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Effects of Change Valence and Informational Assessments on Organizational Readiness for Change

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2017

Abstract

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Organizational Readiness for Change

by

James Edward Phillips

MS, Swinburne University, 2004

BA, University of South Carolina, 1988

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Nearly two-thirds of organizational change initiatives are unsuccessful due to a lack of high levels of change readiness prior to implementation of the change. A review of the literature supported the importance of establishing organizational readiness for change (ORC), but a gap remained in the empirical data and extant literature about whether presumed antecedents identified in ORC theory contribute to increased levels of ORC. The purpose of this study was to gather empirical data to address this question of whether change valence and informational assessment scores are associated with increased levels of organizational readiness for implementing change. The research design was quantitative and nonexperimental. Data were collected via online Likert-type survey from employees (n = 70) in an organization undergoing significant change. An analysis was performed using OLS regression and principal components analysis. The results showed that change valence and informational assessment were positively and significantly associated with increased organizational readiness for change score (β = 1.778, p < .001, and β = 1.392, p < .001, respectively), and that change commitment and efficacy loaded favorably in a principal components analysis of ORC score. The findings are significant to the field of management as they show how establishing increased levels of change valence and informational assessment may help positively influence employee participation and organizational change outcomes. The study is socially significant because it may illuminate differences in perception between employees and leadership regarding change and may contribute to greater inclusion of a broader array of employee perspectives, opinions, and experiences in the organizational change process.

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Dedication

This dissertation and my doctoral degree are dedicated to the most important people in my life.

To my wife, Celeste, thank you for all your sacrifice, support, and understanding. I could not have finished this without you. I love you so.

To my daughter, Arabella, and my son, Samuel, work hard, chase your dreams, and always remember that you can do anything.

To my Mother, I wish you had lived long enough to share in this. I miss you.

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Special thanks to everyone in Walden's various support offices for all the help they rendered along the way.

Finally, I am forever grateful to Walden University's leadership for their support of the CCSSO National Teacher of the Year Program. Without their generosity this highest of academic achievements would not have been possible.

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Chapter 1: Introduction to the Study

Nearly two-thirds of organizational change implementations are unsuccessful and do not achieve the intended change outcomes (Choi, 2011). This is often due to a lack of understanding on the part of leadership of the importance that organizational commitment to change plays in achieving successful change outcomes (Choi, 2011). In addition, as much as one-half of attempts at implementing change initiatives are not successful because sufficient readiness for change does not exist at the organizational level (Shea, Jacobs, Esserman, Bruce, & Weiner, 2014a; Weiner, 2009). This study focused research on the construct of readiness for change by field-testing the premise of Weiner's (2009) theory of organizational change readiness and the recently developed psychometric measure by Shea, Jacobs, Esserman, Bruce, & Weiner (2014b) that is based on that theory.

The study is significant to the field of management as it addresses how establishing increased levels of readiness for change may help leadership positively influence change outcomes. The study is socially significant because it could create a greater understanding of the differences in perception that exist between employees and leadership regarding change, and may contribute to greater inclusion of employee perspectives, opinions, and experiences in the organizational change process.

This study consists of five chapters. Chapter 1 contains an introduction to the study. Chapter 2 contains a critical review of the literature related to organizational readiness for change and discusses supporting and conflicting theories. The literature review identified widely recognized theories of change commitment and change efficacy,

at both the individual and organizational levels, as key determinants in the production of successful outcomes in change initiatives. It also identified several gaps that exist within the literature related to organizational readiness for change, as well as an opportunity for empirically testing Weiner's (2009) and Shea et al.'s (2014a) theory. Chapter 3 defines and describes the quantitative research methods and measurements used to test Weiner's and Shea et al.'s organizational readiness for implementing change theory. It provides a description of the methodology to test the relationship between the various antecedents of readiness for change and how and in what degree they contribute to organizational readiness for change among leaders and employees of an organization in the United States during the implementation of a substantial change initiative. Chapter 4 presents an analysis and discussion of testing results. Lastly, Chapter 5 provides a discussion of the findings of the study, as well as the conclusions drawn, recommendations for further research based on knowledge gained from the study, and how the findings of the study may contribute to positive social change in the field of management.

Background

Given the rapidly changing operational and environmental landscapes that face businesses today, innovative and evolving change is an existential necessity for any corporate enterprise. Despite this imperative for successful, sustainable change initiatives, nearly two-thirds organizational change implementations are unsuccessful and do not achieve the intended change outcomes (Choi, 2011; Chowdhury, 2015). While the nature, type, context, and complexity of the change can all highly influence its efficacy and ultimate success, most often this high rate of inability to create successful, sustainable

change results more from a failure of implementation preparation and processes than a failure of the change initiative itself (Kelly, Hegarty, Barry, Dyer, & Horgan, 2017).

There may also be high levels of resistance to change within the organization, the result of early organizational imprinting, institutionalization of structures, policies, and practices within the organization, or constrained by a strict path dependency (Suddaby & Foster, 2017). The result of these accumulations, and others like them, can be a rigid, unimaginative, resistant organization that only moves toward change as a last resort (Suddaby & Foster, 2017). Similarly, leadership that is lacking in skill and expertise in managing transformational initiatives often fails, due to inexperience, internal cultural barriers, or long-standing institutional, structural, or environmental challenges (Lloyd, 2016).

Finally, impending change implementations can create and place unintended psychological, emotional, and social stress and anxiety among employees. Understanding and overcoming such employee-based factors is essential to creating opportunities for organizational change to succeed (Shah, Irani, & Sharif, 2017). Additionally, nearly half of these unsuccessful undertakings are rooted in a lack of understanding on the part of leadership of the importance of establishing high levels of organizational readiness for change (Shea et al., 2014a; Weiner, 2009). Consequently, attempts to implement new policies, programs, or procedures are often undertaken by organizations that are unaware of such impediments and resistance, and have not established a sufficient level of organizational readiness to support and sustain the change effort (Shea et al., 2014a). This seems to be a troubling routine since the need for high levels of motivation, commitment,

and persistence (manifest as change-related effort) are essential for ensuring successful change outcomes and are common content in the findings of implementation researchers (Holt & Vardaman, 2013).

Historically, change readiness has been viewed and researched most often as an individual-level quality or characteristic (Weiner, 2009). Most of the research conducted in the area of change readiness have taken place in the psychology and medical arenas in the context of understanding the antecedents for individual commitment to changing negative personal behaviors (drug abuse, smoking, overeating) and committing to positive changes such as exercising, smoking cessation, and weight-loss (Choi, 2011). Over the last decade, however, there has been a focal shift to recognizing the importance and dynamics of change readiness within the context of organizational change. This shift in awareness has led to a general recognition that, where individual readiness is mainly an issue of self-awareness of the need for change and self-confidence that the change is achievable, organizational readiness requires employees to consume, process, and make sense of change-related information (Petrou, Demerouti, & Schaufeli, 2016). In forming and evaluating their own readiness, employees actively and collectively engage in ascribing meaning, making assumptions, creating expectations, and forming impressions about not only the need for and value of the change, but also with regard to whether and how the change initiative will affect them as individuals, and in the broader context, as an organization (Weiner, 2009).

Despite this academic underpinning for the importance of increasing levels of change readiness at the organizational level, little has been accomplished regarding

creating a theory-based measurement for gauging organizational readiness for change. In fact, most organizational change readiness measures have been adapted from existing individual-level psychological and medical assessments.

