The Pennsylvania State University

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THE RELATIONSHIP OF CHANGE READINESS AND WORK ENGAGEMENT IN MANUFACTURING ORGANIZATIONS IN SOUTH-CENTRAL PENNSYLVANIA

A Dissertation in

Workforce Education and Development

by

Mary Jane Park

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The dissertation of Mary Jane Park was reviewed and approved* by the following:

William J. Rothwell  
Professor of Education  
Dissertation Advisor  
Chair of Committee

Judith A. Kolb  
Associate Professor of Education

Wesley E. Donahue  
Associate Professor of Management Development and Education

Edgar P. Yoder  
Professor of Extension Education

Roy Clariana  
Professor of Education  
Director of Graduate Studies for Learning and Performance Systems

*Signatures are on file in the Graduate School
ABSTRACT

Successful change efforts are critical to an organization’s strategy and growth and, therefore, an understanding of how to best manage these change efforts is of interest to innovative and forward-looking organizations. The goal of this study was to determine if the employees’ level of work engagement was related to the organization’s level of readiness for the change effort. As no empirical studies were found which examined this relationship, this research adds to the existing literature on both topics.

To explore the multiple variables and inter-relationships posed in the four research questions, a cross-sectional survey was conducted with a sample of manufacturing employees in south-central Pennsylvania. Work engagement was measured via the three subscales of vigor, dedication, and absorption of the nine item Utrecht Work Engagement Scale (UWES-9). Organizational readiness for change was measured with the reflexivity, and innovation and flexibility subscales of the Organizational Climate Measure (OCM).

Methods to analyze the data included descriptive statistics, bivariate analyses, and hierarchical multiple regression, factorial ANOVA, and coding of qualitative data. The results of bivariate analyses demonstrate the moderate positive strength of the relationship for the seven study variables. Therefore, this study provides the first empirical evidence of the importance of employee work engagement to an organization’s readiness for change and adds to the existing literature on both constructs.

Results of the hierarchical multiple regression analysis demonstrates (a) dedication was the only work engagement variable with a significant influence in
explaining differences in the change readiness scores of innovation and flexibility, and (b) dedication and absorption had very similar influences in explaining score differences in reflexivity. The importance of the employee’s dedication on an organization’s readiness for change strengthened the significance of the moderate to strong correlation measured between dedication and overall RFC.

Finally, three methods were used, including factorial ANOVA, to investigate the influence of position and years in the organization on overall EWE, overall RFC, and the subscales of each construct. Results demonstrate only an employee’s position is significantly related to their overall level of engagement and the vigor, dedication, and absorption with their work. However, no influence was found for position or years in the organization on overall RFC, innovation and flexibility, or reflexivity.
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Approval for use of the Utrecht Work Engagement Survey (UWES) is not required for non-commercial educational and research purposes. See details at http://www.wilmarschaufeli.nl/downloads/test-manuals.

Approval for use of the Organizational Climate Measure (OCM) was received from co-author Jeremy Dawson via email on January 14, 2014. This approval included the use of instrument and edits to its spelling to American English. (Appendix A)
Approval for use of Figure 1, JD-R Model was obtained from Dr. Bakker via email on 6/6/14 and from Emerald Publishing on 6/9/14. (Appendix B)

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DEDICATION

To Steve, my amazing husband, who I met on the first night of my first class in this PhD program. What a wonderful journey we are on together. You are always my champion as I am yours.

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Chapter 1

Problem

Introduction

Organizations exist in a dynamic and complex environment and find this setting creates the need for consistent internal change in order to stay relevant and competitive. The importance of the organizational change topic is supported by the research. Avey, Wernsing, and Luthans (2008) stated “Organizational change initiates from a mismatch with the environment and is motivated by gaps between the organization’s goals and current results. This...change is...critical for managers in terms of effective implementation and for employees in terms of acceptance and engagement” (p. 49).

“The pressure for businesses to change is enormous and inexorable, mostly because the competition is changing, and so is the marketplace” (O’Rourke, 2013, p. 169).

Successful change efforts are critical to an organization’s strategy and growth and, therefore, an understanding of how to best manage these change efforts is of interest to innovative and forward-looking organizations.

Organization development (OD) practitioners conduct interventions to assist organizations in managing change efforts (e.g. Alzahmi, Rothwell, & Kim, 2013; Burke, Church, & Waclawski, 1993; Church, Burke, & Van Eynde, 1994; Cooperrider & Whitney, 1998; Rothwell, Stavros, & Sullivan, 2010b; Scherer & Alban, 2010; Theodore, 2013; Worley & Feyerherm, 2003). The first step in managing change is identifying an issue, problem, or need for a change based upon a formal or informal analysis of internal
or external factors. The success, or failure, of an organization’s change effort relies on several factors including whether the organization identifies the right problem and, subsequently, the choices an organization makes to correct the problem such as the role of the consultant, if applicable, and the model of intervention.

Change agents are critical to this process. Significant research is available on the role of a consultant as a change agent in an intervention including their approach as a change management expert or organization development facilitator; their requisite technical expertise, interpersonal skills and consulting skills; and their value-adding or destructive roles (e.g. Appelbaum & Steed, 2005; Block, 2011; Burke, 1982; Carucci & Tetenbaum, 2000; Rothwell, Stavros, & Sullivan, 2010a, 2010b; Schein, 1990, 1995; Weiss, 2009).

Studies are also accessible on change effort models of intervention – structured models that describe a method for approaching, facilitating, and evaluating or appraising change efforts (Levasseur, 2010). These models support organizational change efforts and vary in their applicability to organization problems. A summary of popular OD models to guide interventions is provided in Table 1 below. The choice of a model may vary based on a number of factors including the focus of the change effort, the organization’s culture, and the role of the consultant in the change process.
Two additional factors are critical to a change effort and are the subject of this study. The first is the organization’s employees – those directly involved in the intervention and those impacted by it. The second is the organization’s level of readiness for the change effort. It is important to consider what is known about each of these factors and, explicitly, about the interaction of work engagement and readiness for change; however, significant research is not available related to the questions posed in this study. Without this information in the literature, an organization is unable to gain an understanding of, or benefit from, the valuable nature of work engagement on its
preparedness for change and, consequently, improve the likelihood its change efforts will be successful.

**Defining Engagement**

Before discussing the research related to this study’s topics, it was important to first provide operational definitions of work engagement and organizational readiness for change. According to Macey and Schneider (2008), “[n]umerous definitions of engagement can be derived from the practice- and research- driven literatures…[and] the…sense that people, and particularly leaders within organizations, have about work motivation” (p. 4). Schaufeli and Bakker (2010) stated that “no agreement exists among practitioners or scholars on a particular conceptualization of (work) engagement” (p. 11). However, Bakker, Schaufeli, Leiter, and Taris (2008) found most scholarship recognized that work engagement possesses energy and identification components and was “characterized by a high level of energy and strong identification with one’s work” (p. 189).

Therefore, for this study, the operational definition of work engagement was that of Schaufeli, Salanova, González-romá, and Bakker (2002), who defined employee engagement as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption….a more persistent and pervasive affective cognitive state that is not focused on any particular object, event, individual, or behavior” (p. 74). Schaufeli et al. defined each of these characteristics in the following way:
Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, and persistence even in the face of difficulties. Dedication is characterized by a sense of significance, enthusiasm, inspiration, pride, and challenge…. [and] absorption, is characterized by being fully concentrated and deeply engrossed in one’s work, whereby time passes quickly and one has difficulties… detaching oneself from work. (pp. 74-75)

Standard models illustrating the relationship of the antecedents of work engagement to the state of engagement and, consequently, employee outcomes included the Job Demands-Resources (JD-R) Model (Bakker & Demerouti, 2007, 2008; Baumgardner, 2014; Kim, 2014; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007) and the State Work Engagement (SWE) Model (Sonnentag, Dormann, & Demerouti, 2010). In the JD-R and SWE models the antecedents of work engagement comprised the categories of employee’s personal resources, job resources, and job demands.

Personal resources encompassed the internal capacities of “optimism, self-efficacy, and self-esteem” (Bakker & Leiter, 2010, pp. 20, 33). Xanthopoulou, Bakker, Demerouti, and Schaufeli (2007) found as a result of their research that “personal resources mediated the relationship between job resources and engagement/exhaustion and influenced the perception of job resources” (p. 121). Further, they impact an individual’s resilience to stress resilience, and positively influence the individual’s wellbeing - physically and emotionally (Xanthopoulou et al., 2007, p. 124).

Job resources included external items such as pay, career opportunities, job security, supervisor and co-worker support, team climate, role clarity, participation in
decision making, skill variety, task identity, task significance, autonomy, and performance feedback (Bakker & Demerouti, 2007; Kim, 2014). Baumgardner (2014) stated that job resources were “the working conditions that provide resources for the individual employees that impact the physical, psychological, social or organizational aspects of the job” (p. 7). Job demands, such as work pressure, emotional demands, mental demands, and physical demands, were similar in both models (Bakker & Demerouti, 2007, 2008; Sonnentag, et al., 2010).

The SWE model was similar to the JD-R model in terms of its antecedents of engagement, but depicted engagement as an in-the-moment (day-level or week-level) state or experience. The JD-R model, on the other hand, represented trait work engagement, an average-over-time assessment of experience; therefore, this study used the JD-R model to conceptualize employee work engagement. This was considered the appropriate model as the concept of readiness for change could best be assessed in a similar way – the organization’s flexibility and innovativeness over time.

The JD-R model (Figure 1), absent major alterations to job and/or personal resources, demonstrated that an employee’s level of work engagement over time was a relatively consistent psychological state that impacted behavioral outcomes (Bakker & Demerouti; Baumgardner, 2014; Kim, 2014). Specifically, these behavioral outcomes were individual employee outcomes such as organizational commitment, extra-role behavior, personal initiative, and performance.
Figure 1: JD-R Model


Further, according to Schaufeli and Bakker (2010), “Almost without exception…firms claim that they have found conclusive and compelling evidence that work engagement increases profitability through higher productivity, sales, customer satisfaction, and employee retention” (p. 11). Several additional recent studies were available that defined work engagement and demonstrated its impact on the organization’s performance results (e.g. Bakker & Demerouti, 2007, 2008; Kim, 2014a; Kim, Kolb, Kim, 2013; Macey & Schneider, 2008; Schaufeli, Salanova, González-romá, & Bakker, 2002; Spreitzer, Lam, & Fritz, 2010; Sweetman & Luthans, 2010).

Kim (2014a), in his review of the literature of the prior decade, confirmed that engaged employees significantly influenced both individual and organizational performance. In addition, the level of an employee’s engagement directly impacted their feelings of self-efficacy, intention to leave the organization, psychological health,
satisfaction with their job, number of days absent, level of creativity, proactive behavior, commitment to the organization, and demonstrated organizational citizenship behavior (Kim, 2014a, pp. 8-9).

Comparable to the impact of individual employee engagement on organizational outcomes, the connection between an organization’s employees and its change efforts was gained by reviewing the literature on the antecedents and consequences of employees’ reaction to change (e.g. Alas, 2009; Avey, Wernsing, & Luthans, 2008; Ingersoll, Kirsch, Merk, & Lightfoot, 2000; Jimmieson, Peach, & White, 2008; Jones, Jimmieson, & Griffiths, 2005; Kim et al., 2013; Oreg, Vakola, & Armenakis, 2011; Rafferty, Jimmieson, & Armenakis, 2013; Rafferty & Simons, 2006).

However, while these studies discussed a variety of individual affective, cognitive, and behavioral components that may relate to work engagement, most did not specifically discuss the broader topic of employee work engagement or its relationship to change readiness in an organization. One example of those who touched on the topic was a review of the literature by Kim, Kolb, and Kim (2013) who stated “in positive organizational change, work engagement could be viewed as an essential element in helping and facilitating employees’ change and then leading to improvement in their performance” (p. 249).

**Defining Readiness for Change**

A review of the literature on readiness for change found topics such as defining readiness, creating readiness, assessing readiness, the characteristics of readiness, and the
employees’ perception of the organization’s readiness for change (e.g. Alas, 2009; Armenakis, Harris, & Mossholder, 1993; Bevan, 2011; Choi & Ruona, 2011; Drew & Smith, 1995; Eby, Adams, Russell, & Gaby, 2000; Elgamal, 2012; Holt, Armenakis, Feild, & Harris, 2007; Ingersoll et al., 2000; Jones et al., 2005; Rafferty et al., 2013; Schein, 1990; Theodore, 2013).

Within this expansive literature review, several definitions were found for the term readiness for change. While Chawla and Kelloway (2004) stated that “resistance to change has often been used interchangeably with terms such as a lack of change readiness” (p. 485), the literature on change theory has evolved to include the concept of readiness for change as a different construct from the resistance to change. Therefore, resistance to change was not considered as a variable in this research.

In a study by Ingersoll, Kirsch, Merk, and Lightfoot (2000), “organizational readiness was defined as a state of preparedness for change…influenced by the organization's previous history of change, its plans for continuous organizational refinement, and its ability through its social and technical systems to initiate and sustain that change” (Review of the Literature section, para. 8). And “Holt et al. (2007) suggested that readiness for change is an [employee] attitude that acts as a precursor to intentions to support change” (Jimmieson, et al., 2008, pp. 239-240).

However, for this study, the functional definition of readiness for change was based on that of Elgamal (2012). Elgamal stated that “organizational readiness refers to organizational members [sic] change commitment and change efficacy to implement
organizational change…[where] readiness…connotes a state of being both psychologically and behaviorally prepared to take action” (p. 46).

Several researchers have developed models related to readiness for change focusing on factors at the individual and organization level as antecedents (e.g. Alas, 2009; Avey et al., 2008; Ghitulescu, 2013; Rafferty et al., 2013). However, the extant research lacked empirical studies that related an organization’s readiness for change and the level of employee work engagement. There were authors, such as Avey et al. (2008), which demonstrated interest with related topics such as organizational change and adaptation related to positive employees and employee thriving.

Avey et al. (2008) stated “positive employees, defined here as those with positive psychological capital and positive emotions, may exhibit attitudes and behaviors that in turn may lead to more effective and positive organizational change” (p. 50). Spreitzer, Lam, and Fritz (2010) asserted “thriving is positively associated with adjustments to changing circumstances, creative and innovative behavior as well as organizational citizenship behavior” (p. 138).

Taking one step closer, one interesting research study was conducted by Ghitulescu (2013) on the effect of employee adaptive and proactive behaviors, as influenced by job resources and job demands, on the organizational change effort process. Ghitulescu stated “little research has considered how to promote employee adaptivity and proactivity, behaviors with particular relevance to organizational change” (p. 230). The author suggested that “change leaders can encourage adaptivity and
proactivity by shaping a work environment that stimulates these behaviors” (Ghitulescu, 2013, p. 230).

This researcher agreed with Ghitulescu (2013) and determined an important implication of this study was to provide information to the management of organizations, on the relationship between employee work engagement and readiness for change, which would potentially influence the development of behaviors and activities to improve the organizational climate and increase employee engagement.

**Purpose of Study**

The purpose of this study was to empirically bridge the gap in the research on the relationship between employee work engagement and organizational readiness for change. The goal was to determine if an employees’ level of work engagement was not only important to an organization’s performance results, but also its ability to successfully manage change.

Using validated instruments, the researcher conducted a cross-sectional survey using a sample of employees within the member companies of the Manufacturers’ Association of South-Central Pennsylvania (MA). MA is an organization that provides support to the manufacturing organizations in the specified region and enjoys relationships with over 350 organizations with the goal of making them more competitive, productive, and profitable. They offer a variety of education and training opportunities, and services to their members. Due to their extensive relationships with
manufacturing organizations, MA was considered by the researcher to be a visible and credible sponsor to the research.

However, this organization was also a gatekeeper in the study as the Executive Director, due to past experience with the member companies, advised that a one-time survey be conducted – this would deliver the best participation by respondents, whereas, a pilot study would reduce involvement in a final study. Additional contributions from MA representatives included a review of the instrument to be used, the facilitation of participation commitment by organizations, and assistance in the content validity process.

Finally, based on study results, the importance of employee work engagement would be enhanced if it was demonstrated to have an impact on an organization’s readiness for change. Further, if demonstrated, it was anticipated the recognition of this important influence would have a marked effect on policies and practices within organizations and the OD field.

**Significance of Study**

As a result of this study, the literature on work engagement and readiness for change would be expanded to incorporate the empirical association of the concepts which currently does not exist. Further, progressive organizations may recognize the value; continue to value; or, perhaps, increase their perceived value of employee work engagement in the dynamic business environment. Organizations may acknowledge the success of their change efforts, often related to the organization’s strategy and growth, are based on, to a significant extent, their internal practices that influence work
engagement. The certainty of this interaction may intensify an organization’s efforts to promote work engagement and, subsequently, increase its ability to successfully manage change efforts. It is expected organizations would exploit this information to obtain a practical benefit; therefore, this knowledge could (a) provide the tools needed by the organization or OD practitioners to assess work engagement and readiness for change; (b) necessitate new interventions within organizations; and (c) feasibly increase the need for OD consultation.

**Study Design**

A cross-sectional survey – comprised of seven descriptive items, 20 Likert-scale items, and one qualitative item – was used to gather data from a sample of manufacturing employees in south-central Pennsylvania. A detailed discussion of the study’s instruments is provided in the literature review and method sections of this dissertation, but the following is a brief introduction.

In this study, work engagement was measured via the three subscales of vigor, dedication, and absorption using the Utrecht Work Engagement Survey (UWES) (Schaufeli et al., 2002, pp. 74-75). Organizational readiness for change was measured with the Organizational Climate Measure (OCM), an instrument of 17 subscales including two that indicated readiness for change in this study: (a) reflexivity and (b) innovation and flexibility (Patterson et al., 2005, p. 391).

With the OCM instrument, the use of only two scales was acceptable as the authors promoted the selection of the number of scales appropriate for any particular
research (Patterson et al., 2005, p. 399). In order to explore the multiple variables and to determine any inter-relationships, the following four research questions were examined.

**Research Questions**

RQ1: What is the relationship between overall employee work engagement and overall organizational change readiness?

RQ2: What is the relationship between each of the subscales of employee work engagement (vigor, dedication, and absorption) and overall organizational change readiness?

RQ3: What is the relationship between overall employee work engagement and each of the subscales indicating organizational change readiness (reflexivity, and innovation and flexibility)?

RQ4: To what extent is organizational change readiness – measured by the two subscales of innovation and flexibility, and reflexivity – influenced by (a) the employee work engagement factors of vigor, dedication, absorption; (b) employee position in the organization; (c) the number of employees in the organization; and (d) organizational changes experienced by the employee, including new leadership, reorganization, downsizing, and/or merger/acquisition?
Data Analysis

Analysis of the data included descriptive statistics. Next, bivariate analyses of the data were used to demonstrate the relationship between employee work engagement and change readiness; however, as each construct was measured by multiple subscales, a more extensive examination of the data was completed to determine if any of the subscales had a stronger influence on the relationship (Figure 2).

Figure 2. Exploring the Relationships of Employee Work Engagement and Organizational Readiness for Change and Each Respective Subscale

Further, the mediating influences of the EWE subscales and multiple employee descriptive characteristics on the RFC subscales were examined through hierarchical
multiple regression analyses. The steps in the regression analysis were illustrated in Figure 3.

Figure 3. Illustration of the hierarchical multiple regression analysis conducted for RQ4
Next, to supplement and enrich the findings for the previously mentioned data analyses, the researcher investigated whether there was an interaction between the current positions of the respondents with years in the current organization with each of the study’s variables using factorial ANOVA. Finally, separate explorations were made of the respondents’ position and years in the organization relative to (a) the mean scores of all study variables through graphical illustrations, and (b) their responses to the qualitative question posed through coding.
Chapter 2

Literature Review

Existing research regarding an organization’s readiness for change provided multiple viewpoints in terms of the characteristics of an organization deemed more ready. The benefit of finding common characteristics related to readiness for change was the practical implication of the information for organizations and OD practitioners. For example, the researcher considered the possible effects of conducting an assessment and feedback in an organization to determine the gap between their current state of readiness for change in comparison to organizations whose characteristics classify them as more ready. What could an organization do with this powerful knowledge?

If through this study an employee’s engagement was found to correlate to readiness for change in an organization, what intervention(s) could/would an organization pursue to increase the level of engagement in their employees to close this gap and better prepare the individuals and the organization for change in a dynamic environment?

Therefore, the powerful information generated by this exploration had value for organizations and highlighted the significance of these topics for study. However, first the literature on the constructs had to be examined, and then, through empirical research, a relationship between the constructs of employee work engagement and organizational readiness for change had to be established.

The major themes of this literature review encompassed (a) an exploration of employee work engagement and related constructs; (b) a review of methods to assess employee engagement including the Utrecht Work Engagement Scale (UWES); (c) a
discussion of organizational readiness for change; (d) an examination of studies on the common characteristics of organizations that indicate a readiness for change; (e) an analysis of how these common characteristics relate to the traits of employee engagement as illustrated by the Job Demands-Resources (JD-R) Model; (f) an investigation into various methods of assessing organizational readiness for change including the Organizational Climate Measure (OCM); and (g) consideration of the relationship between employee work engagement and organizational readiness to change.

**Material Criteria**

The articles and books sourced for this literature review were limited to scholarly publications, including peer-reviewed articles and books. The content of the material included a discussion, based on empirical research or scholarly literature, on one or more of the following topics: defining employee work engagement, assessing employee work engagement, defining organizational change, the impact of organizational change, the readiness for change, the antecedents for successful organizational change, characteristics that demonstrate the readiness for change, or assessing an organization’s readiness for change.
Employee Work Engagement

There are several definitions and models related to the concept of employee work engagement; therefore, the literature selections in this review were chosen in order to provide a broad overview of significant concepts and models related to engagement.

“Many organizations share the belief that in [a]...talent market where knowledge is becoming an organizational commodity, employee engagement is an undeniable dominant source of competitive advantage” (Shuck, 2011, p. 305). Because of this belief, Shuck (2011) stated the topic of employee engagement was an important concept for both the practitioner and academic communities and has led to two different approaches.

Practitioners were interested in its “usability... and actionable outcomes such as improved retention, commitment, and productivity with a focus of aggregating data to inform practice” (Shuck, 2011, p. 305). The academic approach, on the other hand, focused on understanding the antecedents to employee engagement in addition to defining and validating it as a psychological concept.

Shuck (2011) discussed that within the academic or scholarly arena there were four perspectives on the topic of employee engagement including “(a) Kahn’s (1990) need-satisfying approach, (b) Maslach et al.’s (2001) burnout-antithesis approach, (c) Harter et al.’s (2002) satisfaction-engagement approach, and (d) Saks’s (2006) multidimensional approach” (p. 307). Two of the definitions of employee engagement that resulted from these perspectives were provided here as the work of many researchers was based on that of Kahn and Saks. Maslach’s definition and research was discussed in the engagement measurement section.
First, “Kahn (1990)…define[d] engagement as the ‘simultaneous employment and expression of a person’s ‘preferred self’ in task behaviors that promote connections to work and others, personal presence, and active full role performances’ (p. 700)” (Shuck, 2011, p. 308). This engagement could be physical, emotional, and/or cognitive.

Regarding the second perspective, Shuck (2011) reported “Saks (2006) hypothesized that employee engagement developed through a social exchange model and…suggest[ed] separate states of engagement: job engagement and organizational engagement….The multidimensional concept…[is] ‘a distinct…construct consisting of cognitive, emotional, and behavioral components…associated with individual role performance’ (p. 602)” (p. 313).

Additional perspectives on EWE included that of Schaufeli, Salanova, González-Romá, and Bakker (2002) who defined engagement as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption….a more persistent and pervasive affective cognitive state that is not focused on any particular object, event, individual, or behavior” (p. 74). Schaufeli et al. defined each of these individual engagement characteristics in the following way:

Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, and persistence even in the face of difficulties. Dedication is characterized by a sense of significance, enthusiasm, inspiration, pride, and challenge….absorption, is characterized by being fully concentrated and deeply engrossed in one’s work, whereby time
passes quickly and one has difficulties with detaching oneself from work. (pp. 74-75)

After surveying the research on work engagement and developing an instrument to measure work engagement, Schaufeli and Bakker (2003), concluded the following: The possible consequences of work engagement pertain to positive attitudes towards work and towards the organization, such as job satisfaction, organizational commitment, and low turnover intention…but also to positive organizational behavior such as, personal initiative and learning motivation…, extra-role behavior…, and proactive behavior….Finally, it seems that work engagement is positively related to job performance. (p. 10)

Macey and Schneider (2008) described engagement as “a desirable condition [with] organizational purpose…connotes involvement, commitment,…enthusiasm, focused effort, and energy, so it has both attitudinal and behavioral components” (p. 4). The authors built a conceptual model that incorporated the three types of engagement (trait, state, and behavioral) as the various components of their framework. The authors linked the concepts by stating “trait engagement gets reflected in psychological state engagement…. [which] we conceptualize…as an antecedent of behavioral engagement…defined in terms of discretionary effort…or extra-role…behavior” (Macey & Schneider, 2008, pp. 5-6).

In terms of how to measure engagement, Macey and Schneider (2008) found the measures were “composed of…four different categories: job satisfaction, organizational commitment, psychological empowerment, and job involvement” (pp. 6-7). These
conclusions by Macey and Schneider were very relevant to this study’s discussion on work engagement because extra-role behavior, personal initiative, job involvement, organizational commitment, and job satisfaction are concepts once considered indistinguishable from work engagement.

