?

$H_0$4: Absorption has no impact on the relationship between OC and EE, as measured by the UWES-17.

$H_1$4: Absorption has an impact on the relationship between OC and EE, as measured by the UWES-17.

The second research question I wished to answer was whether the UWES subfactor vigor influenced the positive linear relationship found between OC and EE in the answer to the first research question, and furthermore, if age and/or division impacted this relationship. The methodology was similar to that used for RQ1, multiple linear regression was used to attempt to fit the dependent variable total OCM score, but in this instance rather than using the total UWES score, I broke it down into its three subfactors instead: vigor, dedication and absorption. By doing so allowed the answers to research questions 3 and 4 to be determined, which asked if dedication and absorption also influenced the relationship between organization climate and employee engagement.

The results are provided in Table 4 and the resulting prediction equation is shown in Figure 4. Examining the p-values, I quickly ascertained that the significant components of the model are the intercept ($p < 0.001$) and the variable vigor subfactor ($p = .0004$). The adjusted R-squared value indicated that this model accounted for approximately 57% of the variance in the data.

However, I learned a bit more about the model by taking a closer look at the standardized beta coefficient column, which is a measure of the strength of the effect of each individual independent variable to the dependent variable. Not surprisingly, as I had already determined that vigor was a significant component of the model, it had the highest standardized beta coefficient. I also noted that this same coefficient for the absorption subfactor was very small. Perhaps its inclusion was leading to an overfit of the

data and so I attempted to build a better model by omitting it. The results of this action are shown in Table 5, with the prediction equation given in Figure 5.

Table 4

Results of linear regression analysis fitting total OCM with the UWES (EE) subfactor variables vigor, dedication and absorption.

Term	B	t Ratio	Prob>|t|	Lower 95%	Upper 95%	Std Beta
Intercept	131.189	12.77	<.0001*	110.744	151.634	0
Vigor	2.856	3.69	0.0004*	1.317	4.396	0.592
Dedication	0.778	0.83	0.4104	-1.093	2.650	0.128
Absorption	0.397	0.50	0.6163	-1.174	1.9688	0.066
Notes	R-squared = 0.584; Adjusted R-squared = 0.569					

Figure 4. Prediction equation for the regression model outlined in Table 4 fitting total OCM with the UWES (EE) subfactor variables vigor, dedication and absorption.

Table 5

Results of linear regression analysis fitting total OCM with the UWES (EE) subfactor variables vigor and dedication only.

Term	Estimate	t Ratio	Prob>|t|	Lower 95%	Upper 95%	Std Beta
Intercept	133.287	14.37	<.0001*	114.851	151.723	0
Vigor	2.827	4.20	<.0001*	1.489	4.165	0.593
Dedication	1.143	1.33	0.1866	-0.564	2.850	0.188
Notes	R-squared = 0.582; Adjusted R-squared = 0.572					

$$133.28765264 + 2.827258885 \cdot \text{Vigor} + 1.1434491869 \cdot \text{Dedication}$$

Figure 5. Prediction equation for regression model described in Table 5 fitting total OCM with the UWES (EE) subfactor variables vigor and dedication only.

I noted that the effect of omitting the absorption subfactor variable had little effect on the R-squared value or the adjusted R-squared value, which remained at ~57%. The p-values for the intercept and the variable subfactor vigor were both <.0001 and so remained highly significant. The p-value for the dedication subfactor variable reduced significantly from p = .4104 to p = .1866, but that was still sufficiently high to uphold the null hypothesis that dedication did not have a significant impact on organizational climate. Thus, it appears that of the three UWES subfactor variables, only vigor had an impact on the organizational climate. One more test was performed to be completely thorough with this analysis. With this type of standard multiple linear regression, the model was calculated *and* verified for its accuracy using the same set of data. Another

approach to looking at this question is to withhold a random proportion of the data from the model calculation and use only that proportion to test and verify the model. Table 6 shows the results of a linear regression using only the EE subfactor vigor and using just 70% of the dataset, with the corresponding prediction equation given in Figure 6.

Table 6

Results of linear regression analysis fitting total OCM with a random 30% of the UWES (EE) subfactor variables vigor, dedication and absorption data withheld for subsequent validation testing.

Term	Estimate	t Ratio	Prob>|t|	Lower 95%	Upper 95%	Std Beta
Intercept	132.182	14.47	<.0001*	113.907	150.457	0
Vigor	3.953	10.14	<.0001*	3.173	4.734282	0.797
Notes		R-squared = 0.635; Adjusted R-squared = 0.629				

Figure 6. Prediction equation for regression model described in Table 6 fitting total OCM with a random 30% of the UWES (EE) subfactor variables vigor, dedication and absorption data withheld for subsequent validation testing.

A plot of the OCM score versus the predicted OCM score is shown in Figure 7a. The shaded area represents the 95% confidence intervals for the model and the R-squared value of 0.635 is noted. Figure 7b displays the residual plot for the model, where the