To address the lack of a theory-based, organizational level readiness assessment, Shea, et al. (2014a) developed and tested under laboratory conditions a specific Organizational Readiness for Implementing Change (ORIC) scale, which took into account organization-specific antecedents, as defined by Weiner (2009), to creating and sustaining organizational readiness. While an organization-level assessment is needed and welcome, there is as yet little field work associated with the new measure beyond Shea, et al.'s (2014a) initial reliability and validity testing of the measure. Indeed, most of that testing took place under laboratory conditions utilizing fictional vignettes and graduate students who were not employees of real organizations undergoing real change conditions. Additionally, there has been little to no independent, empirical examination of whether or not Weiner's and Shea et al.'s antecedents to, and constructs of, organizational readiness for change exist beyond the confines of the lab-tested theory and measure. For instance, Weiner's theory asserts that high change valence and other informational assessment (the antecedents of change commitment and change efficacy) are the critical foundation of the organizational readiness for change construct. However, there were no empirical studies performed that attempt to prove or disprove this logical construction of change readiness, nor do any of the prior studies provide a substantive, empirical examination of the relationship or the degree of effect that change commitment or change efficacy have on organizational readiness for change. Consequently, much

work remains to be done with respect to how, or even if, organizations should attempt to raise organizational readiness levels. It remains similarly unclear if the wholesale adoption of the change readiness construct is preferable to competing readiness for change theories, such as Wu and Ho's (2012) efficiency wage theory which asserts that increasing change valence may be more readily accomplished by simply attaching financial incentives to desired and sustained individual change-related efforts.

Problem Statement

Nearly two-thirds of change implementations are not successful because organizations fail to establish high levels of change readiness (Choi, 2011; Chowdhury, 2015; Shea et al., 2014a; Weiner, 2009). Meyer, Stanley, and Vandenberg (2013) found that organizations achieve successful change only when individuals take positive steps to adapt and implement change initiatives. Shea et al. (2014b) developed a psychometric measure to assess change readiness, based on the tenants of Weiner's (2009) readiness for organizational change theory. Shea et al. performed validity and reliability testing, but a specific problem remains in that organizational leaders still do not have an independently tested, theory-based assessment for determining readiness for change.

This quantitative, nonexperimental study was intended to bridge the gap between the lab-tested results of Shea et al.'s (2014b) assessment and having a field-proven change readiness assessment to empower organizational leaders with greater understanding of how increased levels of readiness may positively affect change outcomes.

Purpose of the Study

The purpose of this quantitative, nonexperimental study was to address the question of whether, and to what degree, expressed levels of change valence and informational assessment (the antecedents of change commitment and change efficacy), along with certain other demographic covariates, were associated with and affected measured levels of organizational readiness for change. To accomplish this, I administered a cross-sectional survey of employees in an organization in the United States that was undergoing a significant organizational change implementation.

Research Questions and Hypotheses

The research questions investigated in this study were:

RQ1: To what extent is change valence score associated with organizational readiness for change?

$H_0$1: Change valence score is not significantly associated with organizational readiness for change.

H_a1: Change valence score is significantly associated with organizational readiness for change.

A statistically significant ($p < .05$) and positive regression coefficient would confirm the alternative hypothesis; otherwise, the research would fail to reject the null hypothesis.

RQ2: To what extent is informational assessment score associated with organizational readiness for change?

$H_0$2: Informational assessment score is not significantly associated with organizational readiness for change.

H_a2: Informational assessment score is significantly associated with organizational readiness for change.

A statistically significant ($p < .05$) and positive regression coefficient would confirm the alternative hypothesis; otherwise, the research would fail to reject the null hypothesis.

RQ3: To what extent is combination of change valence and informational assessment scores associated with organizational readiness for change?

$H_0 3$: The combination of change valence and informational assessment score is not significantly associated with organizational readiness for change.

$H_a 3$: The combination of change valence and informational assessment score is significantly associated with organizational readiness for change.

A statistically significant ($p < .05$) and positive regression coefficient would confirm the alternative hypothesis; otherwise, the research would fail to reject the null hypothesis.

Hypotheses 1 through 3 were tested by running the following regression equation:

$$Y = b_0 + b_1(X) + b_2(Z) + b_3(XZ) + e$$

RQ4: To what extent can organizational readiness for change score be factor-reduced to separate change efficacy and change commitment items?

$H_0 4$: Organizational assessment score cannot be factor-reduced to separate change efficacy and change commitment items.

$H_a 4$: Organizational assessment score can be factor-reduced to separate change efficacy and change commitment items.

A principal components analysis (PCA) was conducted to determine which linear components comprise the organizational readiness for change construct. Further factor

analysis using orthogonal (Varimax) factor rotation was used to calculate the degree to which those components loaded onto each factor. Significance of factor loading was sample size dependent. For a sample size of 50 to 100 a loading of an absolute value of 0.722 was deemed a significant factor loading (Field, 2013, p. 681). If the change efficacy and change commitments items on the organizational readiness for change scale weighed highly (≥ 0.722) on two distinct factors, then the null hypothesis for this research question would be rejected.

Theoretical Framework for the Study

The theoretical framework for this study was Weiner's (2009) theory of organizational readiness for implementing change (ORIC). In it, Weiner considered organizational readiness as a shared psychological construct in which leadership and employees have a strong commitment to implementing the change activity (change commitment) and a correspondingly high level of confidence in the ability of both their organization and their coworker's ability to do so (change efficacy). Where prior theories assessed readiness for change based on three general factors (change valence, change efficacy, and other contextual factors such as openness to innovation, organizational learning, risk-taking, and past experiences with organizational change initiatives), Weiner's theory suggested that an organization's readiness was governed by two key determinants: (a) Change commitment and (b) change efficacy. Weiner also suggested that the traditionally viewed determinants of change readiness, such as the value of the change (valence) and resource availability (financial, material, and other informational

assessments), are simply antecedents to these two primary determinants of measured levels of organizational readiness for change (Shea et al., 2014a; Weiner, 2009).

As noted in Figure 1, Weiner's (2009) theory contends that change valence is a direct antecedent of change commitment and that task demands, resource perceptions, and situational factors (time, organizational politics, etc.) are direct antecedents for change efficacy.

This alternate construct of change readiness was manifest in a new psychometric tool ORIC, developed by Shea et al. (2014a). Using the subscales of this new assessment, I field-tested the relationship and effects of change valence and informational assessment on organizational readiness for change in a real organization that was undergoing a significant organizational change implementation at the time of survey administration.

*Figure 1.*Determinants and outcomes of Organizational Readiness for Change. Adapted from "A Theory of Organizational Readiness for Change" by B. J. Weiner, 2009, Implementation Science, 4, p. 70.

The application of organizational readiness for change (ORC) theory, discussed in further detail in Chapter 2, was viewed through the lens of the "Organizational Readiness for Implementing Change (ORIC)" assessment. More specifically, I examined whether and to what degree expressed levels of change valence and informational assessment are associated with organizational readiness for change and, ultimately, with sustained change-related effort and outcomes. I investigated the associations and effects of change valence and informational assessment (the antecedents of change commitment and change efficacy) by regression analysis to determine if these independent variables are in fact determinants of higher levels of organizational readiness for change (the dependent variable). I further investigated by PCA whether a readiness for change score can be factor-reduced to its theoretical constituent components (change commitment and change efficacy) and attempted to establish to what degree each principal constituent contributes to the total change readiness construct. Secondarily, I tested for effects of demographic covariates (age, gender, position, tenure, change experience) on these associations, the methods for which are discussed further in Chapter 3: Methodology.