Schaufeli and Bakker (2010) made a tremendous effort to clarify this previous misconception about work engagement and to establish it as a separate and distinct construct. The authors argued extra role behavior was discretionary behavior that engaged employees may or may not exhibit and; therefore, “should not be considered...a constituting element of work engagement….Personal initiative is about the quality of the employee’s work [and] related to the…vigor component of the broader concept of work engagement” (Schaufeli & Bakker, 2010, p. 14). They further stated “organizational commitment is a binding force between individual and organization….In contrast, work engagement is…being involved…in the work itself…[and where] engagement…is concerned with the employee’s mood at work,…job satisfaction is concerned with the affect about or toward work” (Schaufeli & Bakker, 2010, p. 14).

However, as these concepts referred to either psychological states similar to work engagement (job satisfaction and job involvement) or outcomes of employee work engagement (organizational commitment, personal initiative, extra-role behavior) that were integrated into the Job Demands-Resources (JD-R) Model, the research by Macey and Schneider (2008) and Schaufeli and Bakker (2003, 2010) provided an excellent introduction to the discussion of employee work engagement models.
Models of Employee Work Engagement

In the literature, standard models illustrating the relationship of the antecedents of work engagement to the state of employee engagement and, consequently, employee outcomes included the JD-R Model (Bakker & Demerouti, 2007, 2008; Baumgardner, 2014; Kim, 2014; Xanthopoulou et al., 2007) and the State Work Engagement (SWE) Model (Sonnetag et al., 2010). In the JD-R and SWE models, employee work engagement was considered a psychological state that impacted behavioral outcomes. The antecedents of work engagement in both of these models included the employee’s personal resources, job resources, and job demands.

Personal resources comprised the capacities of optimism, self-efficacy, and self-esteem (Bakker & Leiter, 2010, pp. 20, 33). Xanthopoulou, et al. (2007) concluded from their research that “personal resources mediated the relationship between job resources and engagement/exhaustion and influenced the perception of job resources” (p. 121). Further, they impact an individual’s resilience to stress resilience, and positively influence the individual’s wellbeing - physically and emotionally (Xanthopoulou et al., 2007, p. 124). Schaufeli and Bakker (2010) believed these capacities have similar motivational potential (p. 21). Bakker and Demerouti (2007) described job resources in the following way:

Job resources may be located at the level of the organization at large (e.g. pay, career opportunities, job security), the interpersonal and social relations (e.g. supervisor and co-worker support, team climate), the organization of work (e.g. role clarity, participation in decision making), and at the level of the task (e.g.
skill variety, task identity, task significance, autonomy, performance feedback).

(Schaufeli & Bakker, 2010) reported “both job resources and personal resources foster work engagement….Job resources may…play an intrinsic… or…extrinsic motivational role” (p. 21). They supported the assertion of an “intrinsic motivational role because they foster an employee’s growth, learning [sic] and development” (Schaufeli & Bakker, 2010, p. 21). On the other hand, Schaufeli and Bakker concluded these job resources may “play an extrinsic role because they are instrumental in achieving work goals” (p. 21). Baumgardner (2014) stated that job resources were “the working conditions that provide resources for the individual employees that impact the physical, psychological, social or organizational aspects of the job” (p. 7).

The influence of job demands, such as work pressure, emotional demands, mental demands, and physical demands, were also similar in both models (Bakker & Demerouti, 2007, 2008; Sonnentag et al., 2010). If an employee’s job and/or personal resources were high then the job demands were considered challenging and potentially increased work engagement; however, if the job and/or personal resources were low, then the job demands could seem overwhelming and lead to burnout (Sonnentag et al., 2010, p. 34). Further, according to Hakanen and Roodt (2010), the JD-R model may reflect the buffering impact on job demands by job resources “suggesting that the relationship between job demands and engagement is weaker for employees who have many job resources at their disposal….positing a so-called coping or motivational hypothesis” (p. 89).
As discussed, the SWE model was similar to the JD-R model in terms of its antecedents of engagement, but there was a significant distinction between the models. The SWE depicted engagement as an in-the-moment (day-level or week-level) state or experience. The JD-R model, on the other hand, represented trait work engagement – an average-over-time assessment of experience. The importance of this distinction related to the applicability of a model to an empirical study. For example, if one preferred to measure trait work engagement then the JD-R model would be chosen.

Another construct in the literature on work engagement was that of Psychological Capital (PsyCap). Avey et al. (2008) developed a model, described in more detail later in this chapter, which illustrated the indirect relationship of PsyCap to engagement. In this model, (a) the antecedents of work engagement – efficacy, optimism, hope, and resiliency – were similar to the personal resources of the JD-R model, and (b) “includes the role PsyCap plays in impacting work engagement indirectly through positive emotions” (Sweetman & Luthans, 2010, p. 58). According to Luthans, Avey, Avolio, Norman, and Combs (2006), PsyCap referred to:

An individual's positive psychological state of development that is characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals, and when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resiliency) to attain success. (p. 388)
A concept that builds on PsyCap, and also linked to an individual’s personal resources that impact their level of work engagement, was that of *thriving*. According to Spreitzer et al. (2010), “thriving as a psychological state focuses on ‘a sense of progress or forward movement in one’s self-development’ captured in two dimensions of personal growth: learning and vitality” (p. 133). The authors cited empirical research and concluded “in a sample of professionals across six industries, respondents who reported more thriving were evaluated by their bosses as taking more initiative in their career development” (Spreitzer et al., 2010, p. 135).

Spreitzer et al. (2010) further concluded work engagement and thriving added value to employees and their organizations and related to high job performance (p. 138). It appeared, therefore, that these demonstrated behaviors of thriving related to the extra-role behavior and personal initiative outcomes of work engagement as shown on the JD-R model.

As illustrated in these various models and constructs, work engagement creates value-added performance by employees and for the organization; therefore, using instruments to assess employee engagement provides important information to an organization related to its future success.

**Assessing Employee Work Engagement**

The available literature offered a variety of methods to assess employee work engagement. This was relevant to this study as the extant research demonstrated that employee work engagement was related to many organizational outcomes including
performance measures. “Almost without exception…firms claim that they have found conclusive and compelling evidence that work engagement increases profitability through higher productivity, sales, customer satisfaction, and employee retention” (Schaufeli & Bakker, 2010, p. 11). In particular, Bakker and Demerouti (2009) concluded from their research that “men’s work engagement and in particular their dedication is positively related to both in-role and extra-role performance” (p. 226). Therefore, for any effort that sought to make changes to improve these performance measures, it would be logical for an organization to measure the level of work engagement in its employees. The methods to assess employee work engagement discussed in this section included the Maslach Burnout Inventory, the Utrecht Work Engagement Survey, and Gallup’s Workplace Audit.

**Maslach Burnout Inventory (MBI).**

Interestingly, the early research on measuring work engagement was based on the study of burnout because work engagement and burn out were considered two ends of a continuum – opposite constructs (Schaufeli & Bakker, 2003, p. 4). The popular instrument to measure burnout, and its dimensions of exhaustion, cynicism, and reduced professional efficacy, was the Maslach Burnout Inventory (MBI). “According to Maslach and Leiter (1997) engagement is characterized by energy, involvement, and efficacy – the direct opposites of the three burnout dimensions….By implication, engagement is assessed by the opposite pattern of scores…of the Maslach Burnout Inventory” (Schaufeli & Bakker, 2003; 2010).
However, Schaufeli and Bakker (2003) identified two major concerns with this approach. If burnout and engagement were measured with the same instrument the relationship between the two could not be studied. Also, through the use of only one instrument, the incorrect assumption could be made that a low measurement on burnout reflected high engagement and vice versa. Therefore, Schaufeli and Bakker determined it was critical to define and assess the concepts independently (p. 4).

**Utrecht Work Engagement Survey (UWES).**

Schaufeli and Bakker (2003) used the work engagement definition of Schaufeli et al. (2002), previously discussed, and developed an instrument to measure engagement that incorporated the dimensions or subscales of vigor, dedication, and absorption – the Utrecht Work Engagement Survey (UWES). “Vigor and dedication are considered direct opposites of exhaustion and cynicism, respectively” (Schaufeli & Bakker, 2003, p. 5). However, empirical evidence did not support the use of the MBI professional efficacy dimension; therefore, Schaufeli and Bakker determined engagement was characterized more by a state of absorption (p. 5).

The UWES instrument developed by Schaufeli and Bakker (2010) was a survey questionnaire that consisted of 17 items scored on a 7-point Likert response scale. A validated, shortened version of nine items was later available. The instrument has been translated into 21 languages and included student versions. Further, the authors have developed an international database with over 60,000 employee records (Schaufeli & Bakker, 2010, p. 16). In addition, tests for validity, variance, consistency, and stability
have all shown the instrument to be effective in measuring work engagement over time (Schaufeli & Bakker, 2003, pp. 7-8). For these reasons, the UWES instrument has been the most popular measure of work engagement. Due to its inclusion in this study’s instrument, more detail on the UWES was provided in Chapter 3 Methods.

**Gallup’s Workplace Audit (Q12).**

According to Schaufeli and Bakker (2010), while several instruments have been used to measure work engagement, there were very few for which psychometric data were available in order to evaluate reliability and validity (p. 15). One instrument for which data were available was the Gallup’s Workplace Audit (GWA or Q12). This measure was designed to assess work engagement based on a Positive Psychology approach and was the result of collaborative research by Dr. George Gallup and Dr. Donald Clifton (Harter, Schmidt, Killham, & Asplund, 2006, pp. 4-5).

The Q12 was “designed from an ‘actionability standpoint’….In the development of the instrument, practical considerations regarding the usefulness…in creating change…have been the leading principle” (Schaufeli & Bakker, 2010, p. 15). However, Schaufeli and Bakker (2010) found the Q12 measures an employee’s perception of their job resources versus their level of job engagement (p. 15). In other words, the Q12 was measuring an antecedent of work engagement versus an employee’s actual level of work engagement.

In conclusion, obtaining an accurate measure of employee work engagement is critical to predicting the performance outcomes that provide a value-add to an
As work engagement is an antecedent to organizational commitment, extra-role behavior, and performance, perhaps there is also evidence that it is linked to an individual’s and organization’s readiness for change.

**Readiness for Change**

“Organizational change initiates from a mismatch with the environment and is motivated by gaps between the organization’s goals and current results. This…change is…critical for managers in terms of effective implementation and for employees in terms of acceptance and engagement” (Avey et al., 2008, p. 49).

There were several definitions for the term readiness for change found in the literature. The definitions discussed give insight into organizational characteristics that influence readiness for change. The literature on change theory has evolved to include the concept of *readiness for change* as a different construct from the *resistance to change*. However, Chawla and Kelloway (2004) stated “resistance to change has often been used interchangeably with terms such as a lack of change readiness” (p. 485).

In a study by Ingersoll et al. (2000), “organizational readiness was defined as a state of preparedness for change…influenced by the organization's previous history of change, its plans for continuous organizational refinement, and its ability through its social and technical systems to initiate and sustain that change” (Review of the Literature section, para. 8).

Werner (2009) stated “organizational readiness for change is a multi-level, multi-faceted construct….As an organizational-level construct…[it] refers to organizational
members’ shared resolve to implement a change...and shared belief in their collective ability to do so” (p. 1). Elgamal (2012) believed change readiness was found at the individual, group, unit, department or organizational level. “Organizational readiness refers to organizational members [sic] change commitment and change efficacy to implement organizational change...[where] readiness...connotes a state of being both psychologically and behaviorally prepared to take action” (Elgamal, 2012, p. 46).

Further, “when organizational readiness for change is high...members are more likely to initiate change, exert greater effort, exhibit greater persistence and display more cooperative behavior. The result is more effective implementation” (Werner, 2009, p. 1).

According to Armenakis, Harris, and Mossholder (1993), readiness for change described the “organizational members’ beliefs, attitudes, and intentions regarding the extent to which changes are needed and the organization’s capacity to successfully make those changes. The cognitive precursor to the behaviors of either resistance to, or support for, a change effort” (pp. 681-682). Further, Jansen (2000) concluded “readiness for change is an organization’s capacity for making change and the extent to which individuals perceive the change as needed” (as cited in Choi & Ruona, 2011, p. 52).

Finally, Holt, Armenakis, Feild, and Harris (2007) offered “readiness for change is an [employee] attitude that acts as a precursor to intentions to support change” (as cited in Jimmieson et al., 2008, p. 239). Holt et al. stated readiness for change related to the “employees’ beliefs that (a) they are capable of implementing a proposed change...(b) the proposed change is appropriate for the organization...(c) the leaders are committed to
the proposed change…and (d) the proposed change is beneficial to organizational members” (as cited in Choi & Ruona, 2011, p. 52).

From these various definitions it was clear readiness for change was not just an organizational characteristic, but one linked to the individual employees and their perceptions of the change effort. To expand on this understanding, it warranted a closer look into (a) the organizational characteristics that may be an indication of readiness for change, and (b) identifying how these characteristics might link to employee work engagement in order to build a foundation for establishing this relationship empirically.

**Organizational Characteristics and Readiness for Change**

“Creating change readiness means managing in a way that encourages engagement, commitment, aspiration, and adaptability” (Bevan, 2011, p. 9). Therefore, for an organization to be prepared to manage change effectively, the author asserted that it must create an alignment between its mission and strategy, supportive leaders, and engaged employees (Bevan, 2011, p. 9).

Armenakis et al. (1993) concluded “the energy, inspiration, and support necessary to create readiness must come from within the organization…the activities of internal change agents” were significant (p. 682). Internal change agents included organizational leaders and managers as they attempted “to influence the beliefs, attitudes, intentions, and ultimately the behavior of a change target” (Armenakis et al., 1993, p. 683). However, the change agent “must understand the distinction between individual and collective
readiness…an organization’s collective readiness is constantly being influenced by the readiness of the individuals comprising it” (Armenakis et al., 1993, p. 686).

Choi and Ruona (2011) stated, historically, individual employees were considered the source of resistance to change within an organization. However, the authors believed this perspective should be viewed as the employee’s readiness for change. Particularly in organization development (OD) change interventions, the participation of the individual employees was a significant ingredient to the assessment and change process.

Further, if the consensus in the conceptual and theoretical literature was that the employees were an important part of the system of change, the organizational context became significant to this research. “Organizational change…interrupts the normal patterns of an organization…. [T]o make sense of the new environment and to draw conclusions about its possible outcomes, individuals are actively involved in information seeking…and assumption making about the change process” (Choi & Ruona, 2011, p. 51).

In other words, these assumptions, expectations, and impressions represented individual employee’s change readiness (Choi & Ruona, 2011, p. 51). This assertion supported that of Eby, Adams, Russell, and Gaby (2000) who “found that employees who rated their division as having flexible policies and procedures were more likely to evaluate their organization and the people working there as being more responsive to change” (as cited in Jones et al., 2005, p. 363).

An illustration of the relationship of organizational context and its influence on individuals was found within learning organizations which appeared to have a higher
readiness for change. Senge (1990) reported that “learning organizations are entities where people continually expand their capacities to create…results…, environments where new and expansive patterns of thinking are nurtured,…and where people are continually learning to see the whole together” (as cited in Theodore, 2013, p. 65). Therefore, in learning organizations, the capacities to change on an individual and organizational level are nurtured and part of the culture.

Further, Theodore (2013) stated OD “interventions in key areas of learning organizations assist to further develop such organizations because they are open systems and accustomed to planned developmental changes” (p. 65). Therefore, within learning organizations “the resistance to planned development changes is limited or absent in comparison to non-learning organizations” (Theodore, 2013, p. 65).

This perspective was supported by Choi and Ruona (2011) who reported “a learning culture enables individuals to be agents learning on behalf of their organization and to be ready for organizational change” (p. 62). The authors went on to say organizations with a strong emphasis on learning tended to be better at change. Watkins and Marsick (1993) stated “a learning culture not only encourages individuals to be engaged in organizational learning but also enhances organizational capacity to make successful changes” (as cited in Choi & Ruona, 2011, p. 62).

These definitions lead to a discussion of organizational culture and its impact on individuals and readiness for change. Schein (1990) stated the organization’s culture was like its personality and character, similar to that of an individual who learned how to behave, acquired certain beliefs and values, and allowed one to adapt to one’s
environment (p. 111). On this topic, Jones, Jimmieson, and Griffiths (2005) described the following:

Organizations differ in terms of whether they adopt an inward focus towards their internal dynamics or an external focus towards the environment. An organizational culture emphasizing human relations values aims to foster high levels of cohesion and morale among employees through training and development, open communication, and participative decision-making. An open systems orientation places more of an emphasis on innovation and development. This is achieved by fostering adaptability and readiness, visionary communication, and adaptable decision-making. (p. 364)

Based upon their findings, Jones et al. (2005) asserted that “employees who perceive their workplace to be dominant in either human relations values or open systems values are more likely to hold positive views towards organizational change” (p. 366). The researchers used the Competing Values Framework (CVF), which included the human relations values and open systems values quadrants, to illustrate the relationship between an organization’s culture, capabilities, and the impact on readiness for change (Figure 4).
### Flexibility

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### Internal process

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### Control

Figure 4. Competing Values Framework Model

Adapted with permission from Jones et al., The impact of organizational culture and reshaping capabilities on change implementation success: The mediating role of readiness for change, Journal of Management Studies, volume 41, number 2, February, 2005. Copyright 2005, the Institute for Operations Research and the Management Sciences, 5521 Research Park Drive, Catonsville, Maryland 21228.

The research by Patterson et al. (2005) supported this point of view. According to Patterson et al., “the open systems approach (external focus and flexible relationships with the environment) emphasizes the interaction and adaptation of the organization in its environment, with managers seeking resources and innovating in response to environmental (or market) demands” (pp. 384-385). “The emphasis…is on readiness, change [sic] and innovation, where norms and values are associated with growth, resource acquisition, creativity [sic] and adaptation” (Patterson et al., 2005, p. 386).

Climate dimensions within the open systems approach included “flexibility—an orientation toward change…; innovation—the extent of encouragement and support for
new ideas and innovative approaches…; [and] reflexivity-a concern with reviewing and reflecting upon objectives, strategies, and work processes, in order to adapt to the wider environment” (Patterson et al., 2005, p. 386). These exact dimensions were those chosen to be measured in this research via the OCM instrument. The OCM and the reasons why the researcher chose these dimensions were discussed in more detail later in this chapter.

Finally, Rafferty, Jimmieson, and Armenakis (2013) emphasized their belief that any model of organizational readiness for change must include an affective component (p. 130). The following was a key part of the authors’ conclusion: “An individual’s overall evaluative judgment that he or she is ready for organizational change is influenced by the individual’s current and future-oriented positive affective emotional responses to a specific change event” (Rafferty et al., 2013, p. 116). Further, Rafferty et al. addressed the affective influence at the group and organizational levels when they provided the following:

A work group’s change readiness and an organization’s change readiness are influenced by (1) shared cognitive beliefs among work group or organizational members (a) that change is needed, (b) that the work group or organization has the capability to successfully undertake change, (c) that change will have positive outcomes for the work group or organization and by (2) the occurrence of current and future-oriented positive group or organizational emotional responses to an organizational change. (p. 117)

In conclusion, this section of the review of the literature makes it apparent the characteristics of an organization have a significant impact on its readiness for change. It
is also clear the individuals in the organization are impacted by these characteristics and this influences their readiness for change. As organizations are made up of these individuals, the relationship is one that is significant, must be considered, and properly assessed in order to ensure the organization is in an appropriate state of readiness prior to implementing a change effort.

Assessing Readiness for Change

The review of the research in this area addressed several empirical studies and introduced various assessment instruments used to measure an organization’s readiness for change.

Drew and Smith (1995) stated the “concepts of the learning organization can be utilized to ‘change proof’ the firm – to increase its capacity to withstand and exploit unexpected and rapid change” (p. 4). The authors explained this concept in the following way: “Change proofing is not a means of resisting or avoiding change, but a process for becoming more flexible and responsive in order to cope with it” (Drew & Smith, 1995, p. 5).

Therefore, for an organization to assess its readiness for change, “to help identify and assess the critical factors for change proofing, a ‘change audit’ is recommended…of organizational learning processes and their impact on strategic focus, motivation and core capabilities” (Drew & Smith, 1995, p. 5). Drew and Smith (1995) stated “a change audit is aimed at diagnosing needs for organizational learning and developing initiatives to enhance organizational capacity for change” (p. 11).
Ingersoll et al. (2000) conducted an empirical study using the Pasmore Sociotechnical Systems Assessment Survey (STSAS) in which organizational readiness was measured by the subscales of innovativeness and cooperation. The innovation subscale included 10 Likert-response items that “measure rewards for innovation, propensity for risk taking, and extent to which the organization leaders and members maintain a futuristic orientation” (Ingersoll et al., 2000, Instruments section, para. 5). The cooperation subscale of the STSAS comprised seven Likert response items “which measure teamwork, flexibility, changes in organizational structure, and extent to which individuals and subunits work together to accomplish superordinate goals” (Ingersoll et al., 2000, Instruments section, para. 5).

According to Ingersoll et al. (2000), the researchers distributed 2,157 questionnaires to hospital employees directly affected by the change effort through an internal mailing system. A follow up letter was sent two weeks later to thank the respondents and to request a response from those that had not completed the survey. The response rate was 41.1%, or 887 questionnaires, but only 31.7%, or 684, were usable based on completeness. The authors recognized the low response rate but as the staff to administrator ratio was comparable to that of the institution, the response rate was considered acceptable (Ingersoll et al, 2000, Findings section, para. 1).

An interesting conclusion by Ingersoll et al. (2000) was “organizational readiness…was the strongest predictor of employee commitment to the organization”
In addition, the authors reported the following conclusion based on their study:

[A] constructive culture was associated with favorable perceptions about the organization’s readiness and employee commitment to the organization….It suggests that creating environments in which employees feel empowered to influence the work of the group are likely to have the added benefit of employee commitment to the work of the organization as well as favorable perceptions about any proposed plans for change. (Ingersoll et al., 2000, Organizational Culture and Commitment section, para. 2)

Organizational Climate Measure (OCM).

Patterson et al. (2005) described organizational climate as “an intervening variable between the context of an organization and the behavior of its members” (p. 379). This variable was generally accepted as the perception of the organization by its employees; therefore, to analyze an organizational climate at various levels, individual scores on a measure were aggregated for the group, department, or organization levels. “The rationale behind aggregating individual data…is the assumption that organizational collectives have their own climate….Perceptual agreement implies a shared assignment of psychological meaning allowing individual perceptions to be aggregated and treated as a higher-level construct” (Patterson et al., 2005, p. 380).

The Organizational Climate Measure (OCM) was developed by Patterson et al. (2005) who validated the measure in an empirical study, discussed in detail below, and
linked it to “managerial practices, productivity, and innovation” (p. 379). The authors found prior studies on organizational climate did not build upon one another as they often studied different dimensions of climate; therefore, the goal of their study was to develop “an inclusive, robust, and theoretically based approach to the measurement of climate” (Patterson et al., 2005, p. 382).

The OCM was developed as a multi-dimensional measure and the 17 subscales have been validated for use independently by researchers as applicable to their particular study. “The measure is designed to...be applicable across a range of work settings and to target all employee levels” (Patterson et al., 2005, p. 383). Patterson et al. (2005) stated “The 17 scales contained within the measure had acceptable levels of reliability and were factorially distinct” (p. 379).

Patterson et al. (2005) specifically used the term *climate* in their measure and distinguished organizational climate from organizational culture in the following way:

Organizational climate is more behaviorally oriented in that climates for creativity, innovation, safety, or service, for example, may be found in the workplace. These climates represent employees' perceptions of organizational policies, practices, and procedures, and subsequent patterns of interactions and behaviors that support creativity, innovation, safety, or service in the organization. Thus, climate can be understood as a surface manifestation of culture. (p. 381)

Interestingly, the OCM was based on the Competing Values Model (CVM), also known as the CVF, which related to an organization’s culture – though this disparity of climate versus culture did not appear to be of significance as Patterson et al. understood
climate to be the manifestation of culture. Patterson et al. (2005) stated that the CVM “calls attention to how opposing values exist in organizations” (p. 384) and reported that according to Zammuto and O’Connor (1992) “individual organizations are likely to embrace different mixtures of values that are reflected in their desired ends and in the means to attain them” (as cited in Patterson et al., 2005, p. 384).

Like the CVM, the 17 scale OCM incorporated four quadrants of measurement: human relations, internal processes, open systems, and rational goals. Of particular interest in this instrument were the dimensions, or subscales, within the open systems quadrant for their applicability in assessing readiness for change. “The Open Systems Model (external focus and flexible orientation) is on readiness, change [sic] and innovation, where norms and values are associated with growth, resource acquisition, creativity and adaptation” (Patterson et al., 2005, p. 386). The three climate dimensions in the open systems quadrant of the OCM included (a) innovation and flexibility, (b) reflexivity, and (c) outward focus. The dimensions that specifically focus on internal readiness for change were innovation and flexibility, and reflexivity.

The innovation and flexibility climate dimension measured “acceptance of new ideas; ability to respond to change; identification of need for change; flexibility in responding to changes needed in procedures; support in developing new ideas; and orientation to improvement and innovation” (Rivard, 2005, p. 4). According to West (1996, 2000), reflexivity was concerned “with reviewing and reflecting upon objectives, strategies, and work processes, in order to adapt to the wider environment” (as cited in Patterson et al., 2005, p. 386).
In their post-study discussion of results, Patterson et al. (2005) stated that in order to be useful, the OCM should “demonstrate significant differences in employee perceptions across organizations…[and]…produce data indicating reasonable consensus between employees within organizations” (p. 394). The authors found the measure distinguished between organizational climates and; therefore, the data collected using the OCM reflected variations in climate (Patterson et al., 2005, p. 398).