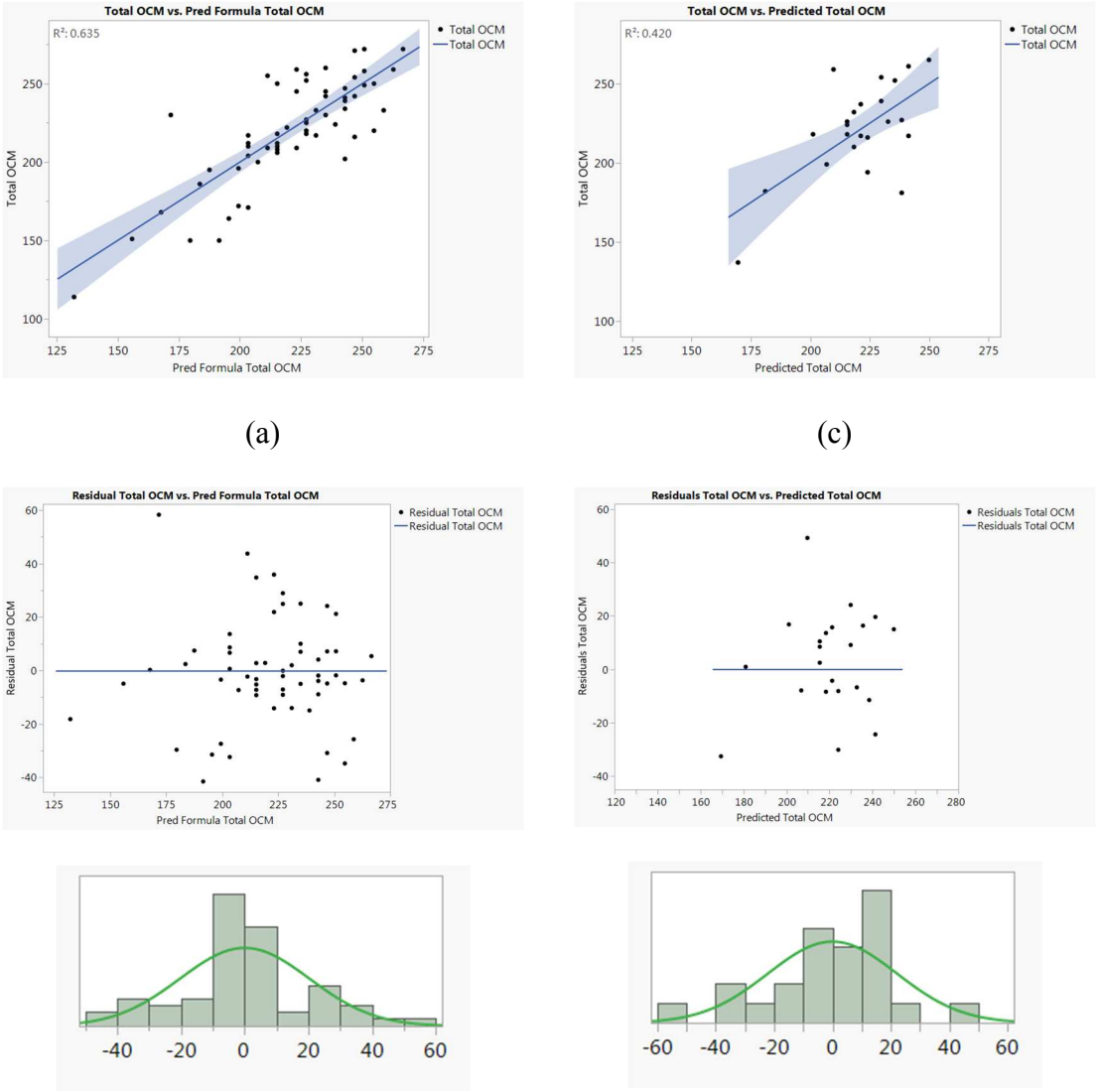


Figure 7. Comparison and validation of linear regression model using a 30% withholding of the data for validation. (a) Total OCM versus predicted OCM score for model using 70% of the data. (b) Residual plot and residual distribution for the model (c) Validation of the model using remaining 30% of the data. Total OCM versus predicted OCM (d) Residual plot and residual distribution for the validation.

residuals (the difference between the predicted OCM score and the actual OCM score) are plotted against the predicted OCM score. The hallmark of a good linear regression fit is a random distribution of the residuals with no discernible pattern, and that the distribution of the residuals should approximate a normal distribution, which they do as demonstrated by the histogram plot of the residuals and fitted normal curve also shown in Figure 7b. Thus, I was confident that the model using only 70% of the data was quite satisfactory. I took the remaining 30% of the data that was not used to create and fit the above model and applied it using the derived prediction expression. The OCM versus predicted OCM is shown in Figure 7c and looks very similar to that shown in Figure 7a except for a broader definition of the 95% confidence intervals, which would be expected for the fewer number of data points. The residual plot and residual histogram confirm that the linear regression model is good (Figure 7d). Thus, I concluded from this more vigorous test that only the UWES subfactor vigor had an impact on the organizational climate.

I followed by investigating whether age bracket or division in which the respondents work influenced the relationship of the UWES subfactor vigor with the total OCM score. I began by using multiple linear regression modelling with all three of the UWES subfactors and the two categorical factors and eliminated any variables that were found not to be significant. The results of this first attempt are shown in Table 7, and the prediction equation is shown in Figure 8 . The high p-values for the various divisions suggested that they can be the removed first from the model. The results of this action are presented in Table 8 with the prediction equation given in Figure 9. Comparing the p-

values of the variables in Table 8 and comparing them to those in Table 7, the significance of the age bracket variables had only increased marginally and remained insignificant (all with p = 0.35 or greater). They were therefore removed from the model and the model thus returned to the same model examined in RQ2, where the conclusion was that only the employee engagement subfactor vigour had an impact on the organizational climate. Thus, I concluded that neither age bracket nor division in which the respondents worked had an impact on the relationship between vigour and the organization climate. I also posed the research questions the other way. That is, what is the effect of organizational climate on employee engagement. Linear regression was again used, but in this case the dependent variable was the total UWES score, and the independent variables were the four subfactors of the OCM score: human resources, open systems, rational goal and internal process. The results of the linear regression model probing this question are given in Table 9 while the prediction equation is given in Figure 10. From the results in Table 9, I observed that in the present model, only rational goal had a significant impact (p = 0.0344). I thus eliminated non-significant factors from the model such as internal process (p=0.4104) and human resources (p=0.2664). The results after this exercise are given in Table 10. Now both the open systems subfactor (p = .0072) and the rational goal factor (p = .0017) are both highly significant and the R-squared value has been impacted very little indicating that these variables explain the 55% of the variability in the data. I thus concluded that these organizational climate quadrants have an impact on employee engagement.

Table 7

Results of linear regression analysis fitting total OCM with the three UWES (EE) subfactors vigor, dedication and absorption along with age bracket and working division.

Term	B	Std Error	t Ratio	Prob>|t|	Lower 95%	Upper 95%
Intercept	129.065	13.241	9.75	<.0001*	102.686	155.444
Age bracket [21-30]	3.897	4.324	0.90	0.3704	-4.718	12.513
Age bracket [31-40]	1.702	4.123	0.41	0.6808	-6.510	9.916
Age bracket [41-50]	-1.074	5.051	-0.21	0.8321	-11.138	8.989
Age bracket [51-60]	-4.525	7.168	-0.63	0.5298	-18.805	9.755
AELC	1.200	7.767	0.15	0.8776	-14.272	16.673
Community	0.025	4.552	0.01	0.9955	-9.042	9.093
Main campus	-0.719	4.396	-0.16	0.8705	-9.478	8.040
MHD	-0.507	5.503	-0.09	0.9268	-11.469	10.455
Vigor	2.792	0.885	3.15	0.0023*	1.028	4.556
Dedication	0.834	1.012	0.82	0.4124	-1.182	2.850
Absorption	0.457	0.863	0.53	0.5978	-1.262	2.177
Notes	R-squared = 0.590; Adjusted R-squared = 0.541					