Nature of the Study

The nature of this study was quantitative and nonexperimental. I administered a cross-sectional survey of employees in an organization that is undergoing a significant organizational change implementation in administration and operations activities. Quantitative research is appropriate for the measurement of employee-stated levels of change valence, informational assessment, change efficacy, and overall readiness for change and to test for associations and mediating effects of change valence and

informational assessment, both individually and combined, on the construct of organizational readiness for implementing change (Shea et al., 2014a). Measuring these antecedents in a real organization change setting was conducted to provide an independent empirical test of Weiner's (2009) theory of organizational readiness for change, and Shea et al.'s (2014b) ORIC assessment which is based on Weiner's theory. I also investigated whether the readiness for change score can be factor-reduced to change commitment and change efficacy as separate antecedents. Finally, I examined correlations between change valence, informational assessment, change efficacy, and organizational readiness to several identified demographic covariates (age, gender, tenure, organizational position, and prior change experience). Following initial regression testing in each of the defined research questions, all covariates were added to each model and a stepwise (backward elimination) analysis was performed to establish which (if any) of the covariates contributed to the predictability of the model, expressed as changes to the *p*-value and the β coefficient of each of the relationships tested.

Study Sample

The sample involved in this research study was a restricted population probability sample consisting of the management and employees of an organization undergoing significant organizational change. With respect to sampling size, an *a priori* sample size calculation was performed using G*Power 3.1.9.2 software (Faul, 2014; Faul, Erdfelder, Buchner, Lang, 2009). The sample size calculation was two-tailed with a standard (Cohen, 2013) effect size of 0.15, α error probability of 0.05, and desired power or 0.95,

and six predictors. Based on these inputs the recommended sample size recommended by the G*Power software for the study was 89.

Data Collection

Once IRB approval was granted, a 32-item survey comprised of five general demographic covariates (gender, age, tenure, position, and change experience) and the ORIC subscales was made available to all employees using the organization's internal e-mail system. The site leadership assisted in making the initial e-mail notifications, and in sending a reminder to employees once data collection was underway.

The survey was conducted online and was completely anonymous. The internet protocol (IP) tracking feature on the survey website was disabled during the study to prevent the inadvertent collection of potentially identifying information. All required participant rights and confidentiality statements appeared at the beginning of the online survey, along with an opt-out feature for those who choose not to participate in the study.

Following the data collection period, the completed survey data was exported into MS Excel® format and downloaded from the survey-hosting site into IBM SPSS® for further coding and analysis (IBM Corp., 2015).

With respect to instrumentation, I used ORIC assessment and its relevant subscales, as developed by Shea et al. (2014b) and based on Weiner's (2009) theory of readiness for organizational change. The instrument consists of 26 items across five subscales measuring change commitment, change efficacy, change valence, task knowledge, and resource availability. Participant responses to the survey items were quantified using a typical Likert-type scale (1 = Disagree to 5 = Agree).

Additional data was collected from site leadership related to the change strategy, prechange planning, and any readiness for change activities that have been conducted prior to the beginning of the change implementation.

Data Analysis

With respect to data analysis, the initial analysis for each of the research questions and hypotheses was an OLS regression test of effect of each independent variable (change valence and informational assessment) on the dependent variable, organizational readiness for change, followed by a backward elimination, multiple regression of five covariates in each of the expanded models. Finally, a PCA was conducted to test whether the organizational readiness for change construct could be factored-reduced into its theoretical principal constituents of change commitment and change efficacy, as theorized by Weiner (2009) and Shea et al. (2014a). A detailed discussion of the methods and analyses to be employed appears in Chapter 3: Methodology.

Definitions

The following definitions applied to variables and covariates referenced and analyzed within the study:

Change Commitment: An independent variable that refers to organizational member's shared resolve to implement a planned change (Shea et al., 2014a; Weiner, 2009).

Change Efficacy: An independent variable that refers to organizational member's shared belief that they have both the collective capability and the necessary resources

(material, human, and financial) to successfully implement a planned change initiative (Shea et al., 2014a; Weiner, 2009).

Change Valence: An independent variable that refers to the perception of value that organizational members place on the planned change initiative (Shea et al., 2014a; Weiner, 2009).

Informational assessment: An independent variable that refers to considerations by employees of change-related factors such as task knowledge, resource availability, change-related skills, and other situational factors (Shea et al., 2014a; Weiner, 2009).

Organizational Readiness for Implementing Change (ORIC): The dependent variable in the study that refers to the shared belief among members of the organization that they possess the requisite skills, knowledge, and resources to accomplish a change initiative and their shared commitment to exert change-related efforts in order to complete the change initiative (Shea et al., 2014a; Weiner, 2009).

Assumptions

Vogt and Johnson (2015) defined an assumption as "a statement that is presumed to be true, often only temporarily or for a specific purpose" (p. 16). The primary purpose of this study is to examine the effects of change valence and informational assessment scores on the theoretical construct of organizational readiness for change. To make such an analysis meaningful, several assumptions were made.

The primary assumption was that participants would respond to survey stems openly and honestly. It was assumed that participants would not allow organizational relationships, responsibilities, politics, or fear of retribution to interfere with the integrity

of their honest responses. While there was no way to guarantee how honestly participants responded during the study, it was assumed that the degree to which they felt safe and assured that the anonymity and confidentiality of their responses would be maintained during the study would be a contributing factor in their willingness to be open and honest in their responses.

Another factor that may have impacted the honesty and integrity of participant responses was an attempt by survey respondents to create an unfavorable image of organizational leadership. Ultimately, disgruntled employees, interpersonal and political considerations, and personnel-related issues could all play a role in determining the quality and motivation of participant responses. Conversely, it was equally possible that respondents may have wished to portray leadership and the organization in a favorable light. In either event, it was assumed that none of the respondents in the study allowed their responses to be swayed or jaded by any of the previously mentioned considerations.

An additional assumption was that, in making judgments about change valence, resource availability, informational assessment, and situational considerations, all respondents were aware and had knowledge of their organization's mission, strategic vision, and of the specific resources and capabilities of the organization. It was similarly assumed that all respondents had knowledge of the particular demands that successful change implementation placed on the organization’s resources. This may not necessarily have been the case since varying levels of knowledge exist throughout every organization with respect to organizational mission, values, strategies, capabilities, and capacities.

Scope and Delimitations

Bloomberg and Volpe (2012) defined delimitations as "conditions or parameters that the researcher intentionally imposes in order to limit the scope of a study" (p. 8). Among the common delimiters cited by the authors was the conduct of research within a single site (p. 8). Such is likewise the case in this study.

The primary purpose of this study was to examine the effects of change valence and informational assessment scores on the theoretical construct of organizational readiness for implementing change. To make such an analysis manageable, several delimitations were made. Specifically, this study was conducted within a single organization. So, while the data collected were related to and indicative of the conditions at this single site, it was thought that the general relatedness of the functions and processes of the site to other organizations and to the general population of individuals working in other organizations would allow for scalability and application of the study results, findings, and recommendations.

Additionally, due to time constraints the study was limited to a cross-sectional analysis of current attitudes and conditions at the site in the midst of a change implementation. In a more protracted, longitudinal study the before-and-after effects of the organizational change and the evolution of employee opinions and attitudes taking place within the organization could have been analyzed.

Limitations

There were several limitations inherent in this study. Of primary note is the fact that while the scalability and application of results are transferrable insofar as

organizational function and process are concerned, perceptions of readiness for change expressed by respondents may also represent the cultural norms and circumstances that may have been particular to their organization. It was also not knowable how much local organizational culture affected the attitudes and responses of participants, or whether or not those influences are representative of circumstances or perceptions of other employees in other organizations.

Additionally, the respondents were asked to make judgments about their organization's competencies and capabilities. It was recognized that respondents might have withheld or embellished critical judgments about their organization and its resources, and there was no specific mechanism to identify or account for those potential anomalies.

Another limiting factor was that employees may have over or underestimated the collective capabilities and resources required to successfully implement a change initiative when assessing their organizational readiness for change. They may have similarly lacked specific awareness or understanding of their organization's resources and capabilities outside of their personal spheres of work and influence. These anomalous responses may have resulted from either biases held by respondents, or from a simple lack of knowledge about the specific capabilities of their organization. Likewise, while the study and its measures sought to understand the organizational level of readiness for organizational change, respondents may have made self-referenced, individual assessments as opposed to group-referenced, organization-level assessments when they considered questions of change commitment and efficacy (Weiner, 2009).