Finally, the authors suggested using the instrument to assess organizational compatibility before and after mergers and acquisitions; and for studies related to organizational and cultural change, including sub-cultures (Patterson et al., 2005, p. 399). The instrument was also validated for use in measuring organizational climate in service organizations. Additional details on the OCM were provided in Chapter 3 Methods.

**Competing Values Framework (CVF).**

The impact of an organization’s culture on change implementation success, with change readiness as a mediating variable, was the focus of an empirical study by Jones et al. (2005) and previously shown in Figure 4. The authors based their study on the Competing Values Framework (CVF), also known as the CVM used by Patterson et al. (2005), which represented the interaction of culture, capabilities, and readiness for change. The CVF model supported the work by Patterson et al. (2005) and the OCM as the open systems quadrant reflected the organization’s goal of innovation and development.
However, in this discussion, in addition to the open systems quadrant, the importance of the human relations quadrant to organizational change readiness was explored. The human relations quadrant reflected the end goal of cohesion and morale by means of training and development, open communication, and participative decision-making (Jones et al., 2005, p. 365).

The initial hypothesis of the study by Jones et al. (2005) was “employees’ perceptions of an organizational culture strong in human relations values and open systems values would be associated with heightened levels of readiness for change which, in turn, would be predictive of change implementation success” (p. 361). The authors’ Hypothesis 1a specifically stated “employees who perceive a human relations cultural environment within their division would report higher levels of user satisfaction…and that this relationship would be mediated by their ratings of readiness for change” (Jones et al., 2005, p. 369). Hypothesis 1b referred in a similar way to an open systems cultural environment and its impact on user satisfaction mediated by readiness for change.

Questionnaires were distributed to 572 employees at Time 1 and Time 2, five weeks later. Five independent instruments were used including unidentified measures of organizational culture and readiness for change. “Levels of readiness for change were measured with seven items designed to assess the extent to which employees were feeling positive about the changes introduced” (Jones et al, 2005, p. 373). The available responses were presented using a seven point Likert scale.
The authors used descriptive measures and multiple regression techniques to analyze their results. The analysis supported Hypothesis 1a that employees’ perceptions of a human relations culture were predictive of readiness for change: $\beta = .33$, $p < .01$, $R^2 = .11$, $F(1, 60) = 7.43$, $p < .01$ (Jones et al., 3005, p. 377). In the discussion of these results, Jones et al. (2005) stated “the present study…has demonstrated simultaneously that readiness for change may be the mechanism through which an organizational culture emphasizing human relations values impacts on successful change outcomes” (p. 380).

Based on their study results Jones et al. (2005) found that Hypothesis 1b regarding the importance of open systems to change implementation success was not supported. However, to provide evidence as to their belief in this hypothesis, the authors stated the following:

O’Neill and Quinn (1993) note that open systems cultures are characterized by adaptability and a willingness to take on new challenges.…Zammuto and Krakower (1991) compliment this argument by commenting that open systems cultures are dynamic and entrepreneurial, usually displaying significant levels of adaptability and change readiness. (as cited in Jones, et al., 2005, p. 380)

Theory of Planned Behavior (TPB).

An empirical study by Jimmieson et al. (2008) used the Theory of Planned Behavior (TPB) model which focused on the impact of the individual employees’ intentions to support organizational change, specifically a relocation of the organization. According to Ajzen (1991) “The TPB is similar to other cognitive decision-making
models in that its underlying premise states that individuals make decisions rationally and systematically through information available to them” (as cited in Jimmieson et al., 2008, p. 239).

Jimmieson et al. (2008) chose to use TPB due to its association with the premise that the determinant of behavior was intentions. In their study, the authors focused on three determinants of intentions – a person’s attitude, subjective norm, and behavioral control – and developed an 11 item instrument based on TPB questionnaire guidelines which included a seven point Likert response scale.

In analyzing their results, the authors used descriptive measures, hierarchical multiple regressions, and one-way ANOVA. In addition, the authors controlled for age and gender in the hierarchical multiple regressions and found no effect on the study variables as predictors of intention. Tests to determine group-level variability found there was little influence and; therefore, the data could be analyzed at the individual level. The study supported three of the Jimmieson et al (2008) hypotheses:

Employees who held positive attitudes toward performing behaviors that supported the relocation, $\beta = .23, p < .01$, who perceived pressure from others to complete the required activities, $\beta = .28, p < .001$, and who felt they were in control of performing such behaviors, $\beta = .18, p < .05$, were more likely to intend to carry out supportive activities related to the relocation. (p. 252)

The results also demonstrated the social influence of group norms and in-group identification on an individual’s intentions to support change. Finally, the authors concluded “from an applied point of view, the TPB is a useful framework for
preimplementation assessments of readiness for change as it can provide organizations with an early indication of employee beliefs and determinants of their intentions prior to the change event” (Jimmieson et al., 2008, p. 259).

**Additional Empirical Studies to Assess Readiness for Change**

**Alas (2009).**

Alas (2009) conducted an empirical study on the impact of work-related values on an employee’s readiness to change, particularly “attitudes concerning change and organizational learning” (p. 113). According to Ashkanasy, Wilderom, and Peterson (2000) “Work-related values [is] a concept that implies the existence of particular sets of values that govern employee work behaviour [sic] in all of its forms” (as cited in Alas, 2009, p. 115).

With regard to the first factor of readiness to change, Alas (2009) found “attitudes to change – the benefits of the change and the competence of managers to implement these changes – become important” (p. 114). Further, regarding the second factor, Alas stated “the ability to adapt to change is enhanced by learning, both at the individual and organizational levels” (p. 114). Therefore, according to Struckman and Yammarino (2003) “the readiness factors act like a bridge between identifying what needs to happen and the activity of implementing the change” (as cited by Alas, 2009, p. 114).

For the Alas (2009) study, the respondents completed three questionnaires including (a) 21 items on organizational learning, both individual and collective, on a 10-
point Likert scale; (b) 15 items on attitude towards change with four sub-scales; and (c) 46 items related to nine work-related value groups. The data were analyzed using linear regression stepwise analysis, t-tests, and ANOVA. Based on these results, the Alas reported the following regarding the predictors of attitude toward change:

The LRA Stepwise method reveals that 9.8% of the variability in perceived benefit from change - $F(3, 743) = 28.1, p < .001$ - and 7.1% of the variability in satisfaction about information about change - $F(4, 742) = 15.3, p < .001$ - can be explained by reference to independent variables. These figures for satisfaction with leadership are 4.3% of the variability and - $F(3, 743) = 12.3, p < .001$ - and for job satisfaction and commitment to the company 3.1% of the variability - $F(1, 745) = 25.2, p < .001$. (p. 118)

Alas (2009) concluded “when analyzing readiness to change, the impact of values on employee attitude toward change and organizational learning should be taken into consideration” (p. 115). Specifically, the author’s results demonstrated “ethical values and business ideological values are the best predictors of attitude toward change” (p. 118). The model developed by Alas based on this research is shown in Figure 5 below.
An empirical study by Elgamal (2012) used an 18-item list of descriptive variables with a five point Likert response scale to determine the key internal and external factors in readiness for change. The instrument was developed for the study, and based on the results the author hoped to improve a “proposed model of the determinants of readiness for change in small professional sub-organizations” (Elgamal, 2012, p. 45).

To analyze the data, the author used descriptive methods, *t*-test, and regression analysis. The means for the variables ranged from 3.36 to 4.07 from which the author concluded an above average readiness for change in the organization examined. The
A t-test was used to assess the variability between groups based upon their mean scores.

The factor analysis resulted in four factors with high reliability scores to assess readiness for change with Cronbach alpha calculations ranging between .82 and .93 and correlation coefficients ranging from .61 to .79. The four factors were (a) visionary leadership and competencies of planning; (b) quality of planning supporting systems; (c) availability of resources and motivation; and (d) top management involvement (Elgamal, 2012, p. 47). From an employee engagement perspective these factors would be considered job resources.

Elgamal (2012) highlighted three limitations to the study including the small sample size (135 participants across 21 organizations), the use of perceptual (self-reported) data; and that the model did not take into account external effects on readiness for change (p. 49). Due to these limitations, the author recommended that future research with larger organizations and a larger sample size be undertaken to ensure generalizability of the model. However, even with these limitations, it was evident that the employees’ job resources had a significant impact on the organization’s readiness for change.

Rafferty et al. (2013).

Using the existing empirical research available, Rafferty et al. (2013) conducted a theoretical review of the literature on readiness for change. The goal was to “develop a multi-level framework that identifies the antecedents and consequences of individual, work group, and organizational change readiness,…[and] outline[s] the theoretical
processes that lead to the development of individual and collective change readiness” (Rafferty et al., 2013, p. 110).

Based on their review, Rafferty et al. (2013) concluded the three categories of antecedents to readiness for change encompassed (a) external organizational pressures, (b) internal context enablers, and (c) “at the individual level of analysis… personal characteristics, whereas at the collective level, we label this category of antecedents as group composition characteristics” (Rafferty et al., 2013, p. 121). In the resulting multi-level framework, the authors provided antecedents within each broad category used to assess readiness for change (Figure 6).

![Figure 6](source.png)

*Note: Heavy dashed line displays the compositional processes through which lower level phenomena are compiled to result in higher level phenomena. Lightly dashed lines display potential cross-level relationships.

*Figure 6. Multilevel Framework of the Antecedents and Consequences of Readiness for Change. Source: Rafferty et al., 2013, p. 113. Used with Permission.*

When considering the implications of their research, the authors questioned what high or low readiness for change meant for an organization. Rafferty et al. (2013) posited
that “a low level of individual, group, or organizational change readiness may present important diagnostic information that an organization can use to develop and improve its approach to change” (p. 129). Further, the authors concluded “assessing readiness and then subsequently increasing efforts to create individual, group, and organizational change readiness may be the necessary ingredient to increase the likelihood of successful organizational change” (Rafferty et al., 2013, p. 129). These suggested practical applications were the benefit of the research and aligned with the goal of this researcher’s study.

In conclusion, the research reviewed in this section provides an overview of the significant literature on assessing the readiness for change at the individual, group, and organizational level and includes empirical studies using quantitative descriptive questionnaires. The topics of readiness for change and the methods to assess whether the organization is in a proper state of readiness may provide practical implications for the work environment; however, to begin closing the gap in the existing literature, these concepts must be linked to the topic of work engagement.

**Linking Work Engagement to Readiness for Change**

No empirical research was found that attempted to link the work engagement construct and its dimensions of vigor, dedication, and absorption directly to the organizational readiness for change construct. However, the following studies were those closest through the authors’ efforts to link readiness for change to concepts that were similar to, or represent a dimension or antecedent of, work engagement.
Madsen, Miller, and John (2005).

The study by Madsen, Miller, and Johnson (2005) pursued an understanding of the factors that contributed to an individual’s readiness for change in an organization. The two factors examined in their study were organizational commitment and social relationships.

The authors conducted their study in four companies in Utah and obtained 464 usable surveys. The results “indicate a significant relationships between readiness for change, organizational commitment, and social relationships” (Madsen, Miller, & John, 2005, p. 213). Madsen et al. (2005) results included organizational commitment strongly linked ($r = .45, p < .001$) to readiness for organizational change scores (p. 224). The authors also found “a slight relationship between social relations and readiness for change ($r = .18, p < .001$)” (Madsen et al., 2005, p. 226).

While not studying the work engagement construct directly, relative to this study, organizational commitment represents an outcome of employee work engagement in the JD-R Model and social relationships represent a type of job resource.

Avey et al. (2008).

Avey et al. (2008) stated “central to our proposed model of the relationship of positive employees in positive organizational change is psychological capital” (p. 52). The authors conducted an empirical study in which they surveyed 132 employees from a broad cross-section of organizations and jobs to research the link between positive
employees and organizational change. The study was conducted in two phases to measure the independent and dependent variables separately in order to reduce rater bias. Multiple instruments were used and included Likert-type scales.

Independent or predictor variable measurements were conducted with instruments for PsyCap, mindfulness, and positive emotions. The dependent or criterion variable measurements were conducted with instruments for cynicism, engagement, organizational citizenship, and deviance (Avey et al., 2008, p. 59). Due to the number of variables, the data analysis was detailed and completed using descriptive measures, reliability coefficients (.80 to .95), confirmatory factor analysis, and hierarchical regression.

From the results, Avey et al. (2008) concluded: (a) positive emotions were positively related to emotional engagement; (b) positive emotions were positively related to organizational citizenship behaviors; (c) positive emotions were positively related to PsyCap; (d) positive emotions fully mediated between PsyCap and employee engagement; and (e) mindfulness moderated the relationship between positive emotions and PsyCap. Construct validity tests and path analysis, through structural equation modeling, were used to develop and confirm the model by Avey et al. (Figure 7).
Based on their study, the following was one of the authors’ key findings regarding these employees: “psychological capital (consisting of hope, efficacy, optimism, and resilience) was related to...positive emotions that in turn were related to...attitudes (engagement and cynicism) and behaviors (organizational citizenship and deviance) relevant to organizational change” (Avey et. al, 2008, p. 48).

This discussion attempted to directly link the work engagement concept of PsyCap to organizational change readiness. It should be noted that the authors’ description of PsyCap included efficacy, optimism, and resilience which are the elements of personal resources in the JD-R model demonstrated as antecedents to employee engagement. Further, the authors associated their concept of engagement to behaviors important for organizational change including organizational commitment – an outcome shown in the JD-R model.
**Weiner (2009).**

Through his review of the literature, Weiner (2009) developed a conceptual framework for organizational change which included what he refers to as determinants of implementation effectiveness of organizational change (Figure 8). The determinants comprised organizational change readiness and change-related effort. Weiner defined “organizational readiness as a shared psychological state in which organizational members feel committed to implementing an organizational change and confident in their collective abilities to do so” (p. 1).

**Figure 8.** Determinants and Outcomes of Organizational Readiness for Change. Source: Weiner (2009). Used with Permission.

In this framework, Weiner (2009) provided pre-determinants for organizational readiness for change. These pre-determinants included contextual factors in the organization such as culture, resources, structure, past experience, and policies and procedures; informational assessment including task demands, resource perceptions, and situational factors; and the employees’ belief that the change is important – change valence (Weiner, 2009, p. 4).
There was no empirical evidence in the work by Weiner (2009) that directly connects any of the specific work engagement factors used in this study to readiness for change. However, commitment to the organization was an outcome demonstrated in the JD-R Model and it should be considered that commitment to the organization may influence commitment to a change effort. Further, the contextual factors highlighted by Weiner align with the concept of job resources which are one of the antecedents to work engagement.

_Spreitzer et al. (2010)._

Though not empirical research, Spreitzer et al. (2010) conducted a thorough review of the literature on employee engagement and thriving. Porath, Spreitzer, and Gibson (2008) stated “thriving contributes to positive adaptation amidst a changing work environment” (as cited in Spreitzer et al., 2010, p. 134). Specifically, thriving workers were more resilient in the face of work-related difficulties. This resilience was attributed to thriving in the form of sense-making, defined as “the process of creating situational awareness and understanding in situations of high complexity or uncertainty in order to make decisions” (Spreitzer et al., 2010, p. 138).

Based on the study of the literature, Spreitzer et al. (2010) reported “through enhanced sense-making, employees…anticipate problems in advance, and respond promptly to adverse events in a flexible…way” (p.138). Finally, according to the authors, thriving and engagement, via its subscales, have similar characteristics including positive emotions, energy, resilience, and persistence during difficult times.
In conclusion, there are several commonalities from the research by Spreitzer et al. (2010) that support this author’s study. In particular, in the JD-R model, resilience is considered one of the primary personal resources which are antecedents to work engagement; and energy (vigor) and persistence (dedication) are dimensions of employee engagement as defined for this study. Therefore, the research by Spreitzer et al. supports the perspective that an organization’s readiness for change would benefit from employees that garner these characteristics including an improved adaptability and flexibility toward change.

*Harter, Schmidt, Agrawal, and Plowman (2013).*

There was substantive empirical research found between employee work engagement and organizational outcomes. For example, in their review of the literature, Kim (2014a) and Kim et al. (2013) found that employee engagement was related to turnover intention and performance results for the individual and the organization.

In their work, Harter et al. (2013) completed a meta-analysis of 263 studies conducted across 192 organizations in 34 countries. They concluded the relationship between employee engagement and performance at the business/work unit level was substantial and highly generalizable across organizations.

Their “results indicate high generalizability, which means the correlations were consistent across different organizations. The true score correlation between employee engagement and the composite performance indicator was 0.42” (Harter, Schmidt, Agrawal, & Plowman, 2013, p. 2). The caveat, however, is that they used nine different
organization performance indicators with none of the indicators being organizational readiness for change.

_Ghitulescu (2013)._ 

Ghitulescu (2013) conducted research on the relationship between employees’ job resources, job demands, the work context, and employee performance outcomes to organizational readiness for change. The research by Ghitulescu was perhaps closest to this study; however, while the author briefly referenced the JD-R model, the research did not incorporate the full construct of work engagement or the personal resources antecedent as an influence on employee engagement or performance behavior.

The study was framed in the following way: “The job demands-resources theory provides insights into the factors (i.e. job resources and demands) that facilitate an employee’s work engagement and encourage adaptivity and proactivity” (Ghitulescu, 2013, p. 213). The purpose of the research was to provide managers with an understanding of the “impact of work contexts on proactivity….regardless of individual characteristics or personality traits” (Ghitulescu, 2013, p. 208) so they can shape the environment to provide opportunities for adaptive and proactive employee behaviors.

According to Griffin, Parker, and Mason (2010) in order to “cope with dynamic environments and enact change, organizations expect employees not only to work harder but also to engage in change-oriented behaviors, such as adapting to changing conditions and proactively anticipating new challenges” (as cited in Ghitulescu, 2013, pp. 206-207). Further, Ghitulescu (2013) stated “scholars have argued that organizational success
increasingly depends on employees taking personal responsibility for change and [in particular] cite…workplace concepts [including] psychological empowerment, organizational citizenship, proactivity, and personal initiative” (p.207).

Relating the study to organizational readiness for change, Ghitulescu (2013) proposed that “adaptivity and proactivity are important aspects in the change adoption and institutionalization phase” (p. 209). After reviewing the extant literature, Ghitulescu synthesized these concepts and their impacts during times of change (Figure 9).

<table>
<thead>
<tr>
<th>Change-oriented behavior</th>
<th>Importance to change management</th>
<th>Incremental/evolutionary</th>
<th>Frame breaking/revolutionary</th>
</tr>
</thead>
</table>
| Adaptive behavior        | • Adaptation to new circumstances in work environment  
                          • Employee acceptance of change | • Coping with changes in core tasks in uncertain environment (Griffin et al., 2010) | • Adapting to task changes during organizational restructuring (Griffin et al., 2010) |
| Proactive behavior       | • Implementation of organizational change  
                          • Employee support for change  
                          • Initiate organizational change from below  
                          • Contribution to organizational innovation | • Taking charge to initiate change at work (Morrison & Phelps, 1999)  
                          • Continuous improvement behavior (Fuller et al., 2006)  
                          • Proactive problem solving (Crant, 2000; Parker et al., 2006)  
                          • Proactive modification of product design (Frohman, 1997) | • Initiating improvements in tasks during organizational restructuring (Griffin et al., 2010) |

*Figure 9. Adaptive and Proactive Behavior-the Impact on Change Management*


With the framework developed, Ghitulescu (2013) conducted a multi-level study in a school setting during the implementation of a district-wide change effort. The first stage included observations and interviews with teachers, and interviews with
administrators and subject-matter experts. For the second stage the researchers developed a survey instrument using 20 behavior statements developed from the qualitative data obtained in the first stage. Using a Likert-type survey, 621 special education teachers were asked to respond to how frequently they engaged in the behavior. The author noted that while educators in general tended to be adaptable due to the demands of the classroom, special education teachers in particular have high demands for adaptability and proactivity due to the nature of the challenges faced each day.

The data were analyzed using descriptive measures, hierarchical linear modeling, confirmatory factor analysis, correlation measures, and simple regression techniques. The results demonstrated that adaptivity and proactivity behaviors related to features of the job, or job context. Also, it was found that teacher’s task discretion and the social ties they enjoyed had a positive impact on adaptivity and proactivity. Therefore, during change efforts, Ghitulescu (2013) recommended increasing job resources such as task discretion and social ties to create an environment which facilitates employee adaptive and proactive behavior.

Discussing the implications of the study, Ghitulescu (2013) made a link between individual behavior and the success of organizational change in the following way:

Change that alters performance goals and work roles encourages employees to adapt to changing demands, as well as anticipate, plan ahead, and act in advance to create change. Our research underscores the importance of individual behavioral change in models of planned organizational change. Indeed, without
individual behavioral change, successful organizational change is not possible. (p. 233)

Further, the author concluded that the skills of adaptivity and proactivity “allow individuals to…initiate changes in their work that are consistent with the larger change effort…. [They will be] more committed to the change process, will internalize the change effort, and contribute to its institutionalization” (Ghitulescu, 2013, p. 209). Ghitulescu (2013) also highlighted the need for “active participation…[which] contribute[s] to increased feelings of efficacy that underlie employees’ readiness for change and their motives to support the change” (p. 209).

In conclusion, the study by Ghitulescu (2013) supported the idea an organization’s environment (i.e. climate and culture) can influence the employee to become more adaptable and proactive and should be considered essential during change efforts. In addition to the job contexts mentioned previously, environmental factors that the author discussed include relational factors such as trustworthy managers, a supportive work environment, and the organization’s culture (i.e. job resources in the JD-R model). This study, therefore, confirmed the idea that engaged employees, supported by their job resources, were more likely to behave in ways that prepare for and facilitate organizational change. This conclusion supported this researcher’s study.

As discussed previously, efficacy is one of the personal resources represented in the JD-R model as an antecedent to work engagement; however, the stated focus of this study by Ghitulescu (2013) was on job resources, organizational context, and the mediating role of job demands. Yet, even with such a strong focus the author found it
necessary to indicate the influence of job resources and job demands on employee
“feelings of efficacy [a personal resource] that “underlie the employees’ readiness for
change and their motives to support the change” (Ghitulescu, 2013, p. 234). The absence
of additional consideration of the personal resources antecedent on employee engagement
and readiness for change highlighted how the study by Ghitulescu (2013) diverges from
the study by this researcher.

While no study found to date examined the direct relationship between the
employee work engagement and organizational change readiness constructs, in the
various ways noted, the literature indicated a strong link that should be tested through
focused research. The study undertaken with the employees of MA member companies
empirically examined this relationship.

**Conclusion**

This review of the literature on the topics of employee work engagement,
organizational readiness to change, and related concepts provided some rich conclusions.
First, an overview of key theories and models related to work engagement were
highlighted in order to illustrate the impact of the personal resources and job resources on
engagement, behavior, and organizational outcomes. Next, when seeking definitions of
readiness for change it was found this was not just an organizational construct, but one
linked to individual employees and their perceptions of the change effort. These
perceptions included how the change would benefit them and the organization, the
availability of resources, and the level of communicated management support.
In addition, a review of the literature was made to seek common organizational characteristics indicating a readiness for change. Common themes found in the research reviewed included: clear mission and strategy; flexible policies; and an organizational climate supporting human relations and open systems, such as a learning organization. From the research, it was clear the individuals in the organization were impacted by these characteristics and this influenced their readiness for change in terms of energy, engagement, and openness to learning.

Further, a review was conducted to examine the literature regarding methods to assess readiness for change. The research found on this topic provided a broad overview on assessment at the individual, group, and organizational levels. The literature comprised research on both theoretical studies and empirical assessment methods including quantitative studies using descriptive questionnaires such as the OCM used in this study.

Finally, an examination was made of the literature to investigate a potential link, empirically tested, between employee work engagement and an organization’s readiness to change. The research demonstrated the reciprocal relationship of the individual and the organization with regard to readiness for change. In particular, the affective component of the individual was critical to an organization and should be addressed long before a change intervention was needed, planned, or implemented. This affective component was key to an employee’s level of work engagement and, therefore, also to the individual’s and organization’s readiness for change.
In conclusion, by building on the JD-R model, this literature review attempted to determine whether: (a) job resources and personal resources together impact an employee’s level of work engagement; (b) this level of engagement impacts individual outcomes such as organizational commitment, personal initiative, extra-role behavior, and performance; and (c) this level of engagement also appears to be related to the individual’s and organization’s readiness for change.

Finally, it was determined that additional research was needed on the link between the employee’s level of work engagement and an organization’s readiness for change. Empirical research using valid assessment tools to measure employee work engagement and organizational readiness for change, respectively, may establish a stronger relationship than what was found in the literature. Establishing this relationship was the focus of this study. The next chapter discussed the methodology used in this empirical research.
Chapter 3

Method

The purpose of this research study was to explore the relationship between employee work engagement and an organization’s readiness for change in manufacturing organizations in south-central Pennsylvania. The chapter discusses the (a) survey design, (b) population and sample, (c) data collection, and (d) data analysis.

Research Questions

RQ1: What is the relationship between overall employee work engagement and overall organizational change readiness?

RQ2: What is the relationship between each of the subscales of employee work engagement (vigor, dedication, and absorption) and overall organizational change readiness?

RQ3: What is the relationship between overall employee work engagement and each of the subscales indicating organizational change readiness (reflexivity, and innovation and flexibility)?