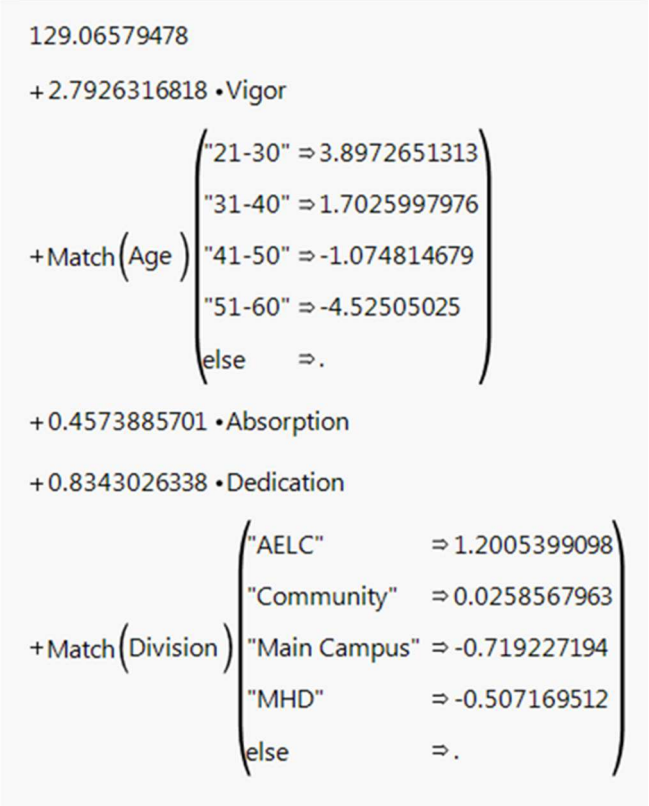


Figure 8. Prediction equation for the regression model described in Table 7 fitting total OCM with the three UWES (EE) subfactors vigor, dedication and absorption along with age bracket and working division.

Table 8

Results of linear regression analysis after removing the division variable from the model summarized in Table 7.

Term	B	Std Error	t Ratio	Prob>|t|	Lower 95%	Upper 95%
Intercept	128.885	11.258	11.45	<.0001*	106.470	151.299
Age bracket [21-30]	3.961	4.214	0.94	0.3502	-4.429	12.351
Age bracket [31-40]	1.699	3.966	0.43	0.6696	-6.197	9.596
Age bracket [41-50]	-1.226	4.873	-0.25	0.8019	-10.929	8.475
Age bracket [51-60]	-4.433	6.965	-0.64	0.5263	-18.299	9.433
Vigor	2.830	0.788	3.59	0.0006*	1.260	4.400
Dedication	0.804	0.957	0.84	0.4031	-1.100	2.710
Absorption	0.440	0.825	0.53	0.5954	-1.203	2.084
Notes	R-squared = 0.590; Adjusted R-squared = 0.558					

$$
\begin{aligned}
&128.88514569 \\
&+2.8305861148 \bullet \text{Vigor} \\
&+\text{Match}\left(\text{Age},\ \begin{cases} \text{"21-30"} \Rightarrow 3.9610106014 \\ \text{"31-40"} \Rightarrow 1.6991627515 \\ \text{"41-50"} \Rightarrow -1.226893553 \\ \text{"51-60"} \Rightarrow -4.4332798 \\ \text{else} \Rightarrow . \end{cases}\right) \\
&+0.4403577928 \bullet \text{Absorption} \\
&+0.8047022304 \bullet \text{Dedication}
\end{aligned}
$$

Figure 9. Prediction equation for total OCM from regression model described in Table 8.

Table 9

Results of linear regression analysis fitting total UWES with the four OCM subfactors: human resources, internal protocol, open systems and rational goal.

Term	B	t Ratio	Prob>|t|	Lower 95%	Upper 95%	Std Beta
Intercept	-19.725	-1.50	0.1379	-45.917	6.467	0
Human Resources	0.220	1.12	0.2664	-0.171	0.611	0.184
Internal Process	0.400	0.83	0.4104	-0.562	1.364	0.067
Open Systems	0.547	1.68	0.0974	-0.102	1.196	0.282
Rational Goal	0.458	2.15	0.0344*	0.034	0.883	0.323
Notes	R-squared = 0.570; Adjusted R-squared = 0.548					

-19.72518983
+0.2201084519 •Human Resources
+0.400668794 •Internal Process
+0.5473873015 •Open Systems
+0.4588963009 •Rational Goal

Figure 10. Prediction equation for regression model described in Table 9 fitting total UWES with the four OCM subfactors: human resources, internal protocol, open systems and rational goal.

Table 10

Update of Table 8 results of linear regression analysis fitting total UWES with the four OCM subfactors after elimination of insignificant variables.

Term	B	t Ratio	Prob>|t|	Lower 95%	Upper 95%	Std Beta
Intercept	-11.033	-1.32	0.1903	-27.651	5.5848	0
Open Systems	0.700	2.76	0.0072*	0.195	1.205	0.360
Rational Goal	0.600	3.24	0.0017*	0.231	0.969	0.423
Notes	R-Squared = 0.562; Adjusted R-Squared = 0.552					

-11.03321404 +0.7003865524 •Open Systems +0.6006978095 •Rational Goal

Figure 11. Prediction equation for regression model described in Table 10 fitting total UWES with the four OCM subfactors after elimination of insignificant variables.

The categorical variables age bracket and division may also be added to the model to see if they influenced the effect of the open systems or rational goal quadrants (or the other quadrants for that matter) on employee engagement. The results of the regression with all variables incorporated are presented in Table 11 with the prediction equation shown in Figure 12. With all variables in the model I found a significant impact again for rational goal (p=.0018), but as well the main campus division (p = 0.0077), and thus decided to leave the categorical variable division in the model in further optimizations. I also observed that by including these categorical variables, the R-squared value had increased substantially to 0.67, indicating that the model now explained roughly two-thirds of the variability of the data.

Table 11

Results of linear regression analysis fitting total UWES with the four OCM quadrant subfactors: human resources, internal protocol, open systems and rational goal, as well as the categorical variables age bracket and division.

Term	B	Std Error	t Ratio	Prob>|t|	Lower 95%	Upper 95%
Intercept	-2.902	12.927	-0.22	0.8230	-28.661	22.856
Human Resources	-0.037	0.203	-0.19	0.8533	-0.442	0.367
Internal Process	0.1912	0.458	0.42	0.6776	-0.721	1.104
Open Systems	0.286	0.306	0.94	0.3518	-0.323	0.896
Rational Goal	0.709	0.218	3.24	0.0018*	0.272	1.145
Age Bracket [21-30]	-0.260	2.028	-0.13	0.8981	-4.303	3.781
Age Bracket [31-40]	-2.678	1.941	-1.38	0.1719	-6.546	1.190
Age Bracket [41-50]	-0.818	2.402	-0.34	0.7341	-5.605	3.967
Age Bracket [51-60]	3.757	3.328	1.13	0.2625	-2.874	10.389
AELC	2.107	3.596	0.59	0.5595	-5.057	9.273
Community	1.666	2.063	0.81	0.4218	-2.444	5.777
Main Campus	5.459	1.993	2.74	0.0077*	1.487	9.430
MHD	-9.233	2.517	-3.67	0.0005*	-14.249	-4.217
Notes	R-squared = 0.670; Adjusted R-squared = 0.625					