Another notable limitation was that the study was nonlongitudinal in nature and examined specific readiness or change conditions at a specific point in time along the change implementation continuum. Were the study more longitudinal, negative attitudes about change readiness may have become more positive as the implementation process unfolded, or vice versa.

The nature of the data gathering instruments used in the study may also have introduced limitations. Specifically, surveys, by their nature, present participants with categorized options that may have limited or constrained their range of responses. In addition, while the survey was presented in an asynchronous, online format some participants may have experienced time constraints and may not have had sufficient time to fully or thoughtfully complete the survey.

Finally, although a regression analysis can determine if associations and mediating effects exist between the independent and dependent variables, this study cannot support assumptions about causal relationships between these antecedents and specific change-related outcomes. Instead, this study provides an evidence-based starting point to examine if and to what degree such antecedents are associated with and affect those outcomes. Such insights may illuminate where leadership might begin to develop greater understanding and appreciation for how perceptions among its organizational stakeholders may affect overall change performance. By identifying the effects of commitment and efficacy attitudes on change outcomes, this study may serve to inform leadership actions to improve future organizational change readiness, but it does not attempt to connect outcomes to specific attitudes or perceptions.

Significance

Organizational change management, as a function of the larger domain of organizational development, is largely focused on supporting stakeholders and increasing organizational efficiencies and effectiveness by the use of knowledge-based interventions with the goal of successfully implementing organizational change initiatives (Anderson, 2016). To that end, the results of this study could be significant given the fact that nearly seven out of 10 change implementations are not successful and fail to meet the intended step increases due to issues of participation and commitment on the part of stakeholders (Choi, 2011; Chowdhury, 2015; Shea et al., 2014a; Weiner, 2009). I conducted an empirical analysis of Weiner's (2009) theory of organizational readiness for change and investigated how and to what degree change commitment and change efficacy are antecedents to organizational readiness for change. The analysis and results of this study may be significant to those in leadership positions responsible for planning and implementing change initiatives within organizations. By better understanding whether and to what degree increased change commitment and change efficacy contribute to higher levels of change readiness, leaders might more effectively choose appropriate prechange planning strategies that, in turn, may help achieve greater degrees of success in future organizational change implementations.

Additionally, by examining the correlation of expressed change readiness levels and several demographic covariates, leaders may be better informed about the differences in perceptions within an organization and might be better equipped to develop change implementation plans that incorporate diverse perceptions and beliefs of all stakeholders.

Results of this study may also provide a better understanding of how stakeholder perceptions of the value of change and their belief in the ability to achieve the desired change outcomes may influence overall change implementation success, and how the perceptions of workers may differ from those of organizational leadership.

Finally, the study may contribute significantly to social change, since it addressed the issue of employee perceptions, attitudes, and commitment to organizational change processes. By creating a greater understanding of differences in perception between employees and leadership, this study could contribute to greater inclusion of the broad array of employee opinions and experiences that exist within the organization. Such inclusion may not only better inform leadership decisions concerning employee acceptance and commitment to change strategies and readiness, but may also help develop a greater sense of inclusion and worth among organizational change participants.

Summary

The purpose of this study was to investigate and provide insight into change readiness as embodied in Weiner's (2009) and Shea, et al.'s (2014a) theory of organizational readiness for change. To do so, I focused specifically on (a) the relationship and effects of the presumed antecedents of change valence and informational assessment on measured levels of organizational readiness for change, and (b) the correlations of expressed levels of employee change readiness and various demographic covariates such as age, gender, tenure, position, and change experience. The study also contained a critical review of organizational readiness for change literature in general, as well as specific literature relating to Weiner's and Shea, et al.'s ORC theory. Research

within the study consisted of a quantitative, empirical examination of this readiness for change theory in the form of a correlation (linear regression) test of effects of change commitment and change efficacy on change readiness levels and principal component analysis of change commitment and change efficacy as components of ORC. The theoretical premise of the study was that change valence and informational assessment are antecedents to stakeholder commitment and efficacy toward organizational change and that, together, change commitment and change efficacy combine to constitute organizational readiness for change.

Finally, the study may be socially significant because it addressed the issue of ORC in the workplace, and the results of the study may provide a better understanding to leadership of differences that exists among stakeholders in the context of readiness for change. This awareness could empower leadership to develop change implementation activities that incorporate the diverse perceptions and help better address the concerns of all stakeholders.

In Chapter 2, I described and critically evaluated theories and empirical studies related to the topic of organizational change management, Weiner's theory (Weiner, 2009) of organizational readiness for change theory, alternate and complementary change management theories. I provided a critical examination of several empirical studies related to the topic of organizational readiness for change, provided a discussion of gaps in both theory and in the empirical literature, as well as a synthesis and discussion of the main empirical findings and theoretical themes that arose from the literature review.

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Chapter 2: Literature Review

The purpose of this quantitative, nonexperimental study was to address the specific question of whether, and to what degree, self-expressed levels of change valence and informational assessment (the antecedents of change commitment and change efficacy), along with other demographic covariates, are associated with and effect measured levels of organizational readiness for change. The purpose of the literature review was to describe and critically evaluate theories and empirical studies related to the topic of organizational change management. To achieve this objective, the literature review was divided into several sections. The first section, the introduction, described the content of the literature review, presented the organization of the literature review, and detailed the strategy used for searching the literature. The second section of the literature review consisted of a more detailed overview of Weiner's (2009) theory of organizational readiness for change alongside alternate and complementary change management theories. The third section of the literature review consisted of the presentation and critical evaluation of numerous empirical studies related to the topic of organizational readiness for change. The fourth section of the literature review contained a discussion of gaps in theory as well as in the empirical literature. The fifth section of the literature review contained a synthesis and discussion of the main empirical findings and theoretical themes arising from the literature review.

The literature referenced and discussed within the chapter was searched for across numerous academic databases using Google Scholar with a prescribed library link pointing to the Walden University Library. Literature searches were additionally

conducted using Walden University's Thoreau Multi-Database Search. While the Google Scholar/Walden link seemed powerful and produced extremely large numbers of results per search term, the Google Scholar search engine was less granular in terms of the ability to specify robust search limiters. While date specification was possible, other additional and helpful limiters such as scholarly, peer-reviewed articles, English language only, and full text were not possible, thus resulting in abnormally high search returns. Conversely, using Walden's Thoreau utility with date 2013 to present, scholarly peer reviewed, full text, and English limiters set resulted in much more streamlined and manageable sets of search returns. Ultimately, the Boolean search strings were used in both the Google Scholar and the Walden Thoreau engines and their respective results per search strategy are noted parenthetically.

The numerous databases searched using both strategies included, but were not limited to:

- ABI/INFORM
- Academic Search
- Business Source Complete
- Cochrane Library
- CINAHL
- EconLit
- Emerald Management
- IngentaConnect
- EBSCO

- ScienceDirect
- JSTOR
- PsycINFO
- Web of Science
- Google Scholar
- Walden University "Thoreau Multi-Database Search"

The following search terms were utilized to identify appropriate literature. The respective search results of the searches were included parenthetically, with the Google Scholar results displayed first, followed by the Walden Thoreau results.