RQ4: To what extent is organizational change readiness – measured by the two subscales of innovation and flexibility, and reflexivity – influenced by (a) the employee work engagement factors of vigor, dedication, absorption; (b) employee position in the organization; (c) the number of employees in the organization; and
(d) organizational changes experienced by the employee, including new leadership, reorganization, downsizing, and/or merger/acquisition?

**Study Design**

This research study was conducted using quantitative methods. The research represents descriptive correlational research. A questionnaire was used with a total of 28 items. First, the survey combined inventory items from two validated instruments: the nine-question Utrecht Work Engagement Survey (UWES-9) and two subscales of the Organizational Climate Measure (OCM) that comprised 11 questions. Content validity for the final instrument was established based upon a review by a panel of experts and the Executive Director of MA.

Next, in order to obtain context and identify any possible limitations to the study based upon the respondents’ characteristics, seven descriptive items gathered data on the (a) participant’s position within the organization; (b) the number of years in their current position; (c) whether the organization was a manufacturing or non-manufacturing business; (d) whether the organization was union or non-union; (e) the number of full-time employees within the organization; (f) the types of changes the employee had experienced; and (g) whether the respondent had ever been actively involved in a change effort. The position titles and the categories for number of employees were determined by the MA representatives to be those that would be most recognizable to the employees in the association’s member companies. Further details regarding these items were provided in the instrumentation section below.
Finally, beyond the 27 items described above, one qualitative question was asked to determine what influences (personal or workplace) contributed most to the respondents’ desire to do their best at work. According to Kim et al. (2013) “inclusion of a short-answer, critical incident, or interview component, along with quantitative methods,...allow[s] researchers to explore issues in greater detail and to augment the quantitative findings” (p. 263).

The survey conducted was cross-sectional as it measured individual employee self-reported work engagement and individual employee’s perceptions regarding their respective organization’s change readiness at one particular time. While two organizations chose to duplicate and administer a paper survey, the single-stage research was primarily conducted by emailing the respondents a link to a web-based survey. One benefit of the survey method employed in this research was the ability to gather data on multiple variables using existing, validated, and reliable instruments. In addition, as the sample was geographically diverse across several organizations, the online method allowed a cost-efficient and time-efficient way to reach the maximum number of potential respondents (Fowler, 2014, pp. 68-69). Overall, it may also have been more convenient for the respondents in terms of the receipt, completion, and return of the questionnaire.

The potential efficiencies of electronic surveys were supported by Dillman (2007) as this format eliminated the costs related to paper, postage, and data entry and reduced the time for survey implementation to days or hours (p. 352). Dillman made a distinction between email surveys and Web surveys; the latter most closely represented the style of
this study. Also, web-based surveys provided a more polished appearance and various capabilities that benefitted the respondent including the opportunity for quick access instructions; drop down menus of standard responses; and the ability to add color, shapes, images, and animation (Dillman, 2007, p. 354).

Further, Dillman, Smyth, and Christian (2014) asserted web-based surveys were the “fastest growing form of surveying occurring in the United States, as well as throughout most of the world....[and] is especially attractive because of speed, low cost, and economies of scale” (p. 301). The authors reported people were comfortable and familiar with online activity and, therefore, may be “more receptive to completing surveys online (Dillman, Smyth, & Christian, 2014, p. 302).

An important consideration related to study design and data collection procedures was response rate. According to Fowler (2014), the three main issues with response rates included “access, motivation, and cost” (p. 54). Utilizing an online survey makes an assumption regarding the potential respondents’ access to technology as a routine part of the job tasks; however, if no such availability were found to exist, the lack of access must be considered a limitation of the study. An expanded discussion regarding response rates for Internet surveys can be found in the next section related to sample size.

Population and Sample

The population for the study consisted of individual employees of manufacturing organizations who were members of the Manufacturers’ Association of South-Central Pennsylvania (MA). This organization had approximately 400 member manufacturing
and non-manufacturing companies with approximately 200,000 working employees in total (M. Smeltzer, personal communication, January 15, 2014). With the administrative help of the MA Executive Director, Tom Palisin, specific companies from the membership list were contacted regarding the opportunity to participate in the research. Though all organizations contacted did not participate, a number of organizations supported the study and their employees comprised the respondent pool. The unit of analysis is, therefore, the individual employee.

For data analysis purposes and generalizability it was important to have a large enough completed sample in order to assume normalcy and representativeness in the data distribution. To calculate the minimum sample size needed to meet these criteria, one could use a variety of methods. The following methods were examined prior to calculating this study’s required sample size. The applicability of each to this study is discussed.

According to Tabachnick and Fidell (2007), a standard calculation should be 50 + 8 (m) + m, where m was the number of variables in the study. The minimum sample size (n) for a study with seven variables; therefore, would be 113 employees. If a study incorporated multiple regression, Urdan (2010) stated the researcher should have at least 30 + (10 * each study variable). Using this calculation, a study with seven variables would require a sample (n) of at least 100 individuals. Multiple regression analysis was used in the data analysis phase of this study; therefore, this sample calculation method was relevant and obtaining this sample size was critical.
However, according to Smith (2013), sample size can be calculated considering three factors, confidence interval, confidence level (z-score), and standard deviation, in the following way: “Necessary Sample Size = (Z-score)^2 – StdDev*(1-StdDev) / (margin of error)^2” (para. 11). So, according to Smith, for a study with a confidence interval of +/- 5%, a confidence level of 95% (which equals a z-score of 1.96), and a standard deviation of .5, the necessary sample size is approximately 385 individuals. This result was significantly different from the prior two methods.

Finally, Dillman et al. (2014) provided another method to calculate sample size when using simple random sampling. Using a standard 95% confidence interval, the authors provided a table that allowed one to determine an appropriate sample size based on a population estimate (16 choices from 100 to 1 billion); an acceptable sampling error (± 10%, ± 5% or ± 3%); and the homogeneity of the population relative to the topic of interest (80/20 or 50/50) (p. 80). Therefore, using the table, if this study assumed a population of 2,000; a sampling error of ± 5%; and an 80/20 split of homogeneity, the appropriate sample size for the study would be 219 individuals. However, changing the homogeneity split to 50/50, which Dillman et al. consider the conservative assumption on variance, the sample size would increase to 322 individuals (pp. 78, 80). Though calculated differently, this latter figure was similar to that of Smith (2013).

Conversely, Fowler (2014) disagreed with most standard methods of calculating sample size, even those discussed above, and stated (a) sample size should be based upon the researcher’s analysis plan and (b) a larger sample provides increased reliability of the data analysis results. In particular, it was important to consider sub-groups within the
population and obtain the minimum sample to ensure adequate representation of the sub-
groups (p. 39). This method for obtaining a proper sample size was also supported by Dr.
Edgar Yoder, a Professor of Extension Education at Penn State University and the
methodologist for this dissertation (E. Yoder, personal communication, June 17, 2014).

For this study, the researcher used the sample size method recommended by
Fowler (2014). Three sub-groups were considered based upon an employee’s managerial
(or non-managerial) position within the organization. If an appropriate sample size
(approximately 30 or more individuals per subgroup) of a sub-group was not obtained,
any data related to that sub-group was examined to determine its inclusion in or exclusion
from the data analysis due to its potential as a limitation to the study.

Survey Response Rate.

In addition to sample size, survey response rates must be considered as they
influence credibility of research and the generalizability of findings. Prior to conducting
the formal research, a pilot study was recommended by the researcher to MA; however,
MA declined the opportunity. The Executive Director, due to past experience with the
member companies, advised that a pilot study would likely reduce involvement in a final
study. Therefore, to strengthen response rate, the identification of potential survey issues
and the implementation of other research strategies were critical to obtain an adequate
response.
Potential Issues.

Fowler (2014) reported surveys conducted via the Internet can obtain mixed results and respondents may be less likely to respond versus a mail-only survey. However, Fowler found if the proposed respondents were those that routinely used the Internet and received the survey from a familiar source; they were more likely to respond.

Therefore, in this study, it was a concern that non-managerial employees would not have routine access to the Internet during the normal course of fulfilling their job duties. This potential nonresponse could have entered a bias into the data and created a limitation that reduced the completed sample to only those employees at managerial levels. This latent bias was the primary aim for the survey participants to select a response which broadly indicated their position in the organization.

Further, this issue was addressed with the company representatives and assurances were provided to the researcher that non-managerial employees would be given the opportunity to complete either the web-based or paper surveys. Finally, the SPSS analytical software allowed the researcher to view the data based on position and determine whether each of the position sub-groups were adequately represented in the completed sample. The participation of non-managerial employees was no longer considered a limitation to the study; therefore, strategies were implemented to increase the study’s overall response rate.
Strategies to Increase Response Rates.

According to Fowler (2014), Internet surveys were similar to postal surveys and, therefore, the steps used in postal surveys to encourage response cooperation can be used for Internet surveys. Dillman (2007) found “implementation procedures have a greater influence on response rates…. [including] multiple contacts,… incentives,… sponsorship and how it is explained” (p. 149). Therefore, these and the following similar steps, recommended by Fowler, were implemented: “identifiable sponsors, well-designed instruments, financial incentives, and repeated contacts” (p. 54).

First, if the survey was received from a researcher who was an unfamiliar source to the potential respondent, it may have reduced the response rate. Therefore, to avoid this issue, the survey was sent from, or provided by, each participating organization’s own representative to the respondents. Further, the President or CEO of the respondent’s organization was the visible sponsor of the survey.

Second, the instrument was well designed and validated for conducting either a web-based or paper survey. The Dillman (2007) guidelines for creating a respondent-friendly questionnaire were applicable to this study’s instrument including “questions that are clear and easy to comprehend, a question order that suggests high salience to the respondent, and a question layout…for comprehension and easy response” (p. 150). High salience questions encompassed those that ask “about current behaviors or interests” (Dillman, 2007, p. 155). Additional recommendations by Dillman et al. (2014) for well-designed web-based surveys were incorporated into the questionnaire: (a) use a consistent page layout, (b) allow respondents to back up in the survey, (c) do not require
responses to questions, and (d) permit the survey to be stopped and completed at a later time (pp. 318-327).

Third, a financial incentive was offered to the respondents. The MA representatives agreed a drawing for a gift card award created an excellent and positive inducement for survey participation. According to Fowler (2014), rewards improve overall response rates and may also “reduce non-response bias resulting from those most interested in a topic being overrepresented in samples – by including some less interested people to respond who otherwise would not” (p. 51).

For the purpose of awarding incentives in postal surveys, the literature described several methods to track respondents. For example, Ghitulescu (2013) had the respondent send the completed surveys to a third party where a code was assigned (p. 222). On the other hand, Avey et al. (2008) offered a method appropriate for online surveys. In their research, the respondents signed the informed consent form by providing their email address and were then assigned a randomly generated code for tracking (Avey et al., 2008, p. 58).

For the incentive award process in this study, a system was devised to (a) collect the email address or phone number of those who chose to enter into the drawing and (b) ensure their anonymity. Respondents who completed the web-based survey were offered a link to a second and separate survey for the incentive drawing. For the paper surveys, a page was included for the respondents to complete and they were instructed to separate this page from the rest of the survey prior to submission. In both cases, the respondent opted in to the drawing and voluntarily provided their contact information while their
anonymity was maintained. After the survey closed, the MA Executive Director, Tom Palisin, conducted the award drawing by a random pick of the four winners.

Finally, Dillman (2007) stated the primary factor in improving response rates was the number of contacts with the potential respondents with incentives as a close second. The number of contacts during implementation was explained in the following way: “the strategy of using multiple...contacts that are strategically timed...is more important than using...[an] exact system of contacts” (Dillman et al., 2014, p. 373). The authors indicated the organization and its culture should be the major influence on how respondents were contacted.

Further, according to Dillman (2007), under social exchange, varying the content of each contact was more impactful than those that were repetitious (p. 151). However, each contact must be related to the others to provide consistency of message. Finally, in order to reduce nonresponse it was important each communication created a positive impression that increased the perceived rewards of participation; decreased the perceived costs of participation; and established trust (Dillman, 2007, p. 155).

Therefore, this research study incorporated several contacts with potential respondents, facilitated by the MA and company representatives, at approximately seven to ten day intervals. The web-based contacts included messages that varied, including (a) an initial recruitment email; (b) an email with cover letter and survey link; (c) a follow up email that incorporated a thank you and reminder to complete the survey; and (d) a final reminder email that encouraged immediate action from those who had not completed the survey and indicated that the survey was closing on a specific date.
The paper surveys were conducted in a similar manner with the distribution of the recruitment cover letter and survey initiated by the company representative. The distribution information included an explicit due date and collection information. Subsequent notifications were provided as reminders.

Next, additional strategies for increasing response rates implemented in this study are discussed. Dillman (2007) and Dillman et al. (2014) addressed survey response rates as a social exchange between the researcher and the respondents. Based on this philosophy, Dillman developed survey procedures called the Tailored Design Method (TDM). According to Dillman et al., tailored design comprised “customizing survey procedures for each...situation based upon knowledge about the topic and sponsor of the survey, the...people who will be asked to complete the survey, the resources available, and the time frame for reporting results” (p. 16).

The goal of tailored design was the reduction of survey errors including sampling errors, coverage errors, measurement errors, and nonresponse errors. TDM used a three-pronged approach to reduce the respondent’s reluctance to participate in a survey. For the respondent, the survey must have (a) increased the perceived benefits of participating; (b) reduced the costs of participating; and (c) promoted the establishment of trust (Dillman et al., 2014, p. 27).

In the updated TDM, Dillman et al. (2014) provided five recommendations to establish trust; nine to increase benefits; and nine to decrease the costs of participation for the respondent (pp. 27-41). These recommendations can be incorporated in the research questionnaire and the implementation process. The instrument used in this study was not
changed to incorporate these specific recommendations; however, they were built into the recruitment message communicated to the questionnaire recipients. Recommendations by Dillman et al. used to increase response rates in this study are shown in Table 2.

Table 2.
_Dillman et al. (2014) Response Rate Recommendations Applied_

<table>
<thead>
<tr>
<th>Area</th>
<th>Recommendations Applied</th>
</tr>
</thead>
<tbody>
<tr>
<td>To Establish Trust</td>
<td>Provide methods to assess the authenticity of the survey and ask questions about it</td>
</tr>
<tr>
<td></td>
<td>Sponsorship by a legitimate authority</td>
</tr>
<tr>
<td></td>
<td>Assure confidentiality and protection of data</td>
</tr>
<tr>
<td></td>
<td>Design communications with professionalism in mind</td>
</tr>
<tr>
<td></td>
<td>Make the task appear important</td>
</tr>
<tr>
<td>To Increase Benefits</td>
<td>Discuss how the survey results will be used</td>
</tr>
<tr>
<td></td>
<td>Ask for assistance</td>
</tr>
<tr>
<td></td>
<td>Sponsorship by a legitimate authority</td>
</tr>
<tr>
<td></td>
<td>Give tangible rewards</td>
</tr>
<tr>
<td></td>
<td>Show positive regard (<em>Dillman, 2007</em>)</td>
</tr>
<tr>
<td></td>
<td>Say thank you (<em>Dillman, 2007</em>)</td>
</tr>
<tr>
<td>To Reduce Costs</td>
<td>Make questionnaire short and easy</td>
</tr>
<tr>
<td></td>
<td>Avoid subordinating language</td>
</tr>
<tr>
<td></td>
<td>Make it convenient to respond</td>
</tr>
<tr>
<td></td>
<td>Minimize requests to obtain personal information</td>
</tr>
</tbody>
</table>
Data Collection

The data were collected via a cross-sectional, quantitative survey. In order to obtain the largest sample possible, overall and within each sub-group, the survey link was emailed to all members of the participating organizations for which an email address was available. However, this was completed through a two-step process required by MA due to the proprietary nature of employee contact information. In step one, an email with the survey link and instructions was sent by the researcher to one contact within each participating organization. In step two, the contact sent a blast email with the survey link to the members of their organization with email. Subsequent reminders were sent out by the same contact. The benefit of this process; however, was that it demonstrated visible sponsorship by the organization.

Upon receipt of the email, the respondents followed the provided link to a Qualtrics survey and the completed responses were captured by the software. Each respondent was limited to one submission using the software’s customized settings. Upon completion of the survey, the respondents reached the Thank You screen and had the opportunity to voluntarily select the incentive link.

However, in two organizations, as the number of employees without email was substantial, the recruitment letter and survey were printed by the company representatives and distributed. A due date and reminders were provided by the same representatives. This paper method; therefore, required these organizations to collect the survey responses differently. One organization provided each respondent with an envelope within which to seal their completed survey. These respondents had the option of mailing the survey
directly back to the researcher or placing the envelope in a larger collection envelope sent to the researcher. The second organization collected the surveys and forwarded them on to the researcher. In the latter case, as directed, the incentive page was detached by the respondent prior to submission. Paper-based survey data were entered into the Qualtrics system by the researcher.

Therefore, in both the web-based and paper methods, the respondents to the survey remained anonymous. While the survey gathered the respondents’ descriptive information, there were no identifiers that linked responses to a particular person. This level of anonymity eliminated the opportunity to follow up with individual non-respondents; however, the organization representatives communicated with their company employees two to three times to remind them to complete the survey.

In conclusion, the total number of employees to receive the emailed and paper surveys for this study was 293. Within this sample, those individuals that read the consent form and chose to move to the survey instrument were considered to have provided their implied consent. Reminder emails and notifications were conducted by the company representatives at appropriate intervals (approximately seven days), prompted by the researcher. The response rate calculation, therefore, was based on the number of employees that received the survey and those whose response was considered complete for survey items 8-27. The total completed employee sample was 172 individuals for a survey response rate of 58.7% (Table 3). Finally, the sample size and response rate obtained were determined to be acceptable for all levels of analysis.
Table 3.

Research Study Response Rates

<table>
<thead>
<tr>
<th>Sample</th>
<th>Completed Sample</th>
<th>Survey Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>293</td>
<td>172</td>
<td>58.7%</td>
</tr>
</tbody>
</table>

Instrumentation.

The survey instrument comprised 28 items including seven demographic questions, one qualitative question, and 20 responses measured via a summative (Likert) scale (See Appendix C) which comprised the UWES-9 and OCM instruments, described in detail below. Content validity for the final instrument was established based upon a review by a panel of experts and the Executive Director of MA.

While in the past there had been a question as to the appropriateness of treating summative scale scores as representing interval scale data, “Likert (1932) himself argued that his scaling technique correlated close to…the results of Thurstone’s (1929; Thurston [sic] & Chave, 1929) equal-appearing interval method” (Meyers, Gamst, & Guarino, 2006, p. 23). However, since the mid-twentieth century, it has been common practice to use the summative response scale score as meeting interval scale properties (Meyers et al., 2006).

Data were primarily collected via a web-based survey emailed to potential respondents. The email included a survey link that took the respondent to an online questionnaire consisting of 28 items. Seven descriptive questions were used to obtain context and identify any possible limitations to the study based upon the respondents’ characteristics. Specifically, these items gathered data on the:
• participant’s position within the organization (non-manager, first-level supervisor, or executive);

• the number of years in their current organization (<1, 1-5, 6-10, 11-15, or >15);

• whether the respondent’s organization was a manufacturing or non-manufacturing business;

• whether the organization was union or non-union;

• the number of employees within the organization (1-50, 51-100, 101-200, 201-300, or >300);

• the types of organizational changes the respondent had experienced at any time in their career (reorganization, new leadership, downsizing, international expansion, merger/acquisition, or other); and

• if the respondent had ever been actively involved in a change effort.

The position titles and the categories for number of employees were determined by the MA representatives to be those that would be most recognizable to the employees in the association’s member companies.

Beyond the 27 questions described, one qualitative question was asked to determine what influences (personal or workplace) contributed most to the respondents’ desire to do their best at work. The results for the descriptive questions and the qualitative question were specifically used to determine (a) potential study limitations related to the data, (b) discussion opportunities, (c) underlying influencers, and (d) areas of future research.
The UWES questionnaire used was used for items 8-16 on the survey. The UWES was a self-reporting survey and measured employee work engagement including the three dimensions of work engagement: vigor, dedication, and absorption. It has been one of the most popular instruments for measuring employee work engagement, has been translated into 21 languages, and includes student versions. “An international database exists that currently includes engagement records of over 60,000 employees” (Schaufeli & Bakker, 2010, p. 16).

Further, the data from the instrument can be analyzed using the total of all three subscales, or each of the subscales respectively. There were three forms of the UWES instrument to choose from – the UWES-17, the UWES-9, and the UWES-6 – with the integer indicating the number of items in the survey. Research demonstrated that the UWES-6 was the least used of the forms; the UWES-9 was the most popular.

The UWES-17 used 6 items to measure vigor, 5 items for dedication, and 6 items for absorption. Tests for validity, variance, consistency, and stability have all shown the instrument to be effective in measuring work engagement over time (Schaufeli & Bakker, 2003, pp. 7-8). The UWES-17 provided an internal consistency, Cronbach’s alpha, of .80 to .90 (Schaufeli, Bakker, & Salanova, 2006, p. 703).

Following the development of the UWES-17, and after a study of 14,521 people in 10 different countries, Schaufeli, Bakker, and Salanova (2006) found that the UWES-17 questionnaire could be reduced to nine items. The UWES-9 “have acceptable psychometric properties” (Schaufeli et al., 2006, p. 701). “The factorial validity of the
UWES-9 was demonstrated using confirmatory factor analyses, and the three scale scores have good internal consistency and test-retest reliability” (Schaufeli et al., 2006, p. 701). For example, the authors found that the UWES-9 has a higher internal consistency with a Cronbach’s alpha of .85 to .92 (Schaufeli et al., p. 709).

The UWES-9 was used in this study and the Cronbach’s alpha for the EWE scales was .905 (.91). Due to the reduced number of items in the questionnaire, the UWES-9 used three items to measure each of the three subscales of work engagement. All items of the UWES-9 were measured with a 7-point Likert scale with a range from (0) never to (6) always. Sample items on the questionnaire included: “When I get up in the morning, I feel like going to work.” to measure vigor; “I am enthusiastic about my job.” to measure dedication; and “I get carried away when I am working.” to measure absorption (Schaufeli et al., 2006, p. 714). The UWES-9 was administered using Qualtrics software, therefore, the reported scales for analysis ranged from (1) never to (7) always.

In conclusion, the UWES-9 instrument was used in this study, represented by items 8-16 on the survey administered, and obtained a Cronbach’s alpha score of .905.

**Organizational Climate Measure (OCM).**

The OCM was a self-reporting survey and included 17 dimensions or subscales in total. Patterson et al. (2005) validated the instrument and linked it to managerial practices, innovation, and productivity. In addition, Patterson et al. validated the subscales for independent use in order for researchers to use as applicable to their particular study. Therefore, for this study, two subscales comprising 11 items were used
to indicate readiness for change: (a) innovation and flexibility, and (b) reflexivity. These items were represented in items 17-27 on the instrument for this study.

Research to validate the OCM instrument was conducted in 55 manufacturing organizations in the United Kingdom with companies ranging from 60-1929 employees with 12,051 questionnaires distributed via mail and in on-site interviews (Patterson et al., 2005, pp. 387-388). The original design of the OCM included 19 subscales, but was refined by removing one and combining two which resulted in the 17 subscales in the validated measure. The factors of Innovation and Flexibility, with a very strong correlation of .94, were combined due to the researchers’ interest in using factors that measured distinct areas of an organization’s climate.

The 17 dimensions included in the refined OCM provided Cronbach’s alpha values of .73 or higher with the exception of one subscale. The Cronbach’s alpha values for the subscales used in this study to indicate readiness for change were .86 for Innovation and Flexibility, and .76 for Reflexivity demonstrating strong internal consistency (Patterson et al., 2005, pp. 391, 394). The Cronbach’s alpha for the overall RFC scale in this study was measured as .928.

The Competing Values Framework (CVF) previously discussed was the basis of the OCM and the subscales chosen to indicate readiness for change were in the open systems quadrant. According to Patterson et al. (2005), “the model does not propose that organizations will have a set of practices that map to all or most of these climate dimensions within one domain” (p. 393). The open systems domain of the OCM included three subscales: (a) innovation and flexibility, (b) reflexivity, and (c) outward
focus. The first two subscales in the open systems quadrant were chosen to indicate readiness for change in this study. The third, outward focus, was not chosen as it focuses on an organization’s response to outside factors. While this dimension related to an organization’s readiness for change, this study focused on the relationship between employee psychological states and related behaviors in the internal climate.

Responses on the OCM were measured on a 4-point Likert scale: 1 = Definitely false, 2 = Mostly false, 3 = Mostly true, and 4 = Definitely true. Sample items in the Reflexivity dimension included: “In this organization, the way people work together is readily changed in order to improve performance”; “The methods used by this organization to get the job done are often discussed”; and “In this organization, time is taken to review organizational objectives” (Patterson et al., 2005, p. 407).

Sample items in the Innovation and Flexibility dimension included: “The company is quick to respond when changes need to be made”; “The organization is very flexible; it can quickly change procedures to meet new conditions and solve problems as they arise”; and “People in this organization are always searching for new ways of looking at problems” (Patterson et al., 2005, p. 406).

In their study, the researchers found a negative correlation between a company’s age and its innovation and flexibility due to the institutionalization of practices which limits the ability to adapt to changing conditions (Patterson et al., 2005, p. 397). This finding was not tested in this study.

In conclusion, the OCM represented items 17-27 on the instrument for this research. The Cronbach’s alpha values for the subscales to indicate readiness for change
were .86 for Innovation and Flexibility, and .76 for Reflexivity demonstrating strong internal consistency. The Cronbach’s alpha for the overall RFC scale in this study was measured as .928.