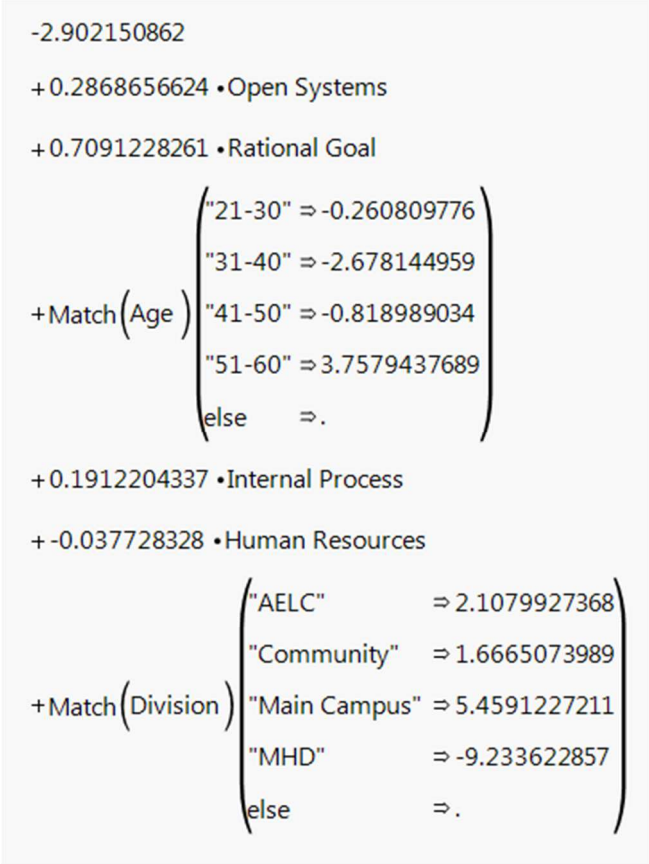


Figure 12. Prediction equation for regression model described in Table 11 fitting total UWES with the four OCM quadrant subfactors: human resources, internal protocol, open systems and rational goal, as well as the categorical variables age bracket and division.

Optimization of the model by successively dropping the insignificant variables led to the regression results presented in Table 12 and corresponding prediction equation in Figure 13. I now observed that the significant variables were rational goal ($p < .0001$) and division, in particular main campus ($p = .0019$) and MHD ($p < .0001$), while the R-squared value of the fit had not degraded significantly (0.670 to 0.645). When the

categorical variable division was introduced into the regression, the open systems variable became much less significant.

Table 12

Update of Table 11 results of linear regression analysis fitting total UWES with the four OCM subfactors along with age bracket and division after elimination of insignificant variables.

Term	B	Std Error	t Ratio	Prob>|t|	Lower 95%	Upper 95%
Intercept	-1.190	7.731	-0.15	0.8780	-16.564	14.183
Rational Goal	0.854	0.096	8.88	<.0001*	0.662	1.045
AELC	2.975	3.451	0.86	0.3911	-3.888	9.839
Community	1.310	1.965	0.67	0.5068	-2.598	5.219
Main Campus	5.923	1.842	3.21	0.0019*	2.258	9.588
MHD	-10.209	2.085	-4.90	<.0001*	-14.356	-6.062

Notes R-squared = 0.645; Adjusted R-squared = 0.628

$$-1.190663061 + 0.854150403 \bullet \text{Rational Goal} + \text{Match}\left(\text{Division}, \begin{pmatrix} \text{"AELC"} & \Rightarrow 2.9753105006 \\ \text{"Community"} & \Rightarrow 1.3105614062 \\ \text{"Main Campus"} & \Rightarrow 5.9235317564 \\ \text{"MHD"} & \Rightarrow -10.20940366 \\ \text{else} & \Rightarrow . \end{pmatrix}\right)$$

Figure 13. Prediction equation for regression model described in Table 12 fitting total UWES with the four OCM subfactors along with age bracket and division after elimination of insignificant variables.

Summary

In Chapter 4 I summarized the results of the survey as descriptive statistics. Multiple linear regression models were then applied to answer the research questions and pursue their corollaries to obtain additional information to further inform research in the field. I found a strong positive correlation between EE and OCM and thus the null hypotheses H_{01} was rejected. I further determined that neither age nor the division in which one worked influenced this relationship. Research question 2 asked if vigor impacted the relationship between OC and EE and if so, is it influenced by age or division within the NPO? Here I observed that vigor did have a significant impact on organizational climate and thus the null hypothesis H_{02} was rejected. It was also determined that age and division had no impact on this finding. Research questions 3 and 4 asked if the other two UWES subfactors, dedication and absorption, similarly had an influence on the relationship between OC and EE. In both cases, I found this not to be the case and thus both null hypotheses H_{03} and H_{04} were accepted. These results are summarized in Table 13.

When examining the research questions in reverse, that is, do the four OCM quadrant subfactors have any effect on employee engagement; I found that both open systems and rational goals were significant factors. Furthermore, when age bracket and division in which one worked were factored into the regression analysis, rational goal and division were found to have the strongest impact and the influence that open systems had in the original regression model reverted to being insignificant.

Table 13

Summary of hypothesis testing results.

Result of Hypothesis Testing	Statistical Significance
RQ1: There is a strong positive correlation between employee engagement and organization climate.	Rejected H_{01}
RQ2: The UWES subfactor vigor had a statistically significant influence on the organizational climate	Rejected H_{02}
RQ3: The UWES subfactor dedication had no statistically significant impact on the organizational climate	Accepted H_{03}
RQ4: The UWES subfactor absorption had no statistically significant impact on the organizational climate	Accepted H_{04}

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

I conducted this study to fill a gap in the research regarding the relationship between EE and OC in an NPO. The four RQs and their null hypotheses were

RQ1: What is the relationship between OC and EE in nonprofit organizations, and is age or division within the NPO a factor?

$H_0$1: There is no relationship between OC, as measured by the Organizational Climate Measurement (OCM), and EE, as measured by the Utrecht Work Engagement Scale (UWES-17) in NPOs.

RQ2: Does vigor impact the relationship between OC and EE, and if so, is it influenced by age or division within the NPO?

$H_0$2: Vigor has no impact on the relationship between OC and EE, as measured by the UWES-17.

RQ3: Does dedication have an impact on the relationship between OC and EE, and is age or division within the NPO a factor?

$H_0$3: Dedication has no impact on the relationship between OC and EE, as measured by the UWES-17.

RQ4: Does absorption have an impact on the relationship between OC and EE and if so, is it influenced by age or division within the NPO?

$H_0$4: Absorption has no impact on the relationship between OC and EE, as measured by the UWES-17.

To answer these questions, I administered an online survey to employees of an NPO. The NPO employed over 500 individuals at the time of the study, and the participants were representative of the population drawn. The employees ranged between 18 and 60 years of age and represented all divisions within the NPO. In total, 116 responses were gathered. An a priori power analysis, assuming a two-tailed, fixed-model, single regression coefficient medium effect size ($f^2 = .15$), $\alpha = .05$, indicated that with five predictors, a minimum sample size of 91 participants would be required to achieve a power of .80. Thus, the number of participants was more than sufficient to meet this criterion.