- *Change management* (~739,000/12,028)
- *Organizational change management* (~366,000/690)
- *Organizational readiness for change* (~21,200/159)
- *Change readiness* (~50,300/1,699)
- *Readiness for change* (~67,500/1,859)
- *Self-efficacy* AND *change management* AND *organizations* (~16,800/10)
- *Self-efficacy* AND *change management* (~38,500/124)
- *Valence* AND *change management* AND *organizations* (~17,200/1)
- *Valence* AND *change management* (~19,800/1)
- *Valence* AND *organizational readiness for change* (~12,500/0)
- *Valence* AND *organizational readiness for change* (~12,500/0)
- *Expectancy* AND *change management* AND "*organizations*" (~16,900/0)
- *Expectancy* AND *change management* (~26,800/8)

- *Theory of planned behavior* (~76,600/1,947)
- *Theory of planned behavior* AND *change management* (~17,200/3)
- *Theory of planned behavior*" AND *change management* AND *organizations* (~17,700/0)

As clearly depicted, both search strategies produced widely varying results. In some instances, the broader results yielded by the Google Scholar strategy were helpful when the Thoreau strategy yielded few or, in some cases, no results. In most cases, however, the granularity of the controls in the Walden University Thoreau searches were helpful in reducing the overall mass of sources returned.

To further reduce the volume of returns in the Google Scholar strategy, and to increase its relevance, productivity, and manageablity, further filter strategies were applied. Specifically, the number of times an article had been cited in the existing literature was taken as a measure of its influence, and recent articles were manually evaluated for relevance to the study and accordingly included in, or excluded from, the literature review. Beyond these filters and limiters, individual abstracts were relied upon for choosing and sorting the most appropriate resources for reading, classification, and inclusion in the literature review.

Overview of Theories

Organizational change management theory can be understood in the context of theories of competition. Therefore, it would be appropriate to situate organizational change management within a theory of competition, such as the one provided by Hayek (1968):

> Rational, successful action by an individual is possible only in a world that is to some extent orderly; and it obviously makes sense to try to create conditions under which any randomly selected individual has prospects of pursuing his goals as effectively as possible, even if we cannot predict which particular individuals will benefit thereby and which will not. (p. 14)

Hayek's theory of competition presumes goal directed action. Therefore, on the basis of this theory, it can be argued that organizations choose change as a means to achieve specific goals, such as those related to financial ends or to corporate social responsibility (Mezzadri, 2014). It is important to note that, in Hayek's theory, goal directed change is only rational under the assumption of competition. Without fair competition, an organization cannot assume that any set of actions is more or less likely to result in achieving a set of goals. Thus, competition, purposive action, and organizational change can all be considered closely linked concepts, a linkage that must be taken into account when considering organizational readiness for change.

The construct of organizational readiness for change can be considered in light of Weiner's (2009) theory. Weiner suggested that organizational readiness for change is the result of a number of preexisting actions and circumstances. Specifically, in Weiner's model, organizational readiness for change is held to emerge from a combination of the following factors:

- Organizational culture
- Policies and procedures
- Past experience

- Organizational resources
- Organizational structure

According to Weiner, the factors listed above are all contributors to (a) organizational change valence, that is, the perceived desirability of a change; and (b) informational assessment, that is, an application of the available data to the feasibility of the desired change. Weiner hypothesized that the combination of informational assessment and change valence constituted organizational readiness for change. Weiner further subdivided organizational readiness for change into the subcategories of change efficacy (belief in the ability to make the change) and change commitment (devotion to the proposed change). Finally, Weiner hypothesized that organizational readiness for change informed both (a) change-related efforts, which involve initiation, persistence, and cooperative behavior; and (b) by virtue of the quality of change-related efforts, the implementation effectiveness of change.

This explanation of Weiner's (2009) theory of organizational change clarifies the sequential nature of the model. Organizational readiness for change is, in Weiner's model, a midpoint between an organizational context and the change itself. Thus, organizational readiness for change is an emergent result of certain conditions and a contributor to future change. Weiner's model can also be considered modular in that it assumes that concepts such as change valence and change efficacy can be separated from each other, both conceptually and operationally.

One point of note in Weiner's (2009) theory is its relationship to previous theories of readiness to change, including individually rather than organizationally oriented theories. For example, Weiner's use of the term *valence* recalls an earlier theory of readiness for change, expectancy theory, which has been defined in the following manner:

> Expectancy theory states that the strength of the tendency for an individual to perform a particular act is a function of (a) the strength with which he expects certain outcomes to be obtained from the act, times (b) the attractiveness to him of the expected outcomes. Thus, the theory frequently is summarized by the phrase, "Force equals expectancy times valence" (F = E x V). (Hackman & Porter, 1968, p. 418)

In Weiner's model, valence is the factor that makes a change desirable to an organization. In expectancy theory, the concept of valence has long been understood as a foundational component of why people change (Oreg, Bartunek, Lee, & Do, 2016). Thus, Weiner's theory, while organizationally oriented in nature, is closely related to seminal psychological theories about individual change.

There are other points of comparison between Weiner's (2009) model and preexisting theories of change behavior. For example, Weiner's context factors (organizational culture, policies and procedures, past experience, organizational resources, organizational structure) also appear in theories of planned behavior (Ajzen, 2015; Nasri & Charfeddine, 2012; Oliveira-Castro, Foxall, Yan, & Wells, 2011). The context factors identified by Weiner, and discussed by planned behavior theorists as well,

are the same for individuals as for organizations. In both cases, contextual factors inform valence, efficacy, and other aspects of the readiness for change construct. (Ajzen, 2015; Nasri & Charfeddine, 2012; Oliveira-Castro et al., 2011). The only substantive difference between Weiner and earlier planned behavior theorists is the application of contextual factors to organizations rather than to individuals.

Another concept within Weiner's (2009) theory that exists in previous theories is that of efficacy. Efficacy has been described as:

> A generative capability in which cognitive, social, emotional, and behavioral subskills must be organized and effectively orchestrated to serve innumerable purposes. There is a marked difference between possessing subskills and being able to integrate them into appropriate courses of action and to execute them well under difficult circumstances. People often fail to perform optimally even though they know full well what to do and possess the requisite skills to do it. (Bandura, 1997, pp. 36-37)

In the context of both individual and organizational change, efficacy can be understood as the factor that explains how the capability and desire for change translate, or do not translate, into actual change. Weiner, following Bandura's (1997) definition of self-efficacy, posited that it was not merely the desire for change, and the ability to bring about change, that predicted actual change. Organizations, like individuals, must possess self-efficacy as a precondition of effecting change.

The fact that Weiner's (2009) theory of organizational readiness for change is deeply rooted in previous theories of change is an important argument in favor of

adopting Weiner's theoretical framework. Nonetheless, Weiner's theory is one of numerous possible explanatory frameworks of change. Another plausible framework is that of transformational leadership:

> As its name implies, transformational leadership is a process that changes and transforms people. It is concerned with emotions, values, ethics, standards, and long term goals. It includes assessing followers' motives, satisfying their needs, and treating them as full human beings. Transformational leadership involves an exceptional form of influence that moves followers to accomplish more than what is usually expected of them. It is a process that often incorporates charismatic and visionary leadership. (Northouse, 2010, p. 171)

In essence, in Weiner's model, organizational readiness for change depends upon characteristics of the organization; while in Northouse's view, the impetus of organizational readiness for change is not necessarily the organization itself, considered as an organic unit, but, the leader or class of leaders within the organization. In the framework of transformational leadership, the role of the leader has been described as being more important than the role of the organization *per se* in the context of change management and execution (Effelsberg, Solga, & Gurt, 2014; Kouzes & Posner, 2014; Ross, Fitzpatrick, Click, Krouse, & Clavelle, 2014).

Within leadership theory, there are alternatives to top-down theories of change of the kind cited in transformational leadership theory. Kouzes and Posner (2014), according to whom leaders encourage more than mandate change, proposed another theory of organizational change rooted within leadership theory:

- Modeling the way
- Inspiring a shared vision
- Challenging the process
- Enabling others to act
- Encouraging the heart

So, again, where Weiner (2009) view readiness as emanating from across the breadth of the organization, Kouzes and Posner (2014) view leaders in a stewardship role of inspiring and marshalling stakeholders toward successful implementation of change initiatives.