**Research Variables.**

This research study included seven variables. These variables were overall work engagement; the three UWES-9 subscales of vigor, dedication, and absorption; overall readiness for organizational change; and the two OCM subscales used to indicate readiness for change of innovation and flexibility, and reflexivity. Table 4 below summarized the associations between the seven research variables and the instrument items 8-16 for this study.

Table 4.

*Association of Research Variables to Instrument Items*

<table>
<thead>
<tr>
<th>Research Variable</th>
<th>Instrument Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Employee Work Engagement</td>
<td>Items 8 – 16</td>
</tr>
<tr>
<td>Vigor subscale</td>
<td>Items 8, 9, 12</td>
</tr>
<tr>
<td>Dedication subscale</td>
<td>Items 10, 11, 14</td>
</tr>
<tr>
<td>Absorption subscale</td>
<td>Items 13, 15, 16</td>
</tr>
<tr>
<td>Overall Readiness for Change</td>
<td>Items 17 – 27</td>
</tr>
<tr>
<td>Reflexivity subscale</td>
<td>Items 17 – 21</td>
</tr>
<tr>
<td>Innovation and Flexibility subscale</td>
<td>Items 22 – 27</td>
</tr>
</tbody>
</table>
Further, the associations between the research questions RQ1 - RQ4 and the applicable instrument items for this study were summarized in Table 5 below.

Organizational readiness for change was designated by RFC and employee work engagement was designated by EWE.

Table 5.
*Association of Research Questions to Instrument Items*

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Instrument Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ1 EWE to RFC</td>
<td>Items 8-16 to Items 17-27</td>
</tr>
<tr>
<td>RQ2</td>
<td></td>
</tr>
<tr>
<td>Vigor to RFC</td>
<td>Items 8, 9, 12 to Items 17-27</td>
</tr>
<tr>
<td>Dedication to RFC</td>
<td>Items 10, 11, 14 to Items 17-27</td>
</tr>
<tr>
<td>Absorption to RFC</td>
<td>Items 13, 15, 16 to Items 17-27</td>
</tr>
<tr>
<td>RQ3</td>
<td></td>
</tr>
<tr>
<td>Reflexivity to EWE</td>
<td>Items 17-21 to Items 8-16</td>
</tr>
<tr>
<td>Innovation &amp; Flexibility to EWE</td>
<td>Items 22-27 to Items 8-16</td>
</tr>
<tr>
<td>RQ4</td>
<td></td>
</tr>
<tr>
<td>Vigor, dedication, absorption; position and number of employees; and merger/acquisition, downsizing, new leadership, and reorganization to Reflexivity</td>
<td>Items 8, 9, 12; 10, 11, 14; 13, 15, 16; 3 and 5; and 6-1 through 6-4 to Items 17-21</td>
</tr>
<tr>
<td>Vigor, dedication, absorption; position and number of employees; and merger/acquisition, downsizing, new leadership, and reorganization to Innovation &amp; Flexibility</td>
<td>Items 8, 9, 12; 10, 11, 14; 13, 15, 16; 3 and 5; and 6-1 through 6-4 to Items 22-27</td>
</tr>
</tbody>
</table>
Data Analysis

The data analysis consisted of several stages which incorporated descriptive and inferential statistics using SPSS and Microsoft Excel. Prior to the actual statistical analysis of data the researcher conducted exploratory data analysis (EDA) to assess the overall distribution of responses. This EDA included the use of SPSS Explore to assess the normality of the summated subscale scores and to identify potential outliers. Descriptive statistics calculated included the mean and standard deviation for each of the seven variables, and frequency counts related to respondent characteristics. Inferential statistics used included bivariate correlations, hierarchical multiple regression analysis, and factorial analysis.

Further, as a number of respondents indicated they were employed in non-manufacturing organizations, a one-way ANOVA was used to determine if the means of these responses varied significantly from those of respondents who indicated they were from manufacturing organization. This test was conducted so the proper sample was used for the response rate calculation and for all subsequent statistical analyses. No significant variance was found; therefore, all valid responses were included in the sample and used to calculate the response rate and complete subsequent analyses. However, this does not indicate that this study’s results are generalizable to non-manufacturing organizations and, therefore, was considered a limitation to the study and an area of future research.

Bivariate correlations were used to examine the relationship between (a) overall employee work engagement and overall organizational change readiness (RQ1), (b) each
of the subscales of work engagement with overall organizational change readiness (RQ2), and (c) each subscale indicating organizational change readiness to overall work engagement (RQ3).

Hierarchical multiple regression analysis was conducted to examine the influenced on the RFC variables of reflexivity, and innovation and flexibility by: vigor, dedication, absorption; the respondents' position in the organization; the number of employees in the organization; and organizational change experiences of merger/acquisition, downsizing, new leadership, and/or reorganization (RQ4).

Factorial ANOVA analyses were conducted to assess if there was an interaction between the respondents’ current position with the years in the current organization; and with the scores for total RFC and its subscales, and with the scores for total EWE and its subscales. Further, pattern analyses were conducted using graphical depictions of mean data for position and years in the organization. These analyses attempted to illustrate the influence, if any, of the employee’s position and years in the organization on the mean scores of total RFC and its subscales and total EWE and its subscales.

Finally, qualitative analyses examined the influence of the respondent’s years and position in the organization on the responses provided for the qualitative question on the instrument: “At work, what contributes most to your desire to do your best?” Using a deductive approach, the responses were coded to one of the following three categories: personal resources, job resources, and combination.

For this content analysis, the coding plan specified personal resources were indicated by statements that discussed the internal resources, physical or psychological,
the respondent brought to the workplace. The job resources were indicated by statements that discussed the external resources, physical or psychological, the respondent received from the workplace. The combination category was indicated by a statement that comprised references to both personal and job resources. After the researcher coded the statements, to confirm interrater reliability, a colleague with experience in EWE research was brought in to replicate the qualitative analysis process.
Chapter 4

Results

The self-reported data for this research were collected in a cross-sectional study conducted via paper surveys and Qualtrics web-based surveys. This study addressed the following four research questions:

RQ1: What is the relationship between overall employee work engagement and overall organizational change readiness?

RQ2: What is the relationship between each of the subscales of employee work engagement (vigor, dedication, and absorption) and overall organizational change readiness?

RQ3: What is the relationship between overall employee work engagement and each of the subscales indicating organizational change readiness (reflexivity, and innovation and flexibility)?

RQ4: To what extent is organizational change readiness – measured by the two subscales of innovation and flexibility, and reflexivity – influenced by (a) the employee work engagement factors of vigor, dedication, absorption; (b) employee position in the organization; (c) the number of employees in the organization; and (d) organizational changes experienced by the employee, including new leadership, reorganization, downsizing, and/or merger/acquisition?

The data analyses were completed using Microsoft Excel and SPSS software. Information reported in this section includes sample size and response rates; respondent characteristics; the results from analyses conducted on the seven variables including descriptive statistics; bivariate correlations for RQ1, RQ2, and RQ3; and the results from
the hierarchical multiple regression analysis for RQ4. Additional results reported in this chapter comprise the (a) factorial analyses of the interactive influence of the respondent demographic characteristics of years in the organization and position with each other and with all study variables, (b) pattern analyses for years in the organization and position and the means of all study variables, and (c) coding of the responses from the qualitative item on the survey.

**Instrumentation**

The study questionnaire comprised 28 items that combined inventory items from two validated instruments: the nine-question Utrecht Work Engagement Survey (UWES-9) and two subscales of the Organizational Climate Measure (OCM) totaling 11 questions. Content validity for the final instrument was established based upon a review by a panel of experts and the Executive Director of MA.

UWES-9 was a self-reporting survey and measured employee work engagement including the three dimensions of work engagement: vigor, dedication, and absorption. Schaufeli et al. (2002) defined each of these characteristics in the following way:

Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, and persistence even in the face of difficulties. Dedication is characterized by a sense of significance, enthusiasm, inspiration, pride, and challenge…. [and] absorption, is characterized by being fully concentrated and deeply engrossed in one’s work, whereby time passes quickly and one has difficulties…detaching oneself from work. (pp. 74-75)
Sample UWES-9 items on the questionnaire included: “When I get up in the morning, I feel like going to work.” to measure vigor; “I am enthusiastic about my job.” to measure dedication; and “I get carried away when I am working.” to measure absorption (Schaufeli et al., 2006, p. 714).

Organizational readiness for change was measured with the Organizational Climate Measure (OCM), an instrument of 17 subscales including two that indicated readiness for change in this study: (a) reflexivity and (b) innovation and flexibility (Patterson et al., 2005, p. 391). The innovation and flexibility climate dimension measured “acceptance of new ideas; ability to respond to change; identification of need for change; flexibility in responding to changes needed in procedures; support in developing new ideas; and orientation to improvement and innovation” (Rivard, 2005, p. 4). Reflexivity was concerned “with reviewing and reflecting upon objectives, strategies, and work processes, in order to adapt to the wider environment (West, 1996, 2000)” (Patterson et al., 2005, p. 386).

Responses on the OCM were measured on a 4-point Likert scale: 1 = Definitely false, 2 = Mostly false, 3 = Mostly true, and 4 = Definitely true. Sample items in the Reflexivity dimension included: “In this organization, the way people work together is readily changed in order to improve performance”; “The methods used by this organization to get the job done are often discussed”; and “In this organization, time is taken to review organizational objectives” (Patterson et al., 2005, p. 407).

Sample items in the Innovation and Flexibility dimension included: “The company is quick to respond when changes need to be made”; “The organization is very
flexible; it can quickly change procedures to meet new conditions and solve problems as they arise”; and “People in this organization are always searching for new ways of looking at problems” (Patterson et al., 2005, p. 406).

**Response Rates and Survey Completion**

For this study, the total number of employees to receive the emailed and paper surveys was 293. Within this sample of 293, 177 participants (60.4%) read the consent form and chose to move to the survey instrument and, thereby, provided their implied consent. The completed surveys of 172 was determined by examining those respondents that had answered quantitative items 8-27 that comprised the UWES-9 and OCM instruments. The resulting survey response rate calculation of 58.7%; therefore, was based on the number of individual respondents that completed the survey (172) and the total number of individual employees that received the survey (293).

**Study Participant Profile**

The respondents to the survey provided personal and organizational background information regarding their organization type, union affiliation, current position in the organization, years at the organization, the number of employees at their organization (proxy measure for the size of the organization), and their experience with change efforts. The personal and organizational background information found to potentially represent limitations to the generalizability of this research study included (a) the
organization type – non-manufacturing organizations were not represented in the sample; (b) union affiliation – all organizations surveyed were non-union; and (c) the number of employees – all participating organizations were small businesses with less than 110 employees.

The personal and organizational background information which did not appear to create limitations were those of the respondents’ position in the organization, years at the organization, and experiences with change efforts. First, an adequate representation ($n > 25$) was obtained amongst the three subgroups of position in the organization and five sub-groups of years in the organization (Figures 10 and 11). As Figure 10 indicates, the concern that non-managerial employees might be underrepresented was unfounded at 67% and the data showed the combined managerial employee categories were 32% of the respondents.

![Sample by Position in Organization](image)

*Figure 10. Distribution of Sample ($n=171$) by Position in the Organization.*
Second, it was important to understand what types of organizational changes the respondents had experienced as the researcher believed this might impact their view of an organization’s RFC. For example, if a respondent was had experienced a reorganization at a previous company, it was expected they may have a more informed perspective regarding the organization’s readiness for a future reorganization. On this question, the respondents were permitted to select multiple answers for the types of change experienced so frequencies were examined (Figure 12). Thus totals across the types of changes may not equal n=171.
As Figure 12 demonstrated, the types of organizational change personally experienced with the highest frequencies were found in the categories of New Leadership (93) and Reorganization (80); however, merger/acquisition (21) and downsizing (26) could be considered types of reorganization. Examples of the nineteen responses entered for the category of “Other” included “change in positions, titles, and roles; new leadership within the last 5 years”; “constant innovation & trainings”; “expanding/growing the business”; and technology-related changes. Several of these responses could be included in one or more of the specific categories offered on the survey though the respondent did not choose to do so. Future research should consider the relationship of organization change experienced to those respondents’ scores on the OCM items on the survey.

Third, to supplement the results related to changes experienced, the respondents were asked to indicate if they had ever been actively involved in a change effort – as
opposed to being the passive recipient of change. The data related to the respondents’ level of active involvement in a change effort was shown in Figure 13. In answer to this statement, 48% of the respondents said yes, they had been actively involved; however, 38% picked no and 12% chose maybe. Perhaps the selection of maybe by 12% of the sample demonstrated a lack of clarity in the survey term actively as no definition was provided to the respondents.

Therefore, it was feasible some or all of the 12% of respondents who experienced some type of organizational change assumed they were actively involved because of the experience alone rather than the researcher’s intended meaning of active involvement – discussed, developed, implemented, and/or led the change effort. Clarification of the envisioned connotation of the term would be beneficial for future research on this and related topics.

Figure 13. Distribution of Sample (n=172) Active Involvement in a Change Effort.

In summary, the personal and organizational background information clarified several limitations to the study, but also confirmed adequate representation across the
categories of position and years in the organization which made them useful for most statistical analyses. This confirmation provided additional justification for the researcher to explore how the respondents’ position and years in the organization impacted employee self-reported perceptions regarding overall EWE and its subscales vigor, dedication, and absorption; and overall RFC and its subscales innovation and flexibility, and reflexivity. The results of those analyses were provided in the following section.

**Descriptive Statistics for Employee Work Engagement (EWE) and Readiness for Change (RFC)**

To summarize the responses and provide some qualitative summary for work engagement and organizational readiness for change and assess normality for each of the seven primary study variables, the researcher examined the descriptive statistics of mean, median, and standard deviation (Table 6).

For EWE the data analyses indicated a relatively high level of employee work engagement. Qualitatively, the means indicated a level of work engagement that reflected being engaged often – very often. The descriptive statistics (Mean = 5.55, SD = .98) for overall work engagement fell between often and very often on the Likert response scale. Similarly, the means for the three subscales reflected high levels of work engagement (Vigor – M = 5.25, SD = 1.24; Dedication – M = 5.77, SD = .97; and Absorption – M = 5.63, SD = .99). These summary statistics provided additional evidence the summated Likert scale scores were fairly normally distributed (the means were very similar to the median values as reported in Table 6).
Table 6.

Descriptive Statistics

<table>
<thead>
<tr>
<th>Research Variable</th>
<th>Measure</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vigor*</td>
<td>Mean</td>
<td>5.25</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>5.67</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>1.24</td>
</tr>
<tr>
<td>Dedication*</td>
<td>Mean</td>
<td>5.77</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>6.00</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>0.97</td>
</tr>
<tr>
<td>Absorption*</td>
<td>Mean</td>
<td>5.63</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>6.00</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>0.99</td>
</tr>
<tr>
<td>Reflexivity*</td>
<td>Mean</td>
<td>2.87</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>2.90</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>0.59</td>
</tr>
<tr>
<td>Innovation &amp; Flexibility*</td>
<td>Mean</td>
<td>2.71</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>2.75</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>0.72</td>
</tr>
<tr>
<td>Overall RFC</td>
<td>Mean</td>
<td>2.78</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>2.82</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>0.62</td>
</tr>
<tr>
<td>Overall EWE</td>
<td>Mean</td>
<td>5.55</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>5.67</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>0.98</td>
</tr>
</tbody>
</table>

*Vigor = high levels of energy and mental resilience, willingness to invest effort in one’s work, and persistence in the face of difficulties
*Dedication = a sense of significance, enthusiasm, inspiration, pride, and challenge
*Absorption = fully concentrated and deeply engrossed in one’s work whereby time passes quickly and one has difficulties detaching oneself from work (Schaufeli & Bakker, 2010)
*Reflexivity = a concern with reviewing and reflecting upon objectives, strategies, and work processes, in order to adapt to the wider environment
*Innovation = the extent of encouragement and support for new ideas and innovative approaches
*Flexibility = an orientation toward change (Patterson et al., 2005)
For RFC the data analyses indicated a moderately high level of readiness for change. Qualitatively, the means indicated a significant level of readiness for change with respondents most often indicated the statements were mostly true. The descriptive statistics (Mean = 2.87, SD = .62) for overall readiness for change fell between mostly false and mostly true on the Likert response scale. Similarly, the two subscales reflected high levels of readiness for change (Reflexivity – M = 2.87, SD = .59; and Innovation and Flexibility – M = 2.71, SD = .72). These summary statistics provided additional evidence the summated Likert scale scores were fairly normally distributed (the means were very similar to the median values as reported in Table 6.

To further examine the scales for skewness and outliers the box plot for each variable was created (Appendix D). These illustrations demonstrated the scales were fairly normally distributed, with limited or no skewness, and only minor outliers.

A final examination regarding the distribution of the responses for each item in the UWES-9 and OCM instruments appears in (Tables 7 and 8 respectively). The UWES-9 instrument used a 0-6 response scale; however, the Qualtrics software reported the scales from (1) never to (7) always.
Table 7.

*Distribution of EWE-related Responses for UWES-9 Statements*

<table>
<thead>
<tr>
<th>UWES-9 Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>At my work, I feel that I am bursting with energy</td>
<td>0.6%</td>
<td>4.1%</td>
<td>5.8%</td>
<td>16.4%</td>
<td>19.3%</td>
<td>38.6%</td>
<td>15.2%</td>
</tr>
<tr>
<td>At my job, I feel strong and vigorous</td>
<td>0.6%</td>
<td>2.3%</td>
<td>8.8%</td>
<td>11.1%</td>
<td>24.0%</td>
<td>36.8%</td>
<td>16.4%</td>
</tr>
<tr>
<td>I am enthusiastic about my job</td>
<td>0.0%</td>
<td>1.8%</td>
<td>4.7%</td>
<td>10.5%</td>
<td>17.0%</td>
<td>45.0%</td>
<td>21.1%</td>
</tr>
<tr>
<td>My job inspires me</td>
<td>1.2%</td>
<td>3.5%</td>
<td>5.3%</td>
<td>14.6%</td>
<td>22.2%</td>
<td>35.1%</td>
<td>18.1%</td>
</tr>
<tr>
<td>When I get up in the morning, I feel like going to work</td>
<td>3.5%</td>
<td>7.6%</td>
<td>7.0%</td>
<td>8.2%</td>
<td>15.8%</td>
<td>38.6%</td>
<td>19.3%</td>
</tr>
<tr>
<td>I feel happy when I am working intensely</td>
<td>0.6%</td>
<td>2.3%</td>
<td>1.8%</td>
<td>8.2%</td>
<td>18.1%</td>
<td>40.9%</td>
<td>28.1%</td>
</tr>
<tr>
<td>I am proud of the work that I do</td>
<td>0.6%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>3.5%</td>
<td>8.8%</td>
<td>29.2%</td>
<td>57.9%</td>
</tr>
<tr>
<td>I am immersed in my work</td>
<td>0.6%</td>
<td>0.0%</td>
<td>1.8%</td>
<td>7.6%</td>
<td>14.6%</td>
<td>39.2%</td>
<td>36.3%</td>
</tr>
<tr>
<td>I get carried away when I’m working</td>
<td>3.5%</td>
<td>2.9%</td>
<td>8.2%</td>
<td>14.0%</td>
<td>18.7%</td>
<td>38.0%</td>
<td>14.6%</td>
</tr>
</tbody>
</table>
Table 8.  

*Distribution of RFC-related Responses for OCM Statements*

<table>
<thead>
<tr>
<th>OCM Statement</th>
<th>1 Definitely False</th>
<th>2 Mostly False</th>
<th>3 Mostly True</th>
<th>4 Definitely True</th>
</tr>
</thead>
<tbody>
<tr>
<td>In this organization, the way people work together is readily changed in order to improve performance</td>
<td>5.8%</td>
<td>29.8%</td>
<td>53.8%</td>
<td>10.5%</td>
</tr>
<tr>
<td>The methods used by this organization to get the job done are often discussed</td>
<td>3.5%</td>
<td>18.1%</td>
<td>53.8%</td>
<td>24.6%</td>
</tr>
<tr>
<td>There are regular discussions as to whether people in the organization are working effectively together</td>
<td>8.2%</td>
<td>29.2%</td>
<td>46.2%</td>
<td>16.4%</td>
</tr>
<tr>
<td>In this organization objectives are modified in light of changing circumstances</td>
<td>1.2%</td>
<td>18.7%</td>
<td>56.7%</td>
<td>23.4%</td>
</tr>
<tr>
<td>In this organization, time is taken to review organizational objectives</td>
<td>3.5%</td>
<td>19.9%</td>
<td>56.1%</td>
<td>20.5%</td>
</tr>
<tr>
<td>New ideas are readily accepted here</td>
<td>7.6%</td>
<td>28.7%</td>
<td>46.8%</td>
<td>17.0%</td>
</tr>
<tr>
<td>This company is quick to respond when changes need to be made</td>
<td>12.3%</td>
<td>36.8%</td>
<td>36.8%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Management here are quick to spot the need to do things differently</td>
<td>10.6%</td>
<td>28.2%</td>
<td>44.7%</td>
<td>16.5%</td>
</tr>
<tr>
<td>This organization is very flexible; it can quickly change procedures to meet new conditions &amp; solve problems as they arise</td>
<td>10.6%</td>
<td>26.5%</td>
<td>42.9%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Assistance in developing new ideas is readily available</td>
<td>7.0%</td>
<td>25.7%</td>
<td>48.5%</td>
<td>18.7%</td>
</tr>
<tr>
<td>People in this organization are always searching for new ways of looking at problems</td>
<td>5.9%</td>
<td>24.7%</td>
<td>50.0%</td>
<td>19.4%</td>
</tr>
</tbody>
</table>
Bivariate Correlations between Work Engagement and Readiness for Change

Shown in Figure 14, six bivariate correlations were used to examine the relationships between (a) overall employee work engagement (EWE) and overall organizational change readiness (RFC) (RQ1), (b) each of the subscales of employee work engagement with overall organizational change readiness (RQ2), and (c) each subscale indicating organizational change readiness to overall work engagement (RQ3).

Cohen, Manion, and Morrison (2007) provided the following guideline which was used in this study to determine the positive or negative correlation strength between the examined variables:

- 0.0 - 0.10 = weak;
- 0.11 - 0.30 = modest;
- 0.31 - 0.50 = moderate;
- 0.51 - 0.80 = strong;
- 0.81 - 1.00 = very strong (p. 521).

*Figure 14. Illustration of the bivariate analyses conducted for RQ1, RQ2, & RQ3*
As shown in bold in Table 9 below, each bivariate analysis found at \( p < .01 \) there was significant and moderate correlation (strength) amongst all seven variables studied. The following reports the specific correlation and effect size data for all examined relationships: RQ1 found a moderate to strong correlation between overall EWE and overall RFC at \( r = .487 \) (\( R^2 = 23.7\% \)); for RQ2, the subscales of EWE of vigor and absorption were moderately correlated with overall RFC at \( r = .442 \) (\( R^2 = 19.5\% \)) & \( r = .421 \) (\( R^2 = 17.7\% \)) respectively, while the EWE subscale of dedication had a moderate to strong correlation with overall RFC at \( r = .477 \) (\( R^2 = 21.3\% \)); and for RQ3, the correlation for the subscales of RFC of reflexivity and innovation and flexibility to overall EWE were moderate to strong and moderate at \( r = .467 \) (\( R^2 = 21.8\% \)) & \( r = .455 \) (\( R^2 = 20.7\% \)) respectively.

Finally, while examining the relationships between each of the EWE and RFC subscales to the others was not the focus of this study’s research questions, the bivariate analyses of the data related to these subscales found moderate correlations from \( r = .376 \) to \( r = .455 \) between each of the subscales which were significant at the \( p < .01 \) level (Table 9).
Table 9.

*Pearson Correlations Between Research Variables*

<table>
<thead>
<tr>
<th></th>
<th>VIGOR</th>
<th>DEDICATION</th>
<th>ABSORPTION</th>
<th>REFLEXIVITY</th>
<th>INNOVATION FLEXIBILITY</th>
<th>RFC TOTAL SCALE</th>
<th>EWE TOTAL SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pearson Correlation</strong></td>
<td>1</td>
<td>.811**</td>
<td>.710**</td>
<td>.415**</td>
<td>.420**</td>
<td><strong>.443</strong></td>
<td>.931**</td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>171</td>
<td>171</td>
<td>171</td>
<td>171</td>
<td>170</td>
<td>170</td>
<td>171</td>
</tr>
<tr>
<td><strong>Pearson Correlation</strong></td>
<td>.811**</td>
<td>1</td>
<td>.755**</td>
<td>.443**</td>
<td>.455**</td>
<td><strong>.477</strong></td>
<td>.928**</td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>171</td>
<td>171</td>
<td>171</td>
<td>171</td>
<td>170</td>
<td>170</td>
<td>171</td>
</tr>
<tr>
<td><strong>Pearson Correlation</strong></td>
<td>.710**</td>
<td>.755**</td>
<td>1</td>
<td>.430**</td>
<td>.376**</td>
<td><strong>.421</strong></td>
<td>.887**</td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>171</td>
<td>171</td>
<td>171</td>
<td>171</td>
<td>170</td>
<td>170</td>
<td>171</td>
</tr>
<tr>
<td><strong>Pearson Correlation</strong></td>
<td>.415**</td>
<td>.443**</td>
<td>.430**</td>
<td>1</td>
<td>.770**</td>
<td>.915**</td>
<td><strong>.467</strong></td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>171</td>
<td>171</td>
<td>171</td>
<td>171</td>
<td>170</td>
<td>170</td>
<td>171</td>
</tr>
<tr>
<td><strong>Pearson Correlation</strong></td>
<td>.420**</td>
<td>.455**</td>
<td>.376**</td>
<td>.770**</td>
<td>1</td>
<td><strong>.962</strong></td>
<td><strong>.455</strong></td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>171</td>
</tr>
<tr>
<td><strong>Pearson Correlation</strong></td>
<td>.443**</td>
<td>.477**</td>
<td>.421**</td>
<td>.915**</td>
<td>.962**</td>
<td>1</td>
<td><strong>.487</strong></td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
</tr>
<tr>
<td><strong>Pearson Correlation</strong></td>
<td>.931**</td>
<td>.928**</td>
<td>.887**</td>
<td>.467**</td>
<td>.455**</td>
<td>.487**</td>
<td>1</td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>171</td>
<td>171</td>
<td>171</td>
<td>171</td>
<td>170</td>
<td>170</td>
<td>171</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
In conclusion, the results of the bivariate correlations demonstrated moderate and moderate to strong correlation between all seven research variables with effect sizes ranging from approximately 18 to 23%. These results supported the researcher’s proposed relationships between employee work engagement and its subscale scores with readiness for change and the related subscale scores. Figure 15 illustrates these relationships by labeling the applicable research question (RQ) and the correlation measured significant at $p < .01$.