The survey was comprised of two established surveys used to measure EE and OC. The former, Schaufeli et al. (2002) UWES-17, was used to measure the dependent variable of EE and its subfactors vigor, dedication, and absorption. Patterson et al. (2005) OCM was used to measure participants' perceptions of OC and could be subdivided into four quadrants: internal process, human resources, open systems, and rational goal.

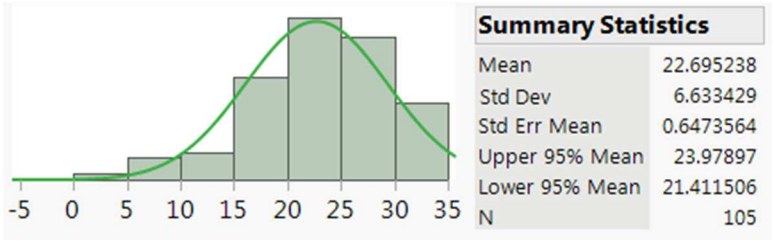
After recoding the inversely formulated questions on the survey, I analyzed the data using JMP software (www.jmp.com). I established the relationships between EE and OC and determined the impact of the EE subfactors on OC using multiple regression analysis. A strong positive correlation between EE and OC was observed, and thus the null hypothesis was rejected. Furthermore, neither age nor the division in which one worked influenced this relationship. RQ2 asked if vigor impacted the relationship between OC and EE, and if so, is it influenced by age or division within the NPO? In this case, results showed that vigor did indeed have a significant impact on OC, and thus the

null hypothesis was rejected. Additionally, neither age nor the division was found to be significant factors. In this particular multiple regression analysis, it was also observed that the EE subfactors dedication and absorption were statistically insignificant in the model and thus were not influencers of the OCM relationship. Thus, the null hypotheses for RQs 3 and 4 were accepted.

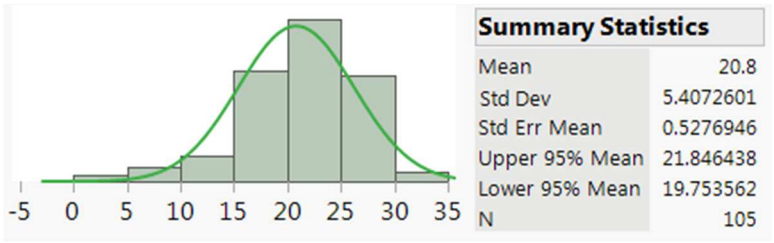
Interpretation of the Findings

Distribution of response data for the UWES subfactors vigor, dedication, and absorption are shown in Figures 14a-c., respectively. A curve representing a normal distribution has been fit to the data and shows that the data fits the normal distribution quite well, and thus no violations to this necessary criterion for linear regression are observed. A second necessary assumption for using linear regression models is that of homoscedasticity, which describes the situation in which the error term in the relationship between the independent variables and the dependent variable is the same across all values of the independent variables (Statistic Solutions, 2020). Heteroscedasticity (the violation of homoscedasticity) is present when the size of the error term differs across values of an independent variable (Statistic Solutions, 2020). This requirement is also upheld as evidenced by the random distribution of the residual values observed in the residual plots shown in Figure 2. Furthermore, there should be no multicollinearity in the data. If two or more predictors are highly correlated with one another, neither will be able to make a *unique* prediction to the response, and thus they may eventually be categorized as nonsignificant (Statistic Solutions, 2020). The existence of multicollinearity can be tested in different ways, but the first and easiest method is to examine multivariate

scatterplots, which display the bivariate fits of each predictor variable against each other and look at the correlations. Correlation coefficients above 0.8 are an indicator that



(a)



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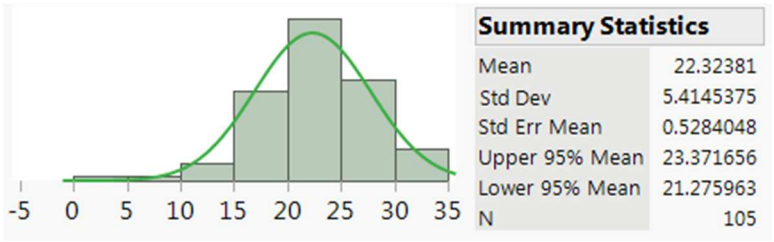


(c)

Figure 14. Distribution of response data for the UWES subfactors (a) vigor, (b) dedication, and (c) absorption.

further attention should be given to this potential problem. The multivariate scatterplots for the EE subfactors vigor, dedication and absorption are shown in Figure 15. As can be observed, the correlation coefficients values are at or slightly greater than 0.8, which should be kept in mind when performing the linear regression models by examining the so-called "variance inflation factor" or VIF, that is calculated when the model is generated. The VIF is a measure of how much the standard error of the estimate of the coefficient in the model is inflated due to multicollinearity (Statistics How To, 2020). For a given predictor variable, a regression model is fit using that variable as the response and all the other variables as predictors. The R-Square for this model is calculated, and the VIF is then computed. A VIF for a predictor of 10.0 corresponds to an R-Square value of 0.90, in other words, the other predictors can explain 90% of the variance of that particular predictor with the VIF of 10. As a general guideline, VIF values greater than 10 indicate that a problem with multicollinearity exists. Table 14 is an expanded version of Table 4, which contained the original regression using the EE subfactors to predict OC. Now, the VIFs have been included. The VIF values are less than five providing final confirmation that use of multiple linear regression in this work is fully justified.

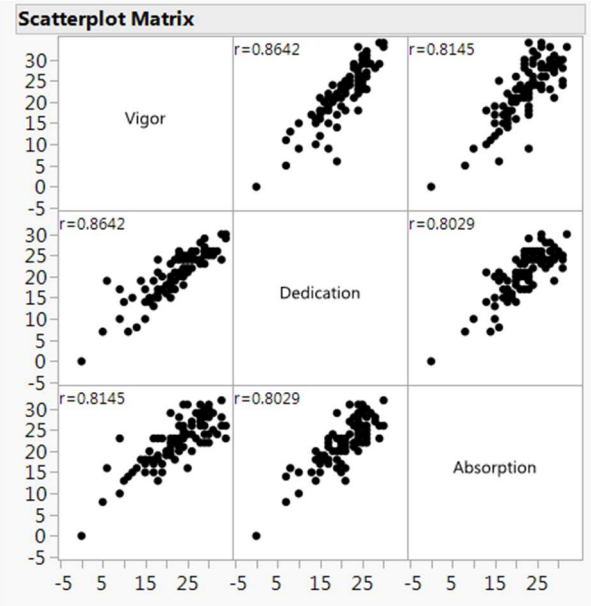


Figure 15. Multivariate scatterplots for the EE subfactors vigor, dedication and absorption.

Table 14

Results of linear regression analysis fitting total OCM with the UWES (EE) subfactor variables vigor, dedication and absorption and including the Variance Inflation Factor.