Other theories of leadership have also emphasized the ways in which the actions, traits, and competencies of the leader drive organizational readiness for change through influencing employees (Berson & Oreg, 2016; Malthouse, Haenlein, Skiera, Wege, & Zhang, 2013; Zhao, Seibert, Taylor, Lee, & Lam, 2016). These kinds of theories of leadership appear to be in closer alignment with Weiner's (2009) theory of organizational readiness for change.

Another manner of evaluating Weiner's (2009) theory is from the viewpoint of predictions. According to Swanson & Chermack (2013), a theory, such as that put forward by Weiner, is "formulated to explain, predict, and understand phenomena and, in many cases, to challenge and extend existing knowledge within the limits of critical bounding assumptions" (p. 6). Weiner's organizational readiness for change theory can be assessed on the plausibility and accuracy of its predictions. One of the predictions made by Weiner is that the success of an organizational change is partially or

substantially dependent on organizational readiness for change. Specifically, if there is a high degree of organizational readiness for change, Weiner predicted that implementation success will also be high. These predictions can all be empirically tested, which is another advantage of Weiner's theory.

Weiner's theory (2009) was at the basis of Shea et al.'s (2014a) ORIC instrument (Shea et al., 2014b). ORIC measures organizational readiness for change with separate measure of change efficacy and change commitment, echoing Weiner's theory in the separation of these constructs. ORIC has 12 items that measure change efficacy and change commitment, as described in Table 1.

Table 1

Organizational Readiness for Implementing Change Items

Change Commitment Items	Change Efficacy Items
• We are committed to implementing this change • We are determined to implement this change • We are motivated to implement this change • We want to implement this change • We can keep the momentum going in implementing this change	• We can keep the momentum going in implementing this change • We can manage the politics of implementing this change • We can support people as they adjust to this change • We can get people invested in implementing this change • We can coordinate tasks so that implementation goes smoothly • We can keep track of progress in implementing this change • We can handle the challenges that might arise in implementing this change

Given that the ORIC measure has 12 items, and assuming the use of a 5-point Likert scale starting at 1 and culminating at 5, ORIC score has a possible range of 12 to 60, with lower scores indicating a lower level of organizational readiness for change and higher scores indicating a higher level of organizational readiness for change.

Weiner's (2009) theory of organizational readiness for change, as empirically captured in ORIC (Shea et al., 2014a), was the chosen theoretical framework of this study. Therefore, the constructs in Weiner's scale were utilized to structure the review of empirical literature presented in the next section of the literature review. The following constructs and concepts can be extracted from Weiner's theory and its representation within ORIC:

- Contextual factors
- Change valence
- Informational assessment
- Change commitment
- Change efficacy
- Change-related effort

Even when these exact terms do not always occur in the empirical literature, closely related terms did occur. Because of their prominence in Weiner's theory, these concepts represented plausible categories in which to sort the empirical literature about organizational readiness for change.

Review of Empirical Studies

The review of empirical studies succeeded in identifying several relevant scholarly articles. As mentioned in the earlier section of the literature review, these empirical studies were sorted according to the basis of the concepts that occur in Weiner's (2009) organizational readiness for change model. It should be recalled that, in Weiner's model, organizational readiness for change is an emergent consequence of contextual factors, change valence, and informational assessment; in addition, Weiner defined organizational readiness for change in terms of two complementary concepts, those of change efficacy and change commitment.

What Weiner (2009) described as contextual factors, change valence, and informational assessment are all preexisting conditions of, and circumstances related to, organizational readiness for change. Therefore, in reviewing the empirical studies on organizational readiness for change, it is important to devote special attention to antecedents of organizational readiness. In reviewing the literature about the antecedents of organizational readiness for change, it is especially important to determine whether, according to the empirical literature, there is in fact a consensus that organizational readiness for change does in fact have antecedents. A related need is to examine whether, according to the empirical literature, contextual factors, change valence, and informational assessment are plausible examples of such antecedents.

Thus, the first subsection of the review of empirical literature was focused on the antecedents of organizational readiness for change. The second subsection was dedicated to a review of studies on change effort. In Weiner's (2009) theory, change-related effort

is one of the consequences of organizational readiness for change. In this subsection, special attention has been paid to the question of whether, in the existing literature, there is recognition of differences between change commitment and change efficacy.

There were risks as well as benefits involved in the utilization of Weiner's (2009) theory to structure a review of empirical research. One benefit was that, because Weiner's (2009) and its operationalization in the form of the ORIC instrument (Shea, et al., 2014a) constitute the theoretical framework of this study, the use of Weiner's conceptual categories could ensure alignment between the focus of the study and the identification of important themes and findings in the literature. Another benefit was that adopting Weiner's concepts and categories simplifies the task of determining whether the empirical literature actually provides support for Weiner's theory. A third benefit was that, because there are many scholarly articles on organizational readiness for change, utilizing a well-defined approach to categorization would simplify the task of identifying and discussing the most appropriate articles.

There were also risks involved in the adoption of Weiner's (2009) model to structure the review of empirical literature. One risk was that of bias. Because there are many studies on the topic of organizational readiness for change, adopting Weiner's model to structure the literature review presented a risk of identifying or including only those studies that are in agreement with Weiner's model, whether conceptually or empirically. This risk was reduced by the purposive inclusion of scholarly findings that were not specifically grounded in Weiner's model and whose results did not necessarily agree with Weiner's model.

It was also necessary to better define the empirical components of Weiner's (2009) model and the companion ORIC measure (Shea et al., 2014b). As such, definitions were necessary for exploring the alignment between Weiner's model and existing empirical studies. First, it should be noted that Weiner's theory of organizational readiness for change is a complex, longitudinal, and multifaceted model that includes various precursors, components, and consequences of organizational readiness for change. Second, it should be noted that ORIC is solely a measure of organizational readiness for change. Thus, any measurement that is generated from ORIC provides insight into a single aspect of Weiner's model—organizational readiness for change. ORIC does not address the antecedents or consequences of organizational readiness for change, both of which play important roles in Weiner's model. The only aspects of Weiner's complex model that are captured in ORIC are change commitment, change efficacy, and organizational readiness for change (which is the combination of change commitment and change efficacy).

Therefore, an empirical test of Weiner's (2009) theory would have to connect antecedents, components, and consequences of organizational readiness for change in a manner that the ORIC cannot achieve. Any such test would also have to rely upon well-defined measures of contextual factors or informational evaluation, which, although they figure prominently in Weiner's model, have not been operationally defined in a uniform manner. There are also conceptual difficulties involved in such definitions. For example, it is difficult to conceive how variables such as organizational culture and organizational learning, two of the contextual factors noted by Weiner, could be captured in a scale. In

addition, there is some degree of consensus in the empirical literature that various elements of organizational strategy and culture cannot easily, if at all, be operationally defined (Bharadwaj, El Sawy, Pavlou, & Venkatraman, 2013; Yousef, 2017). All these factors suggest that the entire Weiner model is not conducive to empirical testing. Thus, towards the conclusion of the literature review, some specific means of testing the conceptual links in Weiner's theory were proposed.

Despite the difficulties of empirical testing, the existing empirical research base was amenable to Weiner's (2009) theory in a number of ways. Although the existing research might not allow for a complete test of Weiner's model, it did allow for an exploration of (a) what organizational readiness for change consists of; (b) how organizational readiness for change is formed, and; (c) how organizational readiness for change expresses itself in actual change actions and outcomes.