**Figure 15**. The Correlations for RQ1, RQ2 and RQ3 significant at $p < .01$

**Hierarchical Multiple Regression Analysis of EWE, Personal and Organizational Characteristics, and Readiness for Change**

The final analysis examined the relative influence selected personal and organizational variables had on the relationships between work engagement and
organizational readiness for change (RQ4). Hierarchical multiple regression analysis was used to examine the relationships when simultaneously accounting for the influence of selected personal and organizational factors. Figure 16 illustrates the variables and four models examined.

Figure 16. Illustration of the hierarchical multiple regression analysis conducted for RQ4
Tables 10 and 11 descriptively summarize the variables used in the analyses.

Prior to entering the variables into the regression analysis, basic assumptions for interval data including normality and linearity were assessed and were found to be acceptable per commonly utilized procedures and guidelines (Tabachnick & Fidell, 2007).

Table 10.

Summary Descriptive Statistics for Interval Scale Variables used in Regression Analysis.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std Deviation</th>
<th>Low Value</th>
<th>High Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation Flexibility</td>
<td>2.71</td>
<td>0.71</td>
<td>1.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Reflexivity</td>
<td>2.87</td>
<td>0.58</td>
<td>1.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Dedication</td>
<td>5.77</td>
<td>0.97</td>
<td>1.67</td>
<td>7.00</td>
</tr>
<tr>
<td>Absorption</td>
<td>5.63</td>
<td>0.99</td>
<td>2.67</td>
<td>7.00</td>
</tr>
<tr>
<td>Vigor</td>
<td>5.25</td>
<td>1.24</td>
<td>1.67</td>
<td>7.00</td>
</tr>
</tbody>
</table>

Note: The Likert scale response for the dedication, absorption and vigor items ranged from a low of 1 to a high of 7. The innovation flexibility scale and the reflexivity scale items had a Likert scale that ranged from a low of 1 to a high of 4.

Table 11.

Frequency Distribution for Categorical Variables used in the Regression Analysis.

<table>
<thead>
<tr>
<th>Variable and Response Option</th>
<th>Frequency</th>
<th>Valid Percent-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Position</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non Managerial</td>
<td>115</td>
<td>67.6</td>
</tr>
<tr>
<td>Supervisor</td>
<td>32</td>
<td>18.8</td>
</tr>
<tr>
<td>Executive</td>
<td>23</td>
<td>13.5</td>
</tr>
<tr>
<td>Number of Employees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-50</td>
<td>58</td>
<td>34.1</td>
</tr>
<tr>
<td>51-100</td>
<td>36</td>
<td>21.2</td>
</tr>
<tr>
<td>101 – 200</td>
<td>75</td>
<td>44.1</td>
</tr>
<tr>
<td>201 - 300</td>
<td>1</td>
<td>.6</td>
</tr>
<tr>
<td>Organizational Change</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merger</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>150</td>
<td>87.7</td>
</tr>
<tr>
<td>Yes</td>
<td>21</td>
<td>12.3</td>
</tr>
<tr>
<td>Downsizing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>145</td>
<td>84.8</td>
</tr>
<tr>
<td>Yes</td>
<td>26</td>
<td>15.2</td>
</tr>
<tr>
<td>New Leadership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>78</td>
<td>45.6</td>
</tr>
<tr>
<td>Yes</td>
<td>93</td>
<td>54.4</td>
</tr>
<tr>
<td>Reorganization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>91</td>
<td>53.2</td>
</tr>
<tr>
<td>Yes</td>
<td>80</td>
<td>46.8</td>
</tr>
</tbody>
</table>
In addition, the researcher summarized the zero-order correlations for variables used in the regression analyses in Tables 12 and 13. The information in those tables indicated the bivariate correlations among the variables without accounting for the influence of other potential mediating or moderating variables. Further, dichotomous nominal variables used in the regression analysis were dummy coded and the coding was reflected in the zero-order correlation tables and the final regression analysis tables as X1 through X10.

In Table 12 innovation and flexibility was most highly positively correlated with dedication \((r = .45)\), vigor \((r = .42)\) and absorption \((r = .37)\). The same variables (dedication \(r = .44\); absorption \(r = .43\); and vigor \(r = .41\)) were also most highly positively correlated with reflexivity scores (Table 13). In all cases, these values were considered moderate size correlations (Cohen, Manion, & Morrison, 2007).

Table 12.

<table>
<thead>
<tr>
<th>Variable</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>X6</th>
<th>X7</th>
<th>X8</th>
<th>X9</th>
<th>X10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation Flexibility (X1)</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedication (X2)</td>
<td>.45</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absorption (X3)</td>
<td>.37</td>
<td>.75</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigor (X4)</td>
<td>.42</td>
<td>.81</td>
<td>.71</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No of Employees (X5)</td>
<td>-.03</td>
<td>.11</td>
<td>.07</td>
<td>.11</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Position (X6)</td>
<td>.04</td>
<td>.29</td>
<td>.32</td>
<td>.27</td>
<td>-.01</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merger (X7)</td>
<td>.05</td>
<td>.05</td>
<td>-.03</td>
<td>.05</td>
<td>.14</td>
<td>.05</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Downsizing (X8)</td>
<td>.01</td>
<td>-.19</td>
<td>-.08</td>
<td>-.15</td>
<td>-.36</td>
<td>-.05</td>
<td>-.16</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Leadership (X9)</td>
<td>-.15</td>
<td>.01</td>
<td>.11</td>
<td>.04</td>
<td>.04</td>
<td>.13</td>
<td>.05</td>
<td>.11</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Reorganization (X10)</td>
<td>.02</td>
<td>.02</td>
<td>.07</td>
<td>.05</td>
<td>.01</td>
<td>-.01</td>
<td>-.11</td>
<td>.12</td>
<td>.03</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Note: **Bold faced** zero order correlation values are statistically significant at ≤ .05 (1 tail test of significance)
Table 13.
Zero-order-correlations for Reflexivity Regression Analysis (n = 169).

<table>
<thead>
<tr>
<th>Variable</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>X6</th>
<th>X7</th>
<th>X8</th>
<th>X9</th>
<th>X10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflexivity (X1)</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedication (X2)</td>
<td>.44</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absorption (X3)</td>
<td>.43</td>
<td>.75</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigor (X4)</td>
<td>.41</td>
<td>.81</td>
<td>.71</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No of Employees (X5)</td>
<td>-.01</td>
<td>.12</td>
<td>.08</td>
<td>.11</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Position (X6)</td>
<td>.09</td>
<td>.29</td>
<td>.32</td>
<td>.27</td>
<td>-.01</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merger (X7)</td>
<td>.04</td>
<td>.05</td>
<td>-.03</td>
<td>.05</td>
<td>.14</td>
<td>.05</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Downsizing (X8)</td>
<td>.05</td>
<td>-.19</td>
<td>-.08</td>
<td>-.15</td>
<td>-.36</td>
<td>-.05</td>
<td>-.16</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Leadership (X9)</td>
<td>-.07</td>
<td>.01</td>
<td>.10</td>
<td>.04</td>
<td>.03</td>
<td>.12</td>
<td>.05</td>
<td>.12</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Reorganization (X10)</td>
<td>.09</td>
<td>.02</td>
<td>.08</td>
<td>.05</td>
<td>.02</td>
<td>-.01</td>
<td>-.11</td>
<td>.12</td>
<td>.03</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Note: **Bold faced** zero order correlation values are statistically significant at ≤ .05 (1 tail test of significance)

**Work Engagement and Organizational Innovation and Flexibility.**

When determining if there were adequate numbers in the applicable cells to conduct the hierarchical regression with the position variable, lower frequencies were observed in the first-level supervisor and executive cells (32 and 23 respectively); therefore the position variable was recoded into two groups (non-management=0; and supervisor or executive=1),

In this analysis, innovation and flexibility (Mean = 2.71, SD = .71) was the dependent (criterion) variable. The innovation and flexibility climate dimension measured “acceptance of new ideas; ability to respond to change; identification of need
for change; flexibility in responding to changes needed in procedures; support in
developing new ideas; and orientation to improvement and innovation” (Rivard, 2005, p. 4).

Dedication, as self-reported by the employee, was the single most influential and
significant factor \( (\beta = .307) \) in explaining differences in Innovation and Flexibility scores. The beta value \( (\beta) \) was a measure of how strongly each predictor or independent variable influenced the dependent variable. The beta was measured in units of standard deviation. Dedication had a beta value of .307 \( (p = .021) \). This indicated that a one (1) standard deviation increase in dedication would result in a .307 standard deviation unit increase in the dependent variable innovation and flexibility. Thus, the higher the beta value the greater the impact of the predictor variable on the criterion variable.

The information summarized in Table 14 substantiated that employee dedication was the most influential and remained so regardless of the other variables entered into the analysis at each of the subsequent steps. The only other variable which ultimately was significant was whether the employee experienced new leadership in the organization. However, that variable, although statistically significant \( (\beta = -.166, p = .020) \), did not significantly increase the amount of variance explained in the organizational innovation and flexibility value (Model 4, R Square Change, \( p = .199 \)).
Table 14.

Summary of Regression for Innovation and Flexibility.

<table>
<thead>
<tr>
<th>Block and Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β (Sig 1 tail)</td>
<td>β (Sig 1 tail)</td>
<td>β (Sig 1 tail)</td>
<td>β (Sig 1 tail)</td>
</tr>
<tr>
<td>Work Engagement Subscale</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedication</td>
<td>.307 (.020)</td>
<td>.315 (.017)</td>
<td>.325 (.014)</td>
<td>.307 (.021)</td>
</tr>
<tr>
<td>Absorption</td>
<td>.048 (.662)</td>
<td>.044 (.686)</td>
<td>.068 (.535)</td>
<td>.099 (.375)</td>
</tr>
<tr>
<td>Vigor</td>
<td>.133 (.277)</td>
<td>.139 (.259)</td>
<td>.144 (.240)</td>
<td>.146 (.229)</td>
</tr>
<tr>
<td>Size of Organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Number of Employees)</td>
<td>-.083 (.238)</td>
<td>-.087 (.214)</td>
<td>-.057 (.446)</td>
<td></td>
</tr>
<tr>
<td>Position Of Respondent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(0= Non Manager and 1 = Supervisor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>or Executive)</td>
<td>-.110 (.133)</td>
<td>-.092 (.268)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of Organizational Change</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merger (0 = No and 1 = Yes)</td>
<td></td>
<td></td>
<td>.066 (.347)</td>
<td></td>
</tr>
<tr>
<td>Downsizing (0 = No and 1 = Yes)</td>
<td></td>
<td></td>
<td>.093 (.226)</td>
<td></td>
</tr>
<tr>
<td>New Leadership (0 = No and 1 = Yes)</td>
<td></td>
<td></td>
<td></td>
<td>-.166 (.020)</td>
</tr>
<tr>
<td>Reorganization (0 = No and 1 = Yes)</td>
<td></td>
<td></td>
<td></td>
<td>-.004 (.957)</td>
</tr>
<tr>
<td>Model Summary Information</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R Square</td>
<td>.212</td>
<td>.219</td>
<td>.230</td>
<td>.261</td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>.198</td>
<td>.199</td>
<td>.206</td>
<td>.219</td>
</tr>
<tr>
<td>F</td>
<td>14.70</td>
<td>11.40</td>
<td>9.65</td>
<td>6.21</td>
</tr>
<tr>
<td>n</td>
<td>168</td>
<td>168</td>
<td>168</td>
<td>168</td>
</tr>
<tr>
<td>Significance of Model</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Significance of R Square Change</td>
<td>&lt;.001</td>
<td>.412</td>
<td>.345</td>
<td>.199</td>
</tr>
</tbody>
</table>

Note: Beta values in **boldface** are statistically significant.

**Work Engagement and Organizational Reflexivity.**

In this analysis, reflexivity (Mean = 2.87, SD = .58) was the dependent (criterion) variable. Reflexivity in an organization is concerned “with reviewing and reflecting upon
objectives, strategies, and work processes, in order to adapt to the wider environment” (Patterson et al., 2005, p. 386). Because of collinearity issues between the variables dedication, absorption, and vigor, the variable vigor was not included in the regression analysis for organizational reflexivity.

Dedication ($\beta = .296$, $p = .007$), as self-reported by the employee, and absorption ($\beta = .242$, $p = .026$) had very similar influences in explaining reflexivity score differences. The beta values for both variables were positive and very similar in absolute value. For each of the two variables a one (1) standard deviation increase resulted in a similar standard deviation unit increase in the dependent variable reflexivity.

The information summarized in Table 15 substantiates that the subscales of employee dedication and employee absorption were the only variables statistically significant relative to organizational reflexivity.
Table 15.

*Summary of Regression for Reflexivity.*

<table>
<thead>
<tr>
<th>Block and Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$ (Sig 1 tail)</td>
<td>$\beta$ (Sig 1 tail)</td>
<td>$\beta$ (Sig 1 tail)</td>
<td>$\beta$ (Sig 1 tail)</td>
</tr>
<tr>
<td><strong>Work Engagement Subscale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedication</td>
<td>.270 (.011)</td>
<td>.277 (.009)</td>
<td>.285 (.008)</td>
<td>.296 (.007)</td>
</tr>
<tr>
<td>Absorption</td>
<td>.224 (.033)</td>
<td>.223 (.035)</td>
<td>.238 (.026)</td>
<td>.242 (.026)</td>
</tr>
<tr>
<td><strong>Size of Organization</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Number of Employees)</td>
<td>-.055 (.430)</td>
<td>-.057 (.415)</td>
<td>-.018 (.814)</td>
<td></td>
</tr>
<tr>
<td><strong>Position Of Respondent</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(0= Non Manager and 1 = Supervisor or Executive)</td>
<td></td>
<td>-.067 (.359)</td>
<td>-.055 (.452)</td>
<td></td>
</tr>
<tr>
<td><strong>Type of Organizational Change</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merger (0 = No and 1 = Yes)</td>
<td></td>
<td></td>
<td>.070 (320)</td>
<td></td>
</tr>
<tr>
<td>Downsizing (0 = No and 1 = Yes)</td>
<td></td>
<td></td>
<td>.133 (.084)</td>
<td></td>
</tr>
<tr>
<td>New Leadership (0 = No and 1 = Yes)</td>
<td></td>
<td></td>
<td>-.106 (.136)</td>
<td></td>
</tr>
<tr>
<td>Reorganization (0 = No and 1 = Yes)</td>
<td></td>
<td></td>
<td>.059 (.402)</td>
<td></td>
</tr>
<tr>
<td><strong>Model Summary Information</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R Square</td>
<td>.214</td>
<td>.217</td>
<td>.221</td>
<td>.250</td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>.205</td>
<td>.203</td>
<td>.202</td>
<td>.213</td>
</tr>
<tr>
<td>F</td>
<td>22.64</td>
<td>15.27</td>
<td>11.65</td>
<td>6.67</td>
</tr>
<tr>
<td>n</td>
<td>169</td>
<td>169</td>
<td>169</td>
<td>169</td>
</tr>
<tr>
<td>Significance of Model</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Significance of R Square Change</td>
<td>&lt;.001</td>
<td>.430</td>
<td>.359</td>
<td>.195</td>
</tr>
</tbody>
</table>

*Note:* Beta values in **boldface** are statistically significant.
Additional Results

Factorial ANOVA – Years & Position on Total RFC and RFC Subscales.

Separate analyses were completed to assess if there was an interaction between the current position of the respondent and years in the current organization, with innovation and flexibility scores, and with reflexivity scores. Table 16 summarized the descriptive statistics for this interaction analysis.

Table 16.
Descriptive Statistics for the RFC-related Factorial Analysis of Variance Analysis for Current Position of the Respondent by Years in the Current Organization.

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Position</th>
<th>Years in Current Organization</th>
<th>Cases</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation Flexibility</td>
<td>Non Managerial</td>
<td>Less Than 1 Year</td>
<td>17</td>
<td>3.23</td>
<td>.59</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 – 5 Years</td>
<td>35</td>
<td>2.54</td>
<td>.81</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – 10 Years</td>
<td>23</td>
<td>2.49</td>
<td>.79</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 Years or more</td>
<td>39</td>
<td>2.70</td>
<td>.59</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>114</td>
<td>2.69</td>
<td>.74</td>
</tr>
<tr>
<td></td>
<td>Supervisor/Exec.</td>
<td>Less Than 1 Year</td>
<td>4</td>
<td>2.83</td>
<td>.92</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 – 5 Years</td>
<td>13</td>
<td>2.83</td>
<td>.72</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – 10 Years</td>
<td>12</td>
<td>2.53</td>
<td>.80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 Years or more</td>
<td>25</td>
<td>2.79</td>
<td>.57</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>54</td>
<td>2.74</td>
<td>.68</td>
</tr>
<tr>
<td></td>
<td>Combined</td>
<td>Less Than 1 Year</td>
<td>21</td>
<td>3.15</td>
<td>.65</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 – 5 Years</td>
<td>48</td>
<td>2.62</td>
<td>.79</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – 10 Years</td>
<td>35</td>
<td>2.50</td>
<td>.78</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 Years or more</td>
<td>64</td>
<td>2.73</td>
<td>.58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>168</td>
<td>2.70</td>
<td>.72</td>
</tr>
<tr>
<td>Reflexivity</td>
<td>Non Managerial</td>
<td>Less Than 1 Year</td>
<td>17</td>
<td>3.16</td>
<td>.52</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 – 5 Years</td>
<td>35</td>
<td>2.77</td>
<td>.72</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – 10 Years</td>
<td>23</td>
<td>2.72</td>
<td>.55</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 Years or more</td>
<td>39</td>
<td>2.82</td>
<td>.61</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>114</td>
<td>2.83</td>
<td>.63</td>
</tr>
<tr>
<td></td>
<td>Supervisor/Exec.</td>
<td>Less Than 1 Year</td>
<td>4</td>
<td>3.20</td>
<td>.43</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 – 5 Years</td>
<td>13</td>
<td>3.05</td>
<td>.32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – 10 Years</td>
<td>12</td>
<td>2.72</td>
<td>.65</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 Years or more</td>
<td>26</td>
<td>2.95</td>
<td>.43</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>55</td>
<td>2.94</td>
<td>.47</td>
</tr>
<tr>
<td></td>
<td>Combined</td>
<td>Less Than 1 Year</td>
<td>21</td>
<td>2.17</td>
<td>.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 – 5 Years</td>
<td>48</td>
<td>2.84</td>
<td>.65</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – 10 Years</td>
<td>35</td>
<td>2.72</td>
<td>.58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 Years or more</td>
<td>65</td>
<td>2.87</td>
<td>.55</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>169</td>
<td>2.88</td>
<td>.59</td>
</tr>
</tbody>
</table>

Note: The mean values are based on the following Likert response scale: 1 = Definitely False; 2 = Mostly False; 3 = Mostly True; and 4 = Definitely True.
When determining if there were adequate numbers in the applicable cells to conduct the factorial analysis with the position and year variable combined, low numbers were observed in the first-level supervisor and executive cells; therefore the position variable was recoded into two groups (non-management, and supervisor and executive), and the years in the current organization variable was recoded into four groups by combining the 11-15 year and > 15 year categories.

Two figures are presented which visually depict the interactive influence of the two variables (position and years in current organization) on innovation and flexibility (Figure 17) and reflexivity (Figure 18).

![Figure 17. Interactive influence of position and years in organization on Innovation & Flexibility.](image-url)
The factorial analysis of variance was used to statistically assess whether there was a significant interaction between position and years in the current organization with innovation and flexibility, reflexivity, and total RFC. There was no significant statistical interaction found at the ≤ 0.05 significance level (Table 17).

Table 17.

**Factorial Analysis of Variance Results.**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Independent Variable and Interaction</th>
<th>F Value</th>
<th>Sig (2 tail)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation</td>
<td>Position</td>
<td>0.003</td>
<td>0.955</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Years in Organization</td>
<td>1.829</td>
<td>0.144</td>
</tr>
<tr>
<td></td>
<td>Interaction of position and years in organization</td>
<td>0.782</td>
<td>0.506</td>
</tr>
<tr>
<td>Reflexivity</td>
<td>Position</td>
<td>0.958</td>
<td>0.329</td>
</tr>
<tr>
<td></td>
<td>Years in Organization</td>
<td>2.010</td>
<td>0.115</td>
</tr>
<tr>
<td></td>
<td>Interaction of position and years in organization</td>
<td>0.384</td>
<td>0.764</td>
</tr>
<tr>
<td>Total RFC</td>
<td>Position</td>
<td>0.202</td>
<td>0.653</td>
</tr>
<tr>
<td></td>
<td>Years in Organization</td>
<td>2.111</td>
<td>0.101</td>
</tr>
<tr>
<td></td>
<td>Interaction of position and years in organization</td>
<td>0.599</td>
<td>0.616</td>
</tr>
</tbody>
</table>

*Figure 18.* Interactive influence of position and years in organization on Reflexivity.
Factorial ANOVA – Years & Position on Total EWE and EWE Subscales.

Additional and separate analyses were completed to determine if there was an interaction between the current position of the respondent and years in the current organization, with vigor scores, with dedication scores, with absorption scores, and with total EWE scores. The recoded categories for position and years at the organization were also used for these analyses. Table 18 summarized the descriptive statistics for this interaction analysis.

Table 18.

Descriptive Statistics for the EWE-related Factorial Analysis of Variance Analysis for Current Position of the Respondent by Years in the Current Organization.

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Position</th>
<th>Years in Current Organization</th>
<th>Cases</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vigor</td>
<td>Non Managerial</td>
<td>Less Than 1 Year</td>
<td>17</td>
<td>5.45</td>
<td>1.20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 – 5 Years</td>
<td>35</td>
<td>4.82</td>
<td>1.27</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – 10 Years</td>
<td>23</td>
<td>4.84</td>
<td>1.30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 Years or more</td>
<td>39</td>
<td>5.21</td>
<td>1.15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>114</td>
<td>5.05</td>
<td>1.23</td>
</tr>
<tr>
<td></td>
<td>Supervisor/Exec.</td>
<td>Less Than 1 Year</td>
<td>4</td>
<td>5.83</td>
<td>0.96</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 – 5 Years</td>
<td>13</td>
<td>5.79</td>
<td>1.21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – 10 Years</td>
<td>12</td>
<td>5.64</td>
<td>1.27</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 Years or more</td>
<td>26</td>
<td>5.73</td>
<td>0.95</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>55</td>
<td>5.73</td>
<td>1.05</td>
</tr>
<tr>
<td></td>
<td>Combined</td>
<td>Less Than 1 Year</td>
<td>21</td>
<td>5.52</td>
<td>1.15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 – 5 Years</td>
<td>48</td>
<td>5.08</td>
<td>1.31</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – 10 Years</td>
<td>35</td>
<td>5.11</td>
<td>1.32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 Years or more</td>
<td>65</td>
<td>5.42</td>
<td>1.10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>169</td>
<td>5.27</td>
<td>1.22</td>
</tr>
<tr>
<td>Dedication</td>
<td>Non Managerial</td>
<td>Less Than 1 Year</td>
<td>17</td>
<td>6.12</td>
<td>1.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 – 5 Years</td>
<td>35</td>
<td>5.28</td>
<td>1.06</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – 10 Years</td>
<td>23</td>
<td>5.51</td>
<td>1.27</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 Years or more</td>
<td>39</td>
<td>5.72</td>
<td>0.74</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>114</td>
<td>5.60</td>
<td>1.03</td>
</tr>
<tr>
<td></td>
<td>Supervisor/Exec.</td>
<td>Less Than 1 Year</td>
<td>4</td>
<td>6.08</td>
<td>0.69</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 – 5 Years</td>
<td>13</td>
<td>6.18</td>
<td>0.75</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – 10 Years</td>
<td>12</td>
<td>6.03</td>
<td>0.72</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 Years or more</td>
<td>26</td>
<td>6.24</td>
<td>0.64</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>55</td>
<td>6.17</td>
<td>0.68</td>
</tr>
<tr>
<td></td>
<td>Less Than 1 Year</td>
<td>1–5 Years</td>
<td>6–10 Years</td>
<td>10 Years or more</td>
<td>Total</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------</td>
<td>-----------</td>
<td>------------</td>
<td>------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Combined</td>
<td>21</td>
<td>48</td>
<td>35</td>
<td>65</td>
<td>169</td>
</tr>
<tr>
<td>Absorption</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non Managerial</td>
<td>17</td>
<td>35</td>
<td>23</td>
<td>39</td>
<td>114</td>
</tr>
<tr>
<td>Supervisor/Exec.</td>
<td>4</td>
<td>13</td>
<td>12</td>
<td>26</td>
<td>55</td>
</tr>
<tr>
<td>Combined</td>
<td>21</td>
<td>48</td>
<td>35</td>
<td>65</td>
<td>169</td>
</tr>
<tr>
<td>Total EWE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non Managerial</td>
<td>17</td>
<td>35</td>
<td>23</td>
<td>39</td>
<td>114</td>
</tr>
<tr>
<td>Supervisor/Exec.</td>
<td>4</td>
<td>13</td>
<td>12</td>
<td>26</td>
<td>55</td>
</tr>
<tr>
<td>Combined</td>
<td>21</td>
<td>48</td>
<td>35</td>
<td>65</td>
<td>169</td>
</tr>
</tbody>
</table>

Note: The mean values are based on the following Likert response scale in Qualtrics: 1 = Never; 2 = Almost Never; 3 = Rarely; 4 = Sometimes; 5 = Often; 6 = Very Often; 7 = Always.