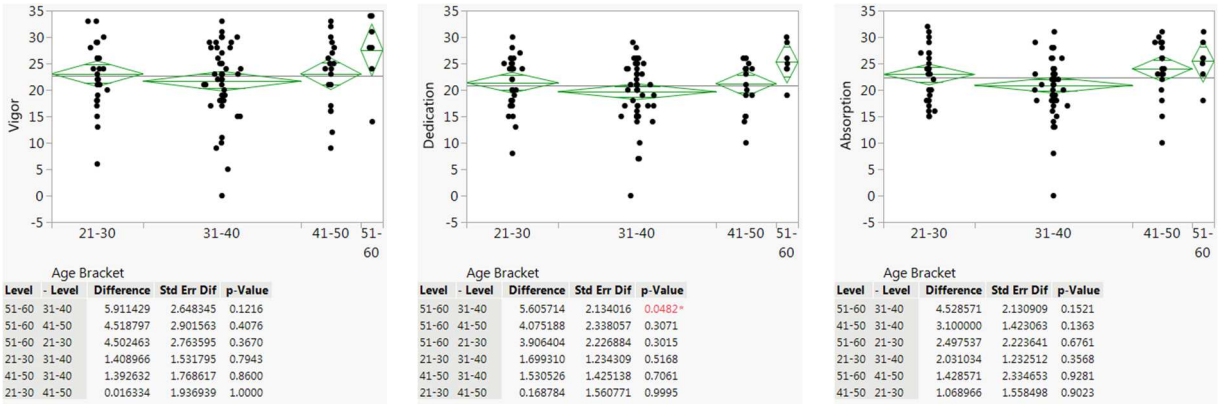
Term	B	t Ratio	Prob>|t|	Lower 95%	Upper 95%	Std Beta	VIF
Intercept	131.18916	12.77	<.0001*	110.7441	151.63422	0	.
Vigor	2.8566759	3.69	0.0004*	1.3171644	4.3961873	0.592503	5.0174231
Dedication	0.7785999	0.83	0.4104	-1.09355	2.6507503	0.128658	4.7095985
Absorption	0.3973107	0.50	0.6163	-1.174264	1.9688856	0.066905	3.4464946

Notes R-squared = 0.584; Adjusted R-squared = 0.569

Interpretation of the Data

As NPOs face increasing struggles regarding budget cuts from government agencies and sub-corporations, along with a decrease in corporate funding (Stid & Shah, 2012), it is essential that their employees remain as engaged in their work environment as possible. Although an NPO is not in the business of making a profit, it remains vital to have a revenue-generating program to cover organizational costs, and accordingly, EE remains a top priority (Ridder & McCandless, 2010). This is especially so in light of the fact that, in the case of for-profit organizations, disengaged employees can contribute to the increased health and hiring costs (Bhavesh & Aman, 2016). This study attempts to fill a research need by providing a linkage between employment engagement and organizational climate, and in particular the employment engagement subfactor vigor, dedication and absorption as defined within the UWES-17 survey deployed in this study. The survey tool, designed by Schaufeli et al. (2002) defines vigor as those employees demonstrating high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties. Absorption describes those workers who are fully concentrated and happily engrossed in their work, whereby time passes quickly and they have difficulties with detaching themselves from their work (Schaufeli and Bakker, 2003). Finally, dedication refers to those who are strongly involved in their work and experience a sense of significance, enthusiasm, inspiration, pride, and challenge (Schaufeli and Bakker, 2003). Analysis of the responses to the survey question probing all subfactors as a function of age are shown in Figure 16. The Tukey-Kramer HSD (honestly significantly different) test was used across all pairs to

determine if any of the factors were significantly different across age brackets. For vigor, the p-values between all pairs ranged from p = 0.12 to p = 1.0, and for absorption, they ranged from p = 0.14 to p = 0.93, so no influence of age bracket on vigor or absorption score was found. However, for dedication those in the oldest age bracket (51-60 years of age) were observed to be weakly significantly more dedicated that only those in the 31-40 age bracket (p = .0482). This might imply that many of the respondents in this age bracket have worked for the NPO for most of their careers, and as loyal employees and it would not be surprising that they score higher in the dedication subfactor.

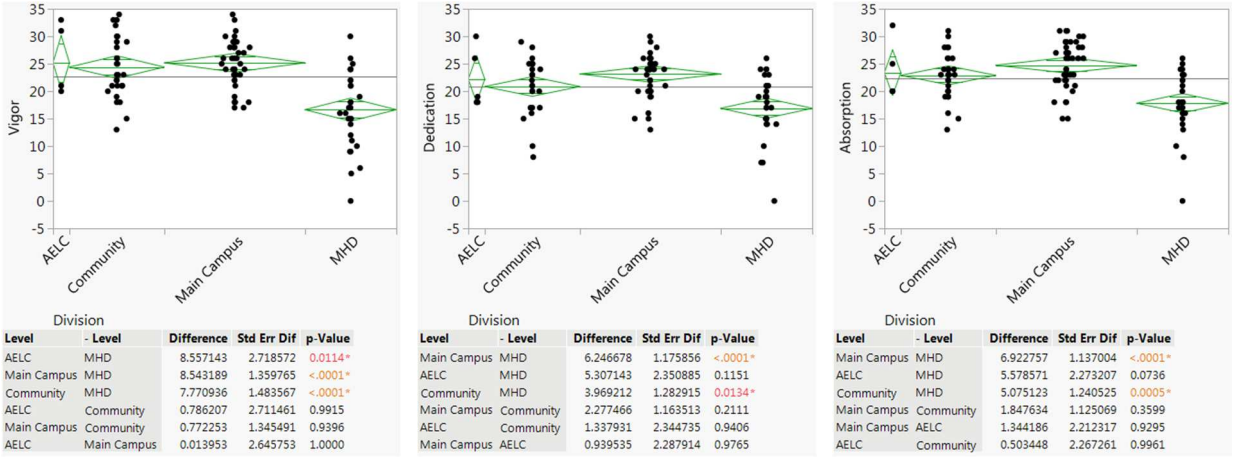


Level	- Level	Difference	Std Err Dif	p-Value
51-60	31-40	5.911429	2.648345	0.1216
51-60	41-50	4.518797	2.901563	0.4076
51-60	21-30	4.502463	2.763595	0.3670
21-30	31-40	1.408966	1.531795	0.7943
41-50	31-40	1.392632	1.768617	0.8600
21-30	41-50	0.016334	1.936939	1.0000

Level	- Level	Difference	Std Err Dif	p-Value
51-60	31-40	5.605714	2.134016	0.0482*
51-60	41-50	4.075188	2.338057	0.3071
51-60	21-30	3.906404	2.226884	0.3015
21-30	31-40	1.699310	1.234309	0.5168
41-50	31-40	1.530526	1.425138	0.7061
21-30	41-50	0.168784	1.560771	0.9995

Level	- Level	Difference	Std Err Dif	p-Value
51-60	31-40	4.528571	2.130909	0.1521
41-50	31-40	3.100000	1.423063	0.1363
51-60	21-30	2.497537	2.223641	0.6761
21-30	31-40	2.031034	1.232512	0.3568
51-60	41-50	1.428571	2.334653	0.9281
41-50	21-30	1.068966	1.558498	0.9023

Figure 16. Plot of (L-R) vigor, dedication and absorption subfactor scores for each age bracket. The apices of the mean diamonds represent the 95% confidence intervals. The width of the diamonds is proportional to their respective values for n, the number of data points, and the horizontal line bisecting the diamond represents the mean for that age bracket. The horizontal line spanning the entire plot is the mean for all age brackets combined.