It should still be noted that some studies are nonetheless fairly well aligned with Weiner's (2009) model. One empirical prediction made in Weiner's theory is that there is a positive correlation between organizational readiness for change and actual change. This prediction is well aligned with predictions made by planned behavior theorists, who have argued that the degree of preparation for a change is an extremely important predictor of whether the change is actually undertaken (Ajzen, 2015; Hackman & Porter, 1968; Nasri & Charfeddine, 2012). Thus, in the review of empirical literature, particular emphasis was placed on studies that allow this prediction to be tested.

There were also other studies that, while not closely mirroring Weiner's (2009) concepts in an empirically testable manner, were still useful in terms of illuminating

Weiner's theory. For example, some studies addressed one or more of the five contextual factors that underlie organizational readiness for change in Weiner's theory. Therefore, the overall approach in the literature review was to cite existing literature in cases where such literature can be generally related to Weiner's theory, and to pay additional attention to studies whose empirical findings were more closely related to Weiner's theory.

Precursors of Organizational Readiness for Change

Weiner (2009) argued that organizational readiness for change emerges from, and is informed by, various precursors. Weiner identified five contextual factors that serve as precursors to organizational readiness for change. These factors are as follows: (a) Organizational culture; (b) policies and procedures; (c) past experience; (d) organizational resources, and; (e) organizational structure. These five precursors were mentioned not only in Weiner's theory but also in other theories of planned behavior.

There was a consensus among planned behavior theorists that change emerges, first, from the contextual circumstances—individual and social—of the change agent (Brown et al., 2014; Pettijohn, Schaefer, & Burnett, 2014). In this sense, Weiner's (2009) precursors of (a) organizational culture; (b) policies and procedures; (c) past experience; (d) organizational resources, and; (e) organizational structure are equivalent to the personal factors cited by planned behavior theorists.

The importance of contextual factors in Weiner's (2009) theory and also in the theory of planned behavior supported the discussion of contextual factors in a separate subsection of the literature review. In addition, because contextual factors inform change

valence and informational evaluation, change valence and informational evaluation also merited separate discussions within the literature review.

Contextual factors. In Weiner's (2009) model, the contextual factors of (a) organizational culture; (b) policies and procedures; (c) past experience; (d) organizational resources, and; (e) organizational structure are described as influencing an organization's readiness for change. The empirical literature tended to support the claim that these five contextual factors are important predictors of readiness for change.

There was substantial scholarly work on the kinds of contextual resources that inform organizational readiness for change. One contextual resource of this kind was that of intellectual property. One point of interest in the literature was that, when companies possess intellectual property that has proven to be effective in generating and sustaining competitive advantage, they often fail to engage in innovation-related changes (Christensen, 2013). Based on a survey of the literature, it appeared that existing intellectual property is a factor that often causes many organizations to reject the possibility of change, even when such change would be beneficial to a company (Christensen, 2013; Drucker, 2014; Ponte & Camussone, 2013). As one example of such a change-averse orientation, record companies having already invested in compact disc (CD) technology did not invest in the MP3 format, despite the attractiveness of the MP3 format, because they were locked into rejecting change because of their prior investment circumstances (Peng & Sanderson, 2014).

Intellectual property is a specific kind of contextual, precursor resource that informs an organization's readiness to change. There are other resources of interest as

well. Because change can be expensive, companies that already possess a substantial resource base are more likely to possess change readiness, because, for them, such change would be easier to accomplish (Moro, Cortez, & Rita, 2014). The LEGO Group's recent digitization makeover is a good example of such readiness, and willingness, to completely change the status quo in order to gain or retain industry position in terms of both innovation, and workplace efficiency and attractiveness to talent. During decade-long digitalization leadership initiative, LEGO spared no expense to completely reinvent its business strategy, business models, enterprise platforms, mindsets and skill sets, the IT function, and the workplace (El Sawy, Kræmmergaard, Amsinck, & Vinther, 2016).

This relationship between resources and organizational change readiness applies not only to financial resources but also to other kinds of resources. Human capital is an important resource category to consider in this regard. Companies that possess insufficient human capital can possess a lower organizational readiness for change by virtue of the fact that their personnel are not equipped to execute a change (Clardy, 2014; Soumyaja, Kamalanabhan, & Bhattacharyya, 2011).

Another precursor to organizational readiness for change is organizational culture (Nilsen, 2015). Organizational culture can, in its various orientations, inform how companies approach change, regardless of the resources that exist to support or not support such a change. In particular, certain organizational cultures appear to be positively biased towards change; cultures in which power distance between bosses and employees is low, cultures that decentralized, and cultures that are entrepreneurial all

appear to have a positive bias towards organizational change (Bi, Davison, Kam, & Smyrnios, 2013; Hofstede, 1994; Lee & Yang, 2014).

Power distance and other properties of organizational structure are especially important contextual factors in organizational readiness for change. Organizational structures that are collaborative, for example, have a positive bias towards change, because, in such structures, ideas for change are constantly elicited and acted upon (Herrmann & Nadkarni, 2013).

Weiner (2009) differentiated between policies, procedures, and past experience as distinct contextual factors that provide precursors for organizational readiness for change. In the literature, however, the first two of these categories do not appear to be treated distinctly. For example, in the literature about organizational culture and structure as contextual factors underlying readiness for change, policies and procedures are treated as part of the same continuum (Al-Faouri, Al-Nsour, & Al-Kasasbeh, 2014; Ananthram & Nankervis, 2013; Idris & Al-Rubaie, 2013).

Past experience is a factor that has been engaged more extensively in the previous literature. However, the literature appeared to have focused more on the past experience of individuals than of organizations *per se*, mainly because it is far easier to measure the past experience of an individual than to try to measure an entire organization's past experience. When past experiences are measured on the individual level, there has been a focus on the past experiences of the leader (Di Giunta et al., 2013; Kuo, Walker, Schroder, & Belland, 2014). Thus, despite the existence of qualitative studies and overviews of organizational experience (Bi et al., 2013; Hofstede, 1994; Lee & Yang,

2014; Oliveira et al., 2012), there is a gap in the empirical literature about the past experiences of organizations.

Another precursor in Weiner's (2009) model is that of informational assessment. Informational assessment is held to consist of (a) task demands; (b) resource perceptions, and; (c) situational factors, which can be considered as subcategories through which to explore the variable of informational assessment and how it is described in the literature. Resource perceptions and task demands have been discussed in terms of the culture and resource base of organizations. For example, Abraham (2013), Bharadwaj et al. (2013), and Kim & Mauborgne (2013) all argued that the manner in which organizations perceive their resources is reliant on both strategy and culture. For example, organizations that have cultures of innovation and strategies based on entering new niches are also organizations that will perceive their resources as being sufficient to support change, whereas passive, defensive organizations are less likely to perceive their resources as supporting change.

There is a substantial body of literature about organizational agility suggesting that agile organizations are better equipped to manage task demands, perceive resources in a change-supporting manner, and enlist situational factors in support of change (Chung, Lee, & Kim, 2014; Nejatian & Zarei, 2013; Shiri, 2014; Soud Mohammad, 2013). Thus, agile organizations appear to possess the kinds of qualities necessary for informational assessment that, according to Weiner (2009), is a precursor of organizational readiness for change. The literature likewise supports the claim that agile organizations possess the kinds of informational assessment that are necessary for

organizational readiness for change. This claim is widely supported in the literature about behavioral marketing, for example (Furey, Springer, & Parsons, 2014; Hulland, Thompson, & Smith, 2015; Leung, Baloglu, Teare, & Bowen, 2015; Priyanka & Srinivasan, 2015; Proctor, 2014; Ramsaran-Fowdar & Fowdar, 2013; Rapp, Beitelspacher, Grewal, & Hughes, 2013; Wells, 2014).

Intermediate factors. Weiner's (2009) theory hypothesized that the antecedents of (a) organizational culture; (b) policies and procedures; (c) past experience; (d) organizational resources, and; (e) organizational structure led to the formation of informational assessment and change valence, which, in turn, forms organizational readiness for change. Weiner defined one of the two intermediate factors, change valence, in the following manner:

> Simply put, do organizational members value the specific impending change? For example, do they think that it is needed, important, beneficial, or worthwhile? The more organizational members value the change, the more they will want to implement the change, or, put differently, the more resolve they will feel to engage in the courses of action involved in change implementation (Weiner, 2009, p. 69).

Weiner did not discuss informational assessment in the same detail as change valence. Weiner only noted that informational assessment consisted of the components of task demands, resource perceptions, and situational factors. However, it can be inferred that both change valence and informational assessment serve as intermediate variables that

connect contextual factors and organizational readiness for change (Rotfeld, 2014; Serra, Correia, & Rodrigues, 2014; Swani, Milne, & Brown, 2013).

One relevant study to examine in this regard was that of Eby et al. (2000). Eby et al.'s study was on organizational readiness examined within the context of team based selling. Eby et al.'s quantitative approach (Eby et al., 2000, pp; 425-426) hypothesized that:

- H1: Self-efficacy for change was positively related to perceived organizational readiness for change.
- H2: Preference for working in teams was positively related to perceived organizational readiness for change.
- H3: Perceived organizational support was positively related to perceived organizational readiness for change.

Eby et al.'s hypotheses were all related to Weiner's (2009) theory of organizational readiness for change. The first of Eby et al.'s hypotheses was directly related to organizational readiness for change, which, as in Weiner's theory, was subdivided into change commitment and chance efficacy by Eby et al. Eby et al.'s first hypothesis provided a means of testing Weiner's claim that change commitment and chance efficacy are related to each other; a correlation between these two variables would support the claim that organizational readiness consists of change commitment and chance efficacy.

Eby et al.'s (2000) second hypothesis contained a measurement of change valence, which was a part of Weiner's (2009) model. Eby et al. provided an operational definition of change valence in terms of salesperson preference for team-based selling.

Because preference is a form of valence, Eby et al.'s second hypothesis appeared to test the importance of the precursor variable of valence.

Eby et al.'s (2000) third hypothesis measured the relationship between perceived organizational support and perceived organizational readiness for change. The concept of organizational support can be classified as one of Weiner's (2009) precursors of organizational readiness for change. However, organizational support also appears to be a kind of contextual factor, because support is one of the precursors to the formation of change intention. Therefore, Eby et al.'s third hypothesis can be construed as a test of the relationship between a contextual factor and organizational readiness for change.

Eby et al.'s (2000) sample consisted of 117 personnel of a company that was abandoning individual selling in favor of a team-based selling approach. For each of the three hypotheses, the dependent variable was organizational readiness for change as calculated through the use of a 9-item scale. In the first hypothesis, the independent variable was self-efficacy. In the second hypothesis, the independent variable was a 4-item preference scale that measured respective preferences for individual and team based selling. In the third hypothesis, the independent variable was a 22-item scale designed to measure perceived organizational support. Eby et al. utilized scales that had previously been validated in the literature. Each scale possessed a suitably high Cronbach's α, and the relatively few items in the scales raised the likelihood that study participants answered accurately and honestly.

Despite these advantages, Eby et al.'s (2000) findings were limited in their explanatory power. For example, despite regressing several independent variables on the

dependent variable of organizational readiness for change, Eby et al.'s coefficient of determination was only 0.31, meaning that Eby et al.'s variables explained only 31% of the variation in organizational readiness for change. Of the variables in Eby et al.'s study, the one with the most explanatory power was that of organizational support ($\beta = 0.36$), followed closely by trust in peers ($\beta = 0.28$), and, finally, by preference for teamwork ($\beta = 0.17$).

Although Eby et al.'s (2000) study had a low coefficient of determination, the findings of the study were nonetheless relevant to Weiner's (2009) organizational readiness for change model. Two of the variables in Eby et al.'s study, organizational support and preference for teamwork, were directly relevant to two variables in Weiner's model. As argued earlier, organizational support can be considered as one of Weiner's so called contextual factors, whereas preference for teamwork can be considered a measure of what Weiner defined as valence.

The fact that both organizational support and preference for team work were statistically significant and positive predictors of organizational readiness for change means that Eby et al.'s (2000) findings provided general support for Weiner's (2009) model. Weiner argued that both contextual factors (including, in the context of the Eby et al. study, organizational support) and change valence were predictors of organizational readiness for change. This theoretical prediction was confirmed by Eby et al.'s empirical findings. Moreover, a comparison of the standardized β value (=0.36) for organizational support and the standardized β value (=0.17) for preference for teamwork indicated that the contextual factor of organizational support might be roughly twice as important as

change valence in predicting organizational readiness for change. This finding is of particular importance given its implications that what employees want might not be as important as what organizations want employees to do when it comes to adopting a change.

For their first hypothesis, Eby et al. (2000) discovered that, at an Alpha of .10, there was not a significant correlation between self-efficacy and organizational readiness for change ($r = 0.03$). It should be noted that the value of the correlation was very close to 0, indicating the absence of any meaningful relationship, positive or negative, between self-efficacy and organizational readiness for change. This finding was difficult to reconcile with Weiner's (2009) claim that efficacy is a component of organizational change readiness. However, it is not clear whether this aspect of Eby et al.'s findings can be related to the actual absence of a relationship between self-efficacy and organizational readiness for change or whether these findings were a statistical artifact.

An empirical study conducted by Madsen, Miller, and John (2005) measured the relationship between organizational commitment and organizational readiness for change. Organizational commitment can, as argued earlier in the literature review, be considered an intermediate variable between contextual factors and the formation of organizational change commitment. Madsen et al. defined organizational commitment as a precursor, that is, as an independent variable that predicted the dependent variable of organizational readiness for change.

In passing, it should be noted that neither Weiner's (2009) model nor the ORIC instrument (Shea et al., 2014b) contained organizational commitment as a discrete

variable. It is possible that there is a close conceptual relationship between change valence and organizational commitment or that organizational commitment can be subsumed under some other aspect of Weiner's conceptual factors. It should also be pointed out that organizational commitment is a trait that is independent of change orientation (Chen & Francesco, 2000).

Madsen et al.'s (2005) findings can best be understood in light of Weiner's (2009) model if organizational commitment is defined as one of Weiner's contextual factors. Madsen et al.'s hypothesis was that there would be a statistically significant and positive relationship between organizational commitment and organizational change readiness. Madsen et al. assessed this hypothesis on the basis of data gathered from 454 organizations in four companies in the American state of Utah. Madsen et al. operationalized organizational change readiness through the use of a 14-item scale, previously validated in the literature that had a Cronbach's α of 0.82, indicating a high level of reliability. In addition, Madsen et al.'s operationalization of organizational commitment was by means of a 9-item scale (also previously validated in the literature), that had a Cronbach's α 0.81.

As was the case in Eby et al.'s (2000) study, Madsen et al.'s (2005) findings lacked explanatory power. First, Madsen et al. discovered a moderate and positive correlation between organizational commitment and organizational change readiness (r = 0.45). From this r value, it can be inferred that the coefficient of determination between organizational commitment and organizational change readiness was 0.2025, meaning

that slightly more than 20% of the variation in organizational change readiness was predicted by organizational commitment variation.

Madsen et al.'s (2005) findings are open to multiple interpretations. One plausible interpretation of the findings is that there might be a disparity between employee commitment to a change and actual readiness for change. For example, commitment to change might be affective and involve feelings, whereas organizational readiness for change might be cognitively assessed. Such an interpretation would help to explain the low coefficient