Four figures presented below visually depict the interactive influence of the two variables (position and years in current organization) on vigor (Figure 19), dedication (Figure 20), absorption (Figure 21), and total EWE (Figure 22). The results of the factorial ANOVA analyses were provided in Table 19.
Figure 19. Interactive influence of position and years in organization on Vigor.

Figure 20. Interactive influence of position and years in organization on Dedication.
Figure 21. Interactive influence of position and years in organization on Absorption.

Figure 22. Interactive influence of position and years in organization on Total EWE.
The factorial analysis of variance was used to statistically assess whether there was a significant interaction between position and years in the current organization with each subscale of vigor, dedication, absorption, or total EWE. There was a significant main effect interaction found for each EWE scale score with the category of employee position at the ≤ 0.05 significance level (Table 19). However, there was no significant interaction between years in the organization or position and years in the organization for each of the EWE scale scores.

Table 19.
*Factorial Analysis of Variance Results.*

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Independent Variable and Interaction</th>
<th>F Value</th>
<th>Sig (2 tail)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vigor</td>
<td>Position</td>
<td>8.454</td>
<td><strong>0.004</strong></td>
</tr>
<tr>
<td></td>
<td>Years in Organization</td>
<td>0.529</td>
<td>0.663</td>
</tr>
<tr>
<td></td>
<td>Interaction of position and years in organization</td>
<td>0.391</td>
<td>0.760</td>
</tr>
<tr>
<td>Dedication</td>
<td>Position</td>
<td>7.223</td>
<td><strong>0.008</strong></td>
</tr>
<tr>
<td></td>
<td>Years in Organization</td>
<td>1.009</td>
<td>0.390</td>
</tr>
<tr>
<td></td>
<td>Interaction of position and years in organization</td>
<td>0.908</td>
<td>0.439</td>
</tr>
<tr>
<td>Absorption</td>
<td>Position</td>
<td>11.320</td>
<td><strong>0.001</strong></td>
</tr>
<tr>
<td></td>
<td>Years in Organization</td>
<td>1.239</td>
<td>0.297</td>
</tr>
<tr>
<td></td>
<td>Interaction of position and years in organization</td>
<td>1.488</td>
<td>0.220</td>
</tr>
<tr>
<td>Total EWE</td>
<td>Position</td>
<td>10.833</td>
<td><strong>0.001</strong></td>
</tr>
<tr>
<td></td>
<td>Years in Organization</td>
<td>1.030</td>
<td>0.381</td>
</tr>
<tr>
<td></td>
<td>Interaction of position and years in organization</td>
<td>0.858</td>
<td>0.464</td>
</tr>
</tbody>
</table>

Note: Values in **boldface** are statistically significant at ≤ 0.05.
Patterns in Work Engagement and Readiness for Change by Position or Years in the Organization.

The next data analyses examined the separate influences of the respondents’ demographic characteristics of years and positions in the organization on the mean scores for the study’s seven variables: overall EWE and its subscales vigor, dedication, absorption; and overall RFC and its subscales innovation and flexibility, and reflexivity. The results were depicted graphically through line graphs.

The Influence of Years on Variable Means.

Figure 23 below illustrated the influence on EWE and its subscales by the respondents’ number of years in the organization. The UWES-9 item scale to measure EWE and its subscales was 1-7 but as no mean scores were below 4.00, the vertical axis was edited to show a range of 4-7.

![Mean Scores per Variable](chart.png)

*Figure 23. Influence of Years in Organization on EWE and Subscales.*
This line graph illustrated the close relationship between the four variables depicted – vigor, dedication, absorption, and overall EWE – and the consistent influence of the number of years worked at the respondents’ organizations on the variables. First, the dedication subscale was noted to be the highest mean score across all categories of years employed. For all variables, the mean scores were highest among employees who worked less than one year at the organization. In comparison, there was a reduction in the mean scores of all variables for respondents employed one to five years, though for all variables this was a decrease of 0.50 - 0.60 point.

Further, for each category of years 6-10, 11-15, and > 15 there was a gradual increase in the mean scores of all variables; however, none reached those of the < 1 year category of employees. These minor changes in the data were obtained through a cross-sectional study; therefore, the researcher does not consider them definitive findings of the study. However, in future research it would be interesting to examine longitudinal results to determine if an employee’s years of employment influence EWE and RFC.

Figure 24 below demonstrated the influence on RFC and its subscales by the respondents’ number of years in the organization. The OCM item scale to measure RFC and its subscales was 1-4 and was depicted as such on this figure. Similar to Figure 23, Figure 24 revealed the close relationship between the three variables measured – overall RFC, reflexivity, and innovation and flexibility. Further, a comparable pattern of influence by the number of years was demonstrated for the RFC-related variables.
Figure 24. Influence of Years in Organization on RFC and Subscales.

However, unlike the years employed data which increased for EWE, for the 6-10 year employees the mean scores for all RFC variables again declined slightly by 0.12. In the 11-15 year employees the results were mixed as the reflexivity subscale mean continued to decline (0.04) while the innovation and flexibility subscale mean score increased (0.05); therefore, in combination the overall RFC mean score held steady (+0.01). It was only in the > 15 years employed category where the mean scores of all RFC-related variables increased. Based on the scores of the 11-15 year category, the > 15 year means increased by 0.24 - 0.26, yet never reached the scores of the < 1 year category.

While discovering an explanation for these year and RFC-related patterns were not part of this research, the data appeared to indicate after the first year of employment
the employees were skeptical about the of these organizations’ ability to (a) adapt to the wider environment, (b) support innovative approaches, and (c) orient toward change.

Further, only after being employed for over 15 years does that perspective seem to improve. While the reason for this change in employee perspective was unknown, this researcher hypothesized it may be caused by the > 15 year category of employees’ enhanced understanding of the organization’s culture and practices, and the participation in change efforts. Future research should focus on these potential influences on RFC-related variables.

The Influence of Position on Variable Means.

Next, the data was examined to understand the influence, if any, of an employee’s position in the organization on the mean scores for the study’s seven variables: overall EWE and its subscales vigor, dedication, absorption; and overall RFC and its subscales innovation and flexibility, and reflexivity.

Figure 25 revealed the close relationship between the three variables measured in the UWES-9. The UWES-9 item scale to measure EWE and its subscales was 1-7 but as no mean scores were below 4.00, the vertical axis was edited for a range of 4-7. The dedication subscale was noted to be the highest mean score across all categories of position. The analysis further illustrated the mean scores of EWE and its subscales were influenced by the employee’s position in the organization by 0.69 - 0.97 when non-managerial scores were compared to executive scores. The largest increase in the scores
relative to position was 0.97 between non-managerial and executive employees on the vigor subscale.

![Figure 25. Influence of Position in Organization on EWE and Subscales.](image)

Recall that vigor was defined as “high levels of energy and mental resilience, willingness to invest effort in one’s work, and persistence in the face of difficulties” (Schaufeli & Bakker, 2010, p. 74). This finding appeared to indicate an employee’s position may influence their level of engagement particularly in how vigorous their job makes them feel. This importance of an employee’s position was supported by the factorial analysis conducted which determined that position in the organization was a significant influence on EWE and its subscales. Future research should focus on understanding how the responsibility of management influences the employee’s sense of vigor, dedication, and overall EWE.
Finally, Figure 26 below demonstrates the influence on RFC and its subscales by the respondents’ position in the organization. The OCM item scale to measure RFC and its subscales was 1-4 and was depicted as such on this figure. Similar to Figure 25, Figure 26 revealed the close relationship between the three variables measured – overall RFC, reflexivity, and innovation and flexibility. Further, Figure 26 illustrated the mean scores of RFC and its subscales were not influenced by the employee’s position in the organization. The largest difference in the scores relative to position was 0.10 between non-managerial and executive employees on the reflexivity subscale. This finding indicated an employee’s position alone was not enough to create a disparate perspective on the organization’s readiness for change. Finally, this result was supported by the factorial ANOVA analysis completed which found that position and years had no significant influence on RFC or its subscales.

![Figure 26. Influence of Position in Organization on RFC and Subscales.](image-url)
In conclusion, when Figures 23 and 25 were examined, they appeared to demonstrate that an employee’s years and position at an organization had a minor or modest influence, respectively, on an employee’s level of work engagement. Further, the factorial ANOVA analysis demonstrated that the category of position was a statistically significant influence. However, based upon Figures 24 and 26, only the number of years worked at the organization appeared to have a very minor influence on the employee’s perspective of the organization’s readiness for change. However, this was not supported by any other analysis completed in this study so the finding was not considered to be significant.

When the position and years employed categories and their influence on EWE were compared, the dedication subscale was noted to be the highest mean score across all categories. Recall, “dedication is characterized by a sense of significance, enthusiasm, inspiration, pride, and challenge” (Schaufeli et al., 2002, p. 74). The data appeared to suggest an organization’s efforts to develop employee dedication across all positions and years in the organization would be beneficial. Further, the importance of employee dedication was confirmed in the hierarchical regression analysis.

**Position and Years in Organization - Influence on Qualitative Responses.**

Finally, an analysis was conducted to determine the influences the respondent characteristics of position and years in the organization on the qualitative responses provided for item 28 on the instrument: “At work, what contributes most to your desire to
do your best?” The item included a statement indicating the response could reflect personal and/or work-related influences.

Using a deductive approach, each response was read and coded by assigning it to one of three classifications: personal resources, job resources, and combination. These classification choices were made as personal resources and job resources have been confirmed in the research as antecedents of EWE. Therefore, for this content analysis, the coding plan specified the following:

- Personal resource: indicated by statements that discussed the internal resources, physical or psychological, the respondent brought to the workplace;

- Job resource: indicated by statements that discussed the external resources, physical or psychological, the respondent received from the workplace;

- Combination: indicated by a statement that comprised references to both personal and job resources.

Examples of personal resource statements included “my values and work ethic”, “pride in myself”, “my ambition to be better than I was yesterday”, and “personal gratification.” Job resource items comprised statements such as “the people – management – excellent workers”, “recognition of a job well done and time to do it correctly”, “the relationship with my manager”, and “salary and raises.” Combination statements encompassed responses such as “the desire to excel personally, coupled with an environment that acknowledges success and effort”, “pride in my work and a pay
check”, “I want to do the best job for the guys in the shop so they are happy it is my project to work on”, and “Respect for myself and the respect and appreciation of co-workers.”

After the researcher read, coded, and reviewed the statements in each classification for consistency, the statements were sorted by the respondents’ years of employment and position in the organization, respectively, in order to examine influences. Further, to confirm interrater reliability, a colleague with experience in EWE research was asked to repeat the qualitative analysis process. The initial interrater reliability score was 75.5%; however, after discussion to align perspectives on the codes being used and each statement not agreed upon, the inter-rater reliability increased to 97.9%.

_Influences by Position._

Figures 27-29 demonstrated the resource influences, by position, that contributed to the employee’s desire to do their best work. Based on their responses, it was determined non-managers and first-level supervisors (Figure 27 and 28) shared similar levels of personal resource influences, 53% and 50% respectively. In both positions, the job resources accounted for approximately one third of the contribution and the combination category reflected a 16% influence.
Figure 27. Non-Managers - Influences on Desire to do Best Work.

Figure 28. First-level Supervisor - Influences on Desire to do Best Work.

For this analysis, it was also important to particularly consider the influence of the combination resources as these reflected a statement by the respondent which included both personal resources and job resources. Therefore, if one evenly disaggregated the percentages of the combination category for the non-managerial and first-level supervisor positions, personal resources would be enlarged to 61% and 58%, and job resources 39% and 42%, respectively. Based on this data, the researcher concluded that in these positions the personal resources the individual employee brought to the organization were
the major driver in their desire to do their best work; but the influence of job resources was significant.

However, at the executive level, shown in Figure 29, this analysis clearly demonstrated the significant contribution of personal resources on the employee’s desire to do their best work (84%). With the categories of job resources at 11% and combination at 5%, two observations may be made.

![Diagram](image)

*Figure 29. Executive - Influences on Desire to do Best Work.*

First, the data showed there were very few executives who depended on their job resources for their drive to produce quality work. Second, the low combination category reflected the clarity by the executives as to their motivations. Recall that personal resources were defined as the capacities of “optimism, self-efficacy, and self-esteem” (Bakker & Leiter, 2010, pp. 20, 33). These results demonstrated the significant influence of personal resources on the executive’s desire to do their best work; and appeared logical to the researcher when the typical ambition, determination, and enterprise qualities of executives were considered.
Resource Influences by Years Employed.

Figures 30 below illustrated the resource influences by years of employment. An analysis of each category was completed and then considered against the results of the position resource influences. The data for new (< 1 year) employees demonstrated job resources provided by the organization contributed to their desire to do their best work (47%) where as personal resources accounted for 33%. Recall, job resources included “pay, career opportunities, job security, supervisor and co-worker support, team climate, role clarity, participation in decision making, skill variety, task identity, task significance, autonomy, and performance feedback” (Bakker & Demerouti, pp. 312-313).

![Figure 30. Years of Employment- Influences on Desire to do Best Work.](image-url)
Further, if the combination category was evenly disaggregated for the < 1 year category, job resources as an influence would be increased to 57%. It appeared this result indicated a new employee’s desire to be supported by the organization in achieving success at their position. Interestingly, for each subsequent years-employed category, the personal resources scales increased significantly while the influence of job resources decreased to the lowest in the categories of 11-15 years and > 15 years at 13% and 22% respectively.

These results appeared to reflect the employee’s confidence in the resources provided by the organization and a growth in their personal self-esteem and self-efficacy. A final observation was made that the combination category scores remained fairly steady in the final three years-related categories.

In the next chapter, the results from this study are summarized and a discussion regarding implications, limitation, and future research are provided.
Chapter 5

Summary, Conclusions, and Recommendations

An organization that exists in a dynamic and complex environment finds this setting creates the need for consistent internal change in order to stay relevant and competitive. Successful change efforts are critical to an organization’s strategy and growth and, therefore, an understanding of how to best manage these change efforts is of interest to innovative and forward-looking organizations. Two factors critical to the success of a change effort were the subject of this study. One of these factors related to the organization’s employees level of engagement, and the second was the organization’s level of change readiness.

Purpose

The goal of this study was to examine whether employees’ level of work engagement was important to employees’ perceptions of the organization’s level of readiness for the change effort in manufacturing organizations in south-central Pennsylvania. As no empirical studies were found which examined the direct relationship between employee perceptions regarding work engagement and organizational change readiness, this study adds to the existing literature by empirically examining that relationship in the manufacturing sector.

Further, as a result of this research and its contribution to the literature, it was feasible the importance of employee work engagement would be enhanced due to its
demonstrated relationship with employees’ perceptions regarding their respective organization’s readiness for change. In addition, it was anticipated that the recognition of this important relationship would create the potential for the development of policies and practices within organizations and the OD field. Finally, it was expected that manufacturing organizations, in particular, would choose to further examine this study’s results to obtain a practical benefit as it provided knowledge to assist organization or OD practitioners to assess work engagement and readiness for change.

**Research Questions**

RQ1: What is the relationship between overall employee work engagement and overall organizational change readiness?

RQ2: What is the relationship between each of the subscales of employee work engagement (vigor, dedication, and absorption) and overall organizational change readiness?

RQ3: What is the relationship between overall employee work engagement and each of the subscales indicating organizational change readiness (reflexivity, and innovation and flexibility)?

RQ4: To what extent is organizational change readiness – measured by the two subscales of innovation and flexibility, and reflexivity – influenced by (a) the employee work engagement factors of vigor, dedication, absorption; (b) employee position in the organization; (c) the number of employees in the organization; and
(d) organizational changes experienced by the employee, including new leadership, reorganization, downsizing, and/or merger/acquisition?

**Research Method**

**UWES-9 and OCM Instrumentation**

To explore the multiple variables and inter-relationships posed in the four research questions, a 28-item cross-sectional survey – comprised of seven descriptive items, 20 Likert-scale items, and one qualitative item – measured the level of employees’ self-reported work engagement and the employees’ perceptions regarding the level of organizational readiness for change in manufacturing organizations.

Employee work engagement (EWE) was measured via the three subscales of vigor, dedication, and absorption using the nine-item Utrecht Work Engagement Survey (UWES-9). The Cronbach’s alpha in this study for the UWES-9 items measuring EWE was .905. Employees’ perceptions of their organization’s readiness for change (RFC) were measured with the Organizational Climate Measure (OCM), an instrument of 17 subscales including the two that indicated readiness for change in this study: (a) reflexivity and (b) innovation and flexibility. The Cronbach’s alpha in this study for the OCM items measuring RFC was .928. Content validity for the final instrument was established based upon a review by a panel of experts and the Executive Director of MA.
UWES-9 was a self-reporting survey and measured employee work engagement including the three dimensions of work engagement: vigor, dedication, and absorption. Schaufeli et al. (2002) defined each of these characteristics in the following way:

Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, and persistence even in the face of difficulties. Dedication is characterized by a sense of significance, enthusiasm, inspiration, pride, and challenge…[and] absorption, is characterized by being fully concentrated and deeply engrossed in one’s work, whereby time passes quickly and one has difficulties…detaching oneself from work. (pp. 74-75)

Sample UWES-9 items on the questionnaire included: “When I get up in the morning, I feel like going to work.” to measure vigor; “I am enthusiastic about my job.” to measure dedication; and “I get carried away when I am working.” to measure absorption (Schaufeli et al., 2006, p. 714).

The OCM subscales used in this study comprised (a) reflexivity and (b) innovation and flexibility. The full OCM instrument was developed as a multi-dimensional measure and the 17 subscales have been validated for use independently by researchers as applicable to their particular study. “The measure is designed to…be applicable across a range of work settings and to target all employee levels” (Patterson et al., 2005, p. 383). Patterson et al. (2005) stated “The 17 scales contained within the measure had acceptable levels of reliability and were factorially distinct” (p. 379).

The innovation and flexibility climate dimension measured “acceptance of new ideas; ability to respond to change; identification of need for change; flexibility in
responding to changes needed in procedures; support in developing new ideas; and orientation to improvement and innovation” (Rivard, 2005, p. 4). West (1996, 2000) stated that reflexivity was concerned “with reviewing and reflecting upon objectives, strategies, and work processes, in order to adapt to the wider environment” (as cited in Patterson et al., 2005, p. 386)

Responses on the OCM were measured on a 4-point Likert scale: 1 = Definitely false, 2 = Mostly false, 3 = Mostly true, and 4 = Definitely true. Sample items in the Reflexivity dimension included: “In this organization, the way people work together is readily changed in order to improve performance”; “The methods used by this organization to get the job done are often discussed”; and “In this organization, time is taken to review organizational objectives” (Patterson et al., 2005, p. 407).

Sample items in the Innovation and Flexibility dimension included: “The company is quick to respond when changes need to be made”; “The organization is very flexible; it can quickly change procedures to meet new conditions and solve problems as they arise”; and “People in this organization are always searching for new ways of looking at problems” (Patterson et al., 2005, p. 406).

**Research Study Design**

The research study was conducted with a sample of individuals employed in the member companies of the Manufacturers’ Association of South-Central Pennsylvania (MA). MA is an organization that provides support to the manufacturing organizations in the specified region and enjoys relationships with more than 350 organizations with the
goal of making them more competitive, productive, and profitable. Due to their extensive relationships with manufacturing organizations, MA was considered by the researcher to be a visible and credible sponsor to the research.

This organization was also served as a gatekeeper in the study as the Executive Director, due to past experience with the member companies, advised that a one-time survey be conducted – this would deliver the best participation by respondents, whereas, a pilot study would reduce involvement in a final study. Additional contributions from MA representatives included a review of the instrument to be used, assistance in the content validity process, and the facilitation of participation commitment by organizations.

The total number of individual employees receiving the survey (email version and paper version) for this study was 293. Those individual recipients that read the consent form and chose to move to the survey instrument were considered to have provided their implied consent. To address non-respondents, reminder emails and notifications were communicated to all employees by the respective company representatives at appropriate intervals. Individual non-respondents were not able to be identified or contacted directly due to the anonymity of the survey. The final response rate calculation was based on the number of individual employees that received the survey and those who responded. The total usable sample of individual respondents was 172 for a survey response rate of 58.7%.

Methods to analyze the data included descriptive statistics, bivariate correlational analyses, and hierarchical multiple regression. Additional analyses using factorial
ANOVA, pattern analysis, and the coding of qualitative data were completed to add depth to the results and conclusions obtained from the quantitative data.

**Summary and Discussion of Results**

**Descriptive Statistics for Work Engagement (EWE) and Readiness for Change (RFC) Research Variables**

The researcher examined the descriptive statistics of mean, median, and standard deviation; and the normality of the seven research variables. Boxplots for each variable and the distribution of the UWES-9 and OCM item responses were also examined for normality.

The data for EWE indicated a relatively high level of employee work engagement for these respondents in the manufacturing sector. Qualitatively, the means indicated a level of work engagement that reflected being engaged Often – Very Often. The descriptive statistics (Mean = 5.55, SD = .98) for overall work engagement fell between Often and Very Often on the Likert response scale of (1) Never to (7) Always. Similarly, the means for the three subscales reflected high levels of work engagement (Vigor – M = 5.25, SD = 1.24; Dedication – M = 5.77, SD = .97; and Absorption – M = 5.63, SD = .99). These summary statistics provided additional evidence the summated Likert scale scores were fairly normally distributed (the means were very similar to the median values).

For RFC the data analyses indicated a moderately high level of readiness for change for these respondents in the manufacturing sector. Qualitatively, the means
indicated a significant level of readiness for change with respondents most often indicating the statements were Mostly True. The descriptive statistics (Mean = 2.87, SD = .62) for overall readiness for change fell more closely to Mostly True on the Likert response scale of (1) Definitely False to (4) Definitely True. Similarly, the two subscales reflected high levels of readiness for change (Reflexivity – M = 2.87, SD = .59; and Innovation and Flexibility – M = 2.71, SD = .72). These summary statistics provided additional evidence the summated Likert scale scores were fairly normally distributed (the means were very similar to the median values).

Overall, the respondents in these manufacturing organizations were found to be highly engaged and perceived their organizations at a higher level of readiness for change. The normality of the distributions allowed further examination of the variables using inferential statistics.

**Bivariate Correlations between Work Engagement and Readiness for Change**

Pearson correlations were calculated to examine the relationship between overall employee work engagement (EWE) and overall organizational change readiness (RFC) (RQ1), and an examination of each construct’s subscales was also made to determine which may have had an influence on the relationship. Correlations were calculated to examine the subscales of EWE – vigor, dedication, and absorption – to overall organizational change readiness (RQ2); and to examine the dimensions of RFC – innovation and flexibility, and reflexivity – to overall employee work engagement (RQ3).
There was a positive, moderate relationship between employees’ perceptions of overall work engagement (EWE) in their respective manufacturing organizations and their personal perceptions regarding readiness for change (RFC) in the manufacturing organization where they respectively worked. Employees reporting they were more actively engaged in their work tended to report their organization was more ready for change. The results summarized in Table 2 reflect a correlation of $r = .487$ with an effect size of $R^2 = 23.7\%$. This indicates that approximately one-fourth of the differences in overall readiness for change values is explained by overall work engagement.

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Correlation $p &lt; .01$ (Effect size)</th>
<th>Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ1 EWE to RFC</td>
<td>$r = .487$ ($R^2 = 23.7%$)</td>
<td>Moderate to strong</td>
</tr>
<tr>
<td>RQ2 Vigor to RFC</td>
<td>$r = .442$ ($R^2 = 19.5%$)</td>
<td>Moderate</td>
</tr>
<tr>
<td>RQ2 Dedication to RFC</td>
<td>$r = .477$ ($R^2 = 21.3%$)</td>
<td>Moderate to strong</td>
</tr>
<tr>
<td>RQ2 Absorption to RFC</td>
<td>$r = .421$ ($R^2 = 17.7%$)</td>
<td>Moderate</td>
</tr>
<tr>
<td>RQ3 Reflexivity to EWE</td>
<td>$r = .467$ ($R^2 = 21.8%$)</td>
<td>Moderate to strong</td>
</tr>
<tr>
<td>RQ3 Innovation &amp; Flexibility to EWE</td>
<td>$r = .455$ ($R^2 = 20.7%$)</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

Note: strength designation based on Cohen et al. (2007)

These results demonstrated the positive moderate and moderate to strong strengths of the relationships for the variables studied in RQ1, RQ2, and RQ3. Therefore, this study has provided the first empirical evidence regarding the importance of employee work engagement to an organization’s readiness for change and adds to the existing literature on both constructs relative to the manufacturing sector. Further, while
examining the relationships between the EWE subscales and the RFC subscales was not a research question in this study, the results related to these subscales found moderate correlations from \( r = .376 \) to \( r = .455 \) significant at the \( p < .01 \) level.