Level	- Level	Difference	Std Err Dif	p-Value
AELC	MHD	8.557143	2.718572	0.0114*
Main Campus	MHD	8.543189	1.359765	<.0001*
Community	MHD	7.770936	1.483567	<.0001*
AELC	Community	0.786207	2.711461	0.9915
Main Campus	Community	0.772253	1.345491	0.9396
AELC	Main Campus	0.013953	2.645753	1.0000

Level	- Level	Difference	Std Err Dif	p-Value
Main Campus	MHD	6.246678	1.175856	<.0001*
AELC	MHD	5.307143	2.350885	0.1151
Community	MHD	3.969212	1.282915	0.0134*
Main Campus	Community	2.277466	1.163513	0.2111
AELC	Community	1.337931	2.344735	0.9406
Main Campus	AELC	0.939535	2.287914	0.9765

Level	- Level	Difference	Std Err Dif	p-Value
Main Campus	MHD	6.922757	1.137004	<.0001*
AELC	MHD	5.578571	2.273207	0.0736
Community	MHD	5.075123	1.240525	0.0005*
Main Campus	Community	1.847634	1.125069	0.3599
Main Campus	AELC	1.344186	2.212317	0.9295
AELC	Community	0.503448	2.267261	0.9961

Figure 17. Plot of (L-R) vigor, dedication and absorption subfactor scores for each NPO division. The apices of the mean diamonds represent the 95% confidence intervals. The width of the diamonds is proportional to their respective values for n, the number of data points, and the horizontal line bisecting the diamond represents the mean for that age bracket. The horizontal line spanning the entire plot is the mean for all age brackets combined.

For this particular NPO, employees responded from four divisions. The plot of the three EE subfactors according to each division is shown in Figure 17. The divisional data paints a bit of a different picture. Those in the mental health division (MHD) division score significantly lower in vigor than those in the other three divisions, with p-values ranging from $p < .0001$ to $p = .0114$. In dedication that same group in MHD scored significantly lower than both those working in main campus ($p < .0001$) and those working in the community ($p = .0134$). Similarly, in absorption those in MHD scored significantly lower than those employees at the main campus ($p < .0001$) and those working in the community ($p = .0005$). Thus, I already observe a useful finding from the results of the survey that could lead to some action plans to be put into place by upper

management to determine the root cause of this lower employee engagement of those working in MHD, to be followed up by implementation of some type of solution to improve this behavior. These results of age bracket and division should be borne in mind when interpreting the multiple linear regression results.

To begin to understand the relationship between EE and its subfactors on OCM, the relationships between the total UWES scores and the total OCM scores were examined and a positive strong correlation was observed (Figure 1). This is consistent with what has been observed in the past. For example, Shadur et al. (1999) showed that within an information technology company, supportive climates and commitment significantly predicted each of the employee involvement variables tested. Furthermore, Smith & Wallace (2016) determined that a climate for employee involvement positively relates to both group citizenship behaviors and group task performance. Diego and Meneghini (2016) also determined that organizational climate is an important factor in establishing and maintaining bonds between volunteer employees that may make them more reluctant to leave. Also, Seymour and Geldenhuys (2018) provided evidence that suggested team dialogues as a form of organizational climate had a positive impact in terms of improving employee engagement levels, specifically within engagement factors such as discretionary effort, turnover intention, rational commitment, communication and perceived supervisory support. Waheed et al. (2017) determined that work engagement had a positive effect on innovative work behavior and organizational performance. Lastly, Wake and Green (2019) concluded in their work that healthcare leaders in the UK should pay close attention to hospital survey data pertaining to the proportion of

employees who would recommend their organization as a place to work or receive treatment, as this acted as a proxy for the level of engagement and predicted Care Quality Commission (CQC) ratings. Although these examples demonstrate a positive correlation between organizational climate and employee engagement levels, the research question they are ultimately addressing is how organizational climate can affect employee engagement. The data from this study presented in Tables 9-12 where the OCM subfactor quadrants were used as predictors for the total employee engagement scores support this positive effect or organizational climate. In the case for this NPO, having a rational goal was found to be an important factor for employee engagement, as was the open systems subfactor quadrant, which has more to do with being innovative organization with an outward focus (note however that the importance of this factor was negated when division was pulled in as a variable).

The specific research questions addressed in this work are in fact the inverse. It is not about how the organizational climate can affect employee engagement, but how employee engagement can influence organizational climate. Perhaps a means with which employees could consult to mold the climate of their organization and provide them with a sense of empowerment. Trus et al (2019), in a study within several hospitals showed that nurse managers were both structurally and psychologically empowered when the organizational culture was proficient and resistant, and the climate was engaged and functional.

Table 4 informs that vigor has a strong effect on the organizational climate score as determined by the OCM survey. Keeping in mind that each individual fills out *both*

surveys, it may seem little wonder that someone portraying the characteristics of demonstrating high levels of energy and mental resilience, a willingness to invest effort in one's work, and persistence even in the face of difficulties might score the organizational climate high. With these characteristics, they might very well be impervious to even the most toxic organizational climates. Nevertheless, they should be wary that too much engagement may lead to workplace burnout (Nerstad, Wong & Richardsen, 2019). The multivariate scatterplot matrix examining the relationship between all three EE subfactors and all four OCM quadrants is perhaps informative in this regard and shown in Figure 18. Now we can observe that there is a strong positive correlation between vigor and the OCM quadrants rational goals and open systems. It does not seem unreasonable to think that someone who believes that having rational goals and believes they are working for an innovative and outward focusing organization would be vigorously engaged in their work. In addition, it is clear that the slope of the regression lines in the vigor versus rational goal and open systems plots are steeper than those for the other two EE, subfactors dedication and absorption, which is in line with the results from the linear regression analysis where it was found that dedication and absorption were not significant. The scatterplot also brings to the fore one obvious result: there are no correlations whatsoever with the OCM internal process subfactor quadrant. Clearly, formalization and tradition of an organization are insignificant.