While the implication and recommendation section will discuss these results in detail, the overall conclusion made by this researcher from these findings is that an employee’s psychological state at work – explained by their vigor, dedication, and absorption – is positively moderately correlated to the employee’s perception regarding the organization’s readiness for change as measured by innovation and flexibility, and reflexivity.

**Hierarchical Multiple Regression Analysis of EWE, Personal and Organizational Characteristics, and Readiness for Change**

In separate analyses, the influences on the dependent variables of reflexivity, and innovation and flexibility (the OCM subscales indicating RFC) were tested with nine regression predictor variables including the three EWE subscales of vigor, dedication, absorption; and the six employee demographic characteristics of position in the organization, number of employees (a proxy for the size of the organization), and employee change experiences related to new leadership, reorganization, downsizing, and merger/acquisition.

It was concluded that for innovation and flexibility scores, dedication, as self-reported by the employee, was the only variable with a significant influence in explaining differences in the scores of the dependent variable (\( \beta = .307, \ p = .021 \)). For reflexivity
the researcher concluded dedication scores ($\beta = .296, p = .007$) and absorption scores ($\beta = .242, p = .026$) were very similar in explaining reflexivity score differences. Both dedication and absorption have a positive influence on reflexivity.

Bakker and Demerouti (2009) concluded from their research that “men’s work engagement and in particular their dedication is positively related to both in-role and extra-role performance” (p. 226). Therefore, this study’s results add to the current literature and provides evidence regarding the particular importance of an employee’s level of dedication to an organization’s readiness for change and strengthened the significance of the moderate to strong correlation measured between dedication and overall RFC ($r = .477, p < .01$). The employee’s level of absorption is significant in its influence on the employee’s perception of the organization’s reflexivity – the adaptability to the wider organizational environment by examining policies, procedures, objectives, and strategies.

Finally, this researcher finds that not only is overall employee work engagement related to organizational readiness for change in the manufacturing organizations studied, but dedication and absorption have particular importance to the types of change readiness the organization may experience. While these findings will be discussed in more detail in the recommendation section of this chapter, generally, it may be expected that these results provide an understanding that will encourage organizations and OD practitioners to examine these employee characteristics and seek ways to increase their dedication to their work and absorption in their work in order to better prepare the organization for future change efforts.
Additional Results

To provide a richer analysis of the quantitative data and enhance the results related to the research questions, the researcher used three methods to investigate the influence of the demographic characteristics of position and years in the organization on overall EWE, overall RFC, and the subscales of each construct. All three analyses demonstrate that in these manufacturing organizations an employee’s position was significantly related to their level of engagement.

First, the data were examined, using factorial ANOVA, to statistically determine whether there was a significant interaction between the position of the respondents with years in the current organization with each RFC subscale of innovation and flexibility, and reflexivity, or total RFC. There was no significant statistical interaction found at the $\leq 0.05$ significance level.

Next, an assessment was made to determine whether there was a significant interaction between these same demographic characteristics with each EWE subscale of vigor, dedication, absorption, or total EWE. The results of the factorial ANOVA demonstrated that there was a significant statistical interaction found for each variable ($0.004, 0.008, 0.001, \text{ and } 0.001$ respectively) with position at the $\leq 0.05$ significance level. Therefore, the results of this study demonstrated that an employee’s position in the organization has a direct interaction with their overall level of engagement and each dimension of their engagement.

Second, distinct explorations were made of the respondents’ position and years in the organization relative to the mean scores of all study variables through graphical
illustrations in order to find any patterns of influence. The results demonstrated that years in the organization do not impact either the employee’s level of engagement or the organization’s readiness for change. The study also showed that the employee’s position does not influence RFC; however, position did appear to influence the changes in the mean scores for overall EWE and its subscales. These results supported those obtained through the factorial ANOVA regarding the relevance of an employee’s position to their level of engagement.

Finally, through statement coding, the year and position characteristics of the respondents were studied to understand their influence on the responses to the qualitative question posed. The results of this content analysis demonstrated that, most often, an employee’s personal resources were the major contributing factor to their desire to do their best at work. While the < 1 year category of employees ranked the contribution of personal resources as 33% in importance, employees in the 1-5 years to > 15 years categories rated this contribution as 50-67%. When examined relative to position, the level of importance of personal resources significantly increased as an employee moved up from non-managerial (53%) to executive (84%). As personal resources are antecedents to employee engagement, these qualitative results also support those of the factorial ANOVA regarding the importance of an employee’s position to their level of engagement. Implications regarding these qualitative results are discussed in the next section.
Implications and Recommendations

The results of this study demonstrated the participants were a highly engaged and highly ready for change manufacturing workforce. Further, these results have implications for the available literature on the constructs of employee work engagement and organizational readiness for change and are the basis of recommendations for organizations and OD practitioners.

Implications for the Literature

As a result of this empirical study, the literature on several topics is advanced including (a) the importance of personal and/or job resources on employee work engagement (Baumgardner, 2014; Ghitulescu, 2013; Kim, 2014; Schaufeli et al., 2002; Xanthopoulou et al., 2007); (b) the particular significance of personal resources on the employee’s desire to do their best work; and (c) the influence of the employees’ dedication on the organization’s readiness for change which adds to the extant literature on its impact on performance at the individual and organizational level (Bakker & Demerouti, 2009).

Further, the literature related to the constructs of work engagement and readiness for change will incorporate the relationship of these concepts in a way that previously did not exist beyond theory. Specifically, my research relates to assertions, discussed in the literature review, by Madsen et al. (2005), Avey et al. (2008), Weiner (2009), Spreitzer et al. (2010), and Ghitulescu (2013). These connections are explained in the next sections.
Madsen et al. (2005).

Madsen et al. (2005) empirically researched factors that contributed to an individual’s readiness for change in an organization, specifically organizational commitment and social relationships. While not studying the work engagement construct directly, organizational commitment (a) was found to be strongly linked to organizational readiness for change and (b) represents an outcome of employee work engagement in the JD-R Model used in this study. However, it could be posited that commitment to the organization may provide commitment to change. Further, social relationships were shown to have a slight link to organizational readiness for change and, relative to this study, represent a type of job resource. Therefore, this study complements the research of Madsen et al. by providing the direct link between work engagement and organizational readiness for change.

Avey et al. (2008).

Though it did not examine the total work engagement construct of the JD-R model, empirical research by Avey et al. (2008) discussed the importance of personal resources – an antecedent to engagement – to an organization’s readiness for change. The qualitative analysis completed in my research confirms the significance of personal resources at all positions and years in an organization to the employee’s desire to do their best work. While it is an assumption at this point, I believe that doing their best work could include an employee’s desire to facilitate an organization in a change effort.
**Weiner (2009).**

The work by Weiner (2009) was conceptual; therefore, his work did not empirically connect any of the specific work engagement factors used in this study to readiness for change. However, the author developed a framework to highlight the determinants of implementation effectiveness in a change effort and included organizational readiness for change and change-related efforts. Organizational readiness for change was described, in part, by organizational commitment.

While organizational commitment is not a work engagement factor or antecedent, it is an outcome of work engagement as demonstrated in the JD-R Model. Therefore, as with Madsen et al. (2005), it might be considered that commitment to the organization may provide commitment to change. Further, the contextual factors highlighted by Weiner – organizational culture, resources, structure, past experience, and policies and procedures – align with the concept of job resources. Job resources are one of the antecedents to employee work engagement in the JD-R model used in this study.

Finally, this study supports and complements the work by Weiner (2009) by providing empirical results linking employee work engagement and organizational readiness for change. This study is supported by Weiner in that the importance of readiness to change is highlighted as a determinant of change implementation effectiveness.
Spreitzer et al. (2010).

Though not empirical research, based on their examination of the extant research, Spreitzer et al. (2010) reported on their belief that there was a relationship between readiness for change and employee’s resilience, energy, and persistence. If these key psychological states are considered relative to this research, resilience is a type of personal resource, energy describes vigor, and persistence describes dedication. Therefore, my empirical research confirms these authors’ conclusion by demonstrating the significance of personal resources (qualitative analysis) and the work engagement subscales of vigor and dedication to an organization’s readiness for change (bivariate correlations and hierarchical regression analyses).

Ghitulescu (2013).

The final research discussed in the literature review was the relationship investigated by Ghitulescu (2013). In her study, the author examined the influence of job resources on organizational readiness for change. Relative to this study, job resources are an antecedent of employee work engagement in the JD-R model.

The focus on job resources by Ghitulescu (2013) may have been based on the belief that these resources are those that the organization can influence. As shown in my qualitative analysis, job resources are important, especially in the first year in an organization; however, I can also assert that an employee’s personal resources; and levels of vigor, dedication, and absorption (as shown in bivariate correlations) are also
significant to the organization’s readiness for change, particularly manufacturing organizations as shown in this study.

Next, based on the results of this study, I present implications and offer recommendations for organizations and OD practitioners.

**Implications and Recommendations for Organizations and OD Practitioners**

An important implication of this study is the new information available to the leaders of manufacturing organizations and OD practitioners. Prior research provided organizations with the knowledge that employee engagement is related to turnover intention and performance results for the individual and the organization (Bakker & Demerouti, 2009; Kim, 2014a; Kim et al., 2013; Schaufeli & Bakker, 2010). Based on this study’s bivariate correlation analyses, the results demonstrate that EWE is related to the organization’s ability to be ready for future changes. Therefore, in the dynamic business environment, progressive manufacturing organizations may increasingly value employee work engagement.

Further, in addition to other factors, these organizations must acknowledge that the success (or lack thereof) of change effort implementations may be related to their internal practices that positively (or negatively) influence employee work engagement. This knowledge may intensify an organization’s efforts to actively promote the development of behaviors and activities aimed at increasing employee engagement so the organization has the opportunity to become more innovative and flexible, and reflexive as required by circumstances. Actions to increase engagement include enhancing the
employee’s job resources and offering opportunities for the employees to increase their personal resources.

Next, this study offers empirical evidence, through hierarchical multiple regression analysis, that of all the engagement dimensions, employee dedication has the greatest influence on the organization’s readiness for change including the dimensions of reflexivity and innovation and flexibility. This supports the research by Bakker and Demerouti (2009) as to the significant influence of dedication on employee engagement.

Grounded in this knowledge, strategic actions a manufacturing organization might take include seeking information on and attending to (a) an employee’s level of dedication – how enthusiastic, inspired, proud, or challenged are they in their position; (b) how the organization arouses employee dedication – i.e. management practices, challenging tasks, and participative decision-making; and (c) hiring practices that evaluate an employee’s dedication to their work such as behavioral or situational interview questions or role plays.

In addition to dedication, using hierarchical multiple regression analysis to examine this study’s data, employee absorption was also shown to influence an organization’s reflexivity. Actions an organization might undertake to increase employee absorption include providing (a) work that the employee finds interesting, and/or (b) a workplace that limits distractions. If it is not possible based on the organization and/or the employee’s position to limit distractions, periodically offering employees the time to reflect on a challenging task may serve to captivate and engage them. This would also serve to develop their personal resources of self-efficacy and self-esteem.
In addition, this study shows, through factorial ANOVA and pattern analysis, that an employee’s position in the manufacturing organization is significant to their level of engagement. At successive levels of responsibility, from non-manager to supervisor and executive, employees are increasingly engaged. It is important to contemplate the characteristics of a managerial position – i.e. autonomy, self-direction, decision-making, and self-efficacy – likely to increase employee engagement and consider how non-managerial positions can be enhanced to incorporate similar intrinsic benefits. These enhancements appear to provide the organization with opportunities to increase employee engagement at all personnel levels.

Pattern analysis also demonstrated the contribution of personal resources to the employees’ desire to do their best work. This result was found when examining all three position levels – non-managerial, first-level supervisor, and executive – and for all categories of years of employment in a manufacturing organization after the first year – though the < 1 year category’s disaggregated result brought the importance of personal resources close to 43%.

The qualitative personal resource statements provided by the respondents appeared to express the employee’s intrinsic motivations to do their best work; therefore, manufacturing organizations might consider asking their employees what contributes to their desire to do their best at work. The results of this inquiry might illuminate areas of potential personal or organizational improvement the leadership had not previously considered, or considered important.
Finally, as these intrinsic employee motivations are so valuable, cultivation through thoughtful action on the part of the organization and its leaders should be considered. Organizational strategies to increase employee’s personal resources might include offering opportunities to enhance feelings of self-esteem, self-efficacy, and optimism through their work. Influencing these less tangible qualities may present a challenge, but the results of this study demonstrate that the benefits of meeting the challenge will be greater innovation, flexibility, and reflexivity within the organization thereby increasing the organization’s readiness for change.

**Limitations**

This study was purposely limited to the south-central Pennsylvania region; therefore, the literature would benefit from studies in other (a) regions in the state of Pennsylvania, (b) states in the United States, and (c) countries. Further, the survey responses are self-reported data and, therefore, are considered a limitation due to the possible impact of social desirability bias on responses. In addition, due to the anonymity of the survey, follow up with individual non-respondents was not possible.

Next, the research study was cross-sectional; therefore, the results indicated what the respondents felt about their experiences and their organizations at a particular point in time. Also, the incorporated OCM subscales of innovation and flexibility, and reflexivity only explored *internal* factors relative to change readiness. Research that includes the outward focus dimension would expand on this research.
Finally, the demographic data highlighted four additional limitations to the study’s generalizability: (a) the study did not include any respondents employed outside of the manufacturing sector; (b) government organizations were not part of the study; (c) all organizations in this research were non-union organizations; and (d) the participating organizations in the study were all small manufacturing organizations with less than 110 employees.

**Recommendations for Future Research**

Longitudinal studies using this research instrument with support from archival data on successful change efforts is recommended. In addition, research across a larger sample; in non-manufacturing, union, government; and/or medium, large, and international companies would provide an enhanced perspective on the generalizability of these results applicable to manufacturing organizations.

Future research should also further explore (a) the influence of dedication when specific job resources are included as regression variables and (b) the most effective approaches an organization might use to assess, influence, and increase employee dedication. Further, gaining a clearer understanding of the characteristics of the executive position that are particularly influential on employee engagement may be helpful in devising appropriate strategies to increase engagement in non-managerial employees. In addition, a full scale qualitative study is recommended to explore practical and tangible ways an organization might provide their employees’ opportunities to grow
their personal resources including their resilience, optimism, self-esteem, and self-efficacy.

To supplement the recommended studies on personal resources, I suggest that future research should also focus on the topic of organization-based self-esteem (OBSE) (Pierce, Gardner, Cummings & Dunham, 1989; Xanthopoulou et al., 2007). The potential influence of OBSE on employee engagement and personal resources is important to consider as it appears related to the combination category used in this study’s qualitative analysis. According to Pierce, Gardner, Cummings, and Dunham (1989), an employee whose self-esteem is high generally has greater feelings of self-efficacy (p. 625). Efficacy at the task level provides task-specific self-esteem and feelings of efficacy at a broader range of organizational tasks leads to OBSE (Pierce et al., 1989, p. 625).

Finally, as employee engagement is a personal characteristic, this research will benefit from an exploration of its results with a focus group of employees and/or organizational leaders to gain their perspective. The leaders of this study’s organizations have given their assent to participate in this focus group research in the future.
References


Appendix A

Approval for Use of OCM Instrument

On 14 January 2014 14:47, M.J. Park <mz195@psu.edu> wrote:
Hello Jeremy,

Thank you! I am happy to agree to all three conditions. As for the data, can you confirm that you are interested in the data related to the OCM measure only? I will also be happy to email a copy of my dissertation to you, if you are interested, when complete.

Thanks,
M.J. Park
mz195@psu.edu

On Tue, Jan 14, 2014 04:23 AM, Jeremy Dawson <j.f.dawson@sheffield.ac.uk> wrote:
Dear M.J.,

We are happy for the OCM to be used for research purposes, free of charge, subject to three conditions:

- It is used only for academic (i.e. non-commercial) research purposes
- You maintain the original scales (either all 17 climate dimensions, or a subset of dimensions in their entirety)
- You are happy to share anonymised data with us afterwards, to add to our norm database.

If you are happy with these conditions, please let me know. I have attached a copy of the OCM questions.

Best wishes,
Jeremy

Jeremy Dawson
Reader in Health Management
Institute of Work Psychology, Sheffield University Management School, Conduit Road, Sheffield S10 1FL
School of Health and Related Research, The University of Sheffield, 30 Regent Street, Sheffield S1 1DA

E: j.f.dawson@sheffield.ac.uk | T: +44 (0)114 2223333 (IWP) | T: +44 (0)114 2220744 (GoHARR)

On Fri, Jan 17, 2014 04:51 AM, Jeremy Dawson <j.f.dawson@sheffield.ac.uk> wrote:

Yes, that change is fine.

Best wishes,
Jeremy

Jeremy Dawson
Reader in Health Management
Institute of Work Psychology, Sheffield University Management School, Conduit Road, Sheffield S10 1FL
School of Health and Related Research, The University of Sheffield, 30 Regent Street, Sheffield S1 1DA

E: j.f.dawson@sheffield.ac.uk | T: +44 (0)114 2223333 (IWP) | T: +44 (0)114 2220744 (GoHARR)

On 16 January 2014 17:54, M.J. Park <mz195@psu.edu> wrote:

Hello Jeremy:

I have a question. Is it acceptable for me to change the spelling in the word "organization" from "s" in the OCM survey to a "z" in order to adhere to U.S. spelling?

Thanks,
M.J. Park
mz195@psu.edu
Appendix B

Approval for Use of JD-R Figure

Approval by Dr. Bakker and Emerald Publishing

Request permission for use of JD-R figure in dissertation

MJ Park <mjpark81013@gmail.com> 6/6/14

Hello Dr. Bakker,

Do I sound like a groupie when I say that I am a huge fan of your work? The studies that you and Dr. Deemeroult have provided on work engagement have been inspirational for me.

I am a PhD student at Penn State University and am interested in using the JD-R model that in your 2008 article Towards a Model of Work Engagement in my dissertation on the relationship between work engagement and an organization's readiness for change. The figure is linked here: http://www.emeraldinsight.com/content_images/fig/137/130/1301001.png

I have contacted Emerald Publishing but your name and email address was included in the article so I thought I might ask you directly.

Thank you for your consideration.

Regards,

MJ Park

A.B. Bakker <bakker@fsw.eur.nl> 6/6/14

You have my permission!
Best Arnold

Verstuurd vanaf mijn iPhone

Chris Tutill <C.Tutill@emeraldinsight.com> 6/6/14

Dear MJ Park,

Please allow me to introduce myself. My name is Chris Tutill and I am the Editorial Support Assistant here at Emerald Group Publishing. On 6th June 2014, you placed a Rightslink order for permission to use Emerald content in your thesis/dissertation.

With regards to your request, subject to full referencing, Emerald is happy for you to use this content within your thesis. Please note, however, that if in the future you wish to publish your thesis commercially, you will need to clear permission again.

Please note, the above grants permission for content that is © Emerald Group Publishing only. Any content used from the article that makes reference to a copyright holder other than Emerald, will require you to clear permission with that party directly.

Good luck with your thesis!

Kind Regards,

Chris Tutill
Rights Assistant | Emerald Group Publishing Limited
Fax: +44 (0)1274 795200
C.Tutill@emeraldinsight.com | www.emeraldinsight.com
Appendix C

Research Instrument

1. Check the type of your organization: Manufacturing Non-manufacturing/service
2. Which of the following best describes your organization: Union Non-union
3. Check your position: Non-Manager First-level Supervisor Executive-level Position
4. How many years have you been with your current organization: < 1 1-5 6-10 11-15 >15
5. Check the number of employees in your organization: 1-50 51-100 101-200 201-300 >300
6. Which of the following organizational changes have you experienced within the last 3 years? Check all that apply:
   ____ Merger/acquisition  ____ Reorganization
   ____ Downsizing  ____ International expansion
   ____ New Leadership  ____ Other (briefly describe)
7. Have you ever been actively involved in an organizational change effort? ____ Yes ____ No

Please indicate your response to each of the questions below. Your responses are confidential.

The following 9 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, choose “0” (zero). If you have had this feeling, indicate how often you feel it by choosing the number (from 1 to 6) that best describes how frequently you feel that way.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Almost never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A few times a year or less</td>
<td>A few times a month</td>
<td>Once a month or less</td>
<td>Once a week</td>
<td>A few times a week</td>
<td>Every day</td>
<td></td>
</tr>
</tbody>
</table>
8. At my work, I feel that I am bursting with energy
9. At my job, I feel strong and vigorous
10. I am enthusiastic about my job
11. My job inspires me
12. When I get up in the morning, I feel like going to work
13. I feel happy when I am working intensely
14. I am proud of the work that I do
15. I am immersed in my work
16. I get carried away when I’m working

For the following statements, please indicate your response.

<table>
<thead>
<tr>
<th>Scale: 1 = Definitely false</th>
<th>2 = Mostly false</th>
<th>3 = Mostly true</th>
<th>4 = Definitely true</th>
</tr>
</thead>
<tbody>
<tr>
<td>17. In this organization, the way people work together is readily changed in order to improve performance</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. The methods used by this organization to get the job done are often discussed</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. There are regular discussions as to whether people in the organization are working effectively together</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. In this organization objectives are modified in light of changing circumstances</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. In this organization, time is taken to review organizational objectives</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. New ideas are readily accepted here</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. This company is quick to respond when changes need to be made</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. Management here are quick to spot the need to do things differently</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. This organization is very flexible; it can quickly change procedures to meet new conditions &amp; solve problems as they arise</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Assistance in developing new ideas is readily available</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. People in this organization are always searching for new ways of looking at problems</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. At work, what contributes most to your desire to do your best? Your response may reflect personal or workplace influences. (Please limit your response to 100 characters).</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix D

Box Plots Reflecting the Normality of the Mean Score for Each Research Variable

Vigor Scale Normality
Limited skewness with minor outliers

Dedication Scale Normality
Minimal skewness with minor outliers

Absorption Scale Normality
Limited skewness with minor outliers

Reflexivity Scale Normality
Normal distribution with minor outliers

Innovation & Flexibility Scale Normality
Normal distribution with no outliers

Overall RFC Scale Normality
Normal distribution with no outliers
Overall EWE Scale Normality
Normal distribution with minor outliers
Appendix E

IRB Approval for Human Subjects Research

EXEMPTION DETERMINATION

Date: January 21, 2015
From: Julie James, IRB Analyst
To: Mary Jane Park

<table>
<thead>
<tr>
<th>Type of Submission:</th>
<th>Initial Study</th>
</tr>
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<tbody>
<tr>
<td>Title of Study:</td>
<td>THE RELATIONSHIP OF CHANGE READINESS AND WORK ENGAGEMENT IN MANUFACTURING ORGANIZATIONS IN SOUTH-CENTRAL PENNSYLVANIA</td>
</tr>
<tr>
<td>Principal Investigator:</td>
<td>Mary Jane Park</td>
</tr>
<tr>
<td>Study ID:</td>
<td>STUDY00000402</td>
</tr>
<tr>
<td>Submission ID:</td>
<td>STUDY00000402</td>
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<tr>
<td>Funding:</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Documents Approved:</td>
<td>Park Rev Jan 2015 Survey Instrument.docx (0.02), Category: Data Collection Instrument</td>
</tr>
<tr>
<td></td>
<td>IRB - MJ Park - Rev 2 Jan2015 - HRP503f Protocol Document.pdf (0.05), Category: IRB Protocol</td>
</tr>
</tbody>
</table>

The Office for Research Protections determined that the proposed activity, as described in the above-referenced submission, does not require formal IRB review because the research met the criteria for exempt research according to the policies of this institution and the provisions of applicable federal regulations.
VITA

Mary Jane Park

Education

The Pennsylvania State University, University Campus, State College, PA.
   Doctor of Philosophy (PhD) in Human Resource Development/Organization Development in Workforce Education and Development

Georgia State University, Robinson College of Business, Atlanta GA.
   Master of Business Administration (MBA) in Marketing, December 2003
   Bachelor of Business Administration (BBA) in Finance, Cum Laude, December 1999

Professional Certification


Professional Experience – Academic

2012 to present, Bloomsburg University of Pennsylvania, Bloomsburg, PA: Full Time Adjunct Faculty, College of Business, Departments of Management and Marketing, and Business Education and ITM

2014 to present, Millersville University of Pennsylvania, Millersville, PA: Adjunct Faculty, College of Business, Department of Management and Marketing

Book Chapters


Articles


Professional Memberships

Association of Talent Development (ATD) Management Community of Practice, 2014
SHRM – Society of Human Resource Management, 2010 to present

Professional Service

Coordinator of Communication Logistics: BAASANA 2015 Conference, August, New York, NY

Manuscript Reviewer:
   • 2013-2016 Association for Human Resource Development (AHRD) Conference in the America’s – paper reviewer for International: Global and Cross Cultural Issues Track
   • Association for Human Resource Development (AHRD) 2014 ASIA Conference – paper reviewer

Conferences