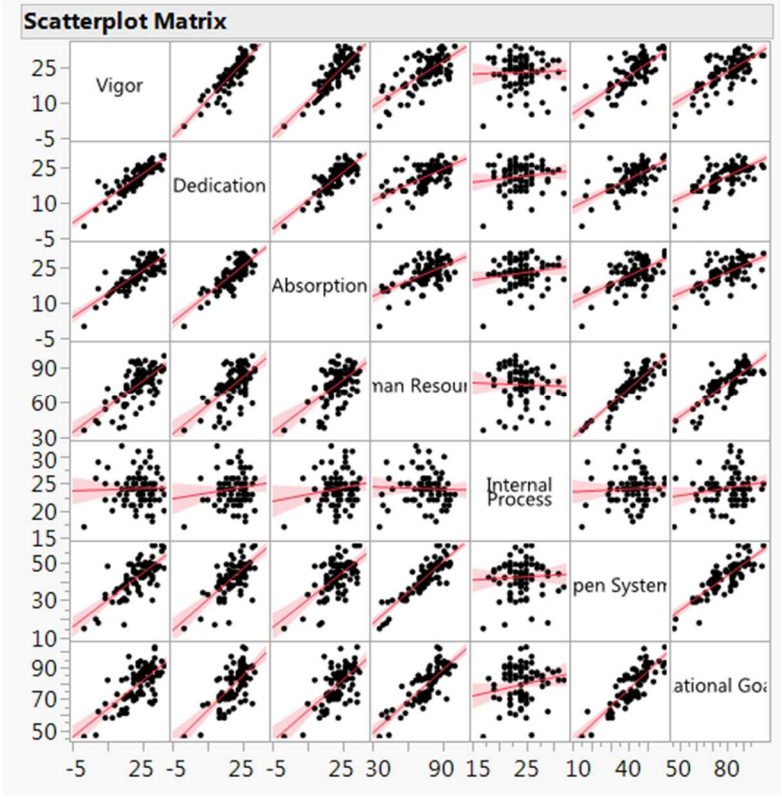


Figure 18: Scatter plot matrix showing correlations between all all three EE subfactors and all four OCM quadrants and linear regression fits for each with shading representing 95% confidence limits.

Limitations of the Study

One reason offered to explain why researchers identify constraints is to expose a weakness in the study (Creswell, 2003). For this study, the surveys used were not designed for use within NPOs, thus there might be some limitations to exactly how well the answers to certain questions, and the questions themselves, relate to the EE subfactors and OCM quadrants used in this study. A second limitation is the fact that it is a self-assessment test where each individual is identifying their own engagement *and* what they

perceive to be the organizational climate. It would be an interesting study if one group of people answered only the UWES and the other only the OCM – this may help reduce self-bias effects. The study could also have benefitted from more demographic data which could have perhaps uncovered more useful correlations. Unfortunately, the NPO used in this study requested to exclude most demographic questions.

Recommendations

As NPOs can have vastly different mandates, this survey should be completed by a wide array of NPOs in order to determine if generalizations can be made. In addition, as mentioned previously, it would be an interesting study if any self-biasing could be prevented by having two groups of people completing the UWES and OCM surveys. Adding more demographic data would certainly add several new layers to the data table that could provide some interesting new insights that may be valuable to the NPO, much as it was discovered here that employee engagement at the MHD division was significantly worse than the other locations. Both of these survey instruments have not specifically been designed for NPOs. In terms of statistical analyses, hierarchical or k-means cluster analysis could be considered using the subfactors for EE and OCM as variables to investigate if clusters of individuals could be defined based on their responses to the surveys. Cluster identification number could then be implemented as a variable for further in-depth studies.

Implications

One clear implication for practice, at least for this NPO, is to investigate the significantly lower employee engagement at the MHD site. The root cause of this lower

engagement needs to be identified and then solutions can be implemented. The fact that this NPO are keenly interested in the outcome of this study is viewed as a very positive first step and displays a proactive managerial mentality to make use of surveys to quantitatively measure employee engagement. The NPO should conduct the surveys again within the same population once changes have been implemented to improve scores to compare and determine the impact of their actions. As employee engagement increases, the reputation of the NPO as a great employer will increase, attracting more potential employees. This will allow the organization to expand its amount and breadth of services and having a direct impact on social change within society.

Conclusion

This study was formulated to answer four research questions posed to fill a gap in the research need surrounding the relationship between employee engagement and organizational climate. The four research questions and their null hypotheses were:

RQ1: What is the relationship between OC and EE in nonprofit organizations and is age or division within the NPO a factor?

H_{01}: There is no relationship between OC, as measured by the Organizational Climate Measurement (OCM), and EE, as measured by the Utrecht Work Engagement Scale (UWES-17) in nonprofit organizations.

RQ2: Does vigor impact the relationship between OC and EE and if so is it influenced by age or division within the NPO?

H_{02}: Vigor has no impact on the relationship between OC and EE, as measured by the UWES-17.

RQ3: Does dedication have an impact on the relationship between OC and EE and is age or division within the NPO a factor?

H_{03}: Dedication has no impact on the relationship between OC and EE, as measured by the UWES-17.

RQ4: Does absorption have an impact on the relationship between OC and EE and if so is it influenced by age or division within the NPO?

H_{04}: Absorption has no impact on the relationship between OC and EE, as measured by the UWES-17.

To answer these questions, an on-line survey was distributed to employees of an NPO.

The survey was comprised of two established surveys used to measure employee engagement and organizational climate. The former, Schaufeli et al. (2002) UWES-17 was used to measure the dependent variable of EE and its subfactors vigor, dedication and absorption. Patterson et al. (2005) OCM was used to measure the individuals' perceptions of organizational climate and could be subdivided into four quadrants: internal process, human resources, open systems and rational goal. A total of 116 responses were received, and the relationships between employee engagement and organizational climate were established and the impact of the EE subfactors on OC were determined using multiple regression analysis. A strong positive correlation between EE and OC was observed and thus the null hypothesis H_01 was rejected. Furthermore, neither age nor the division in which one worked influenced this relationship. Research question 2 asked if vigor impacted the relationship between OC and EE and if so, is it influenced

by age or division within the NPO? In this case it was determined that indeed vigor did have a significant impact on organizational climate and thus the null hypothesis $H_0 2$ was also rejected. However, neither age nor the division were found to be significant factors. In this particular multiple regression analysis, it was also observed that the EE subfactors dedication and absorption were statistically insignificant in the model and thus were not influencers of the OCM relationship. Thus, the null hypotheses for research questions 3 and 4 were upheld.

Analysis of the data also led to other important conclusions, including the fact that employees at the MHD division of the NPO scored significantly lower in engagement than did their colleagues working in the other divisions. Also, amongst the biggest OCM quadrant factors that effected employee engagement, rational goal was found to be highly significant as was open systems, however, when division was included as a variable in the regression analysis, it became a much more significant variable and open systems was found now to be insignificant. Rational goal, however, remained a strong predictor. Finally, there were no correlations observed anywhere with the internal process OCM quadrant. Clearly, at least at this NPO, formalization and tradition are insignificant.

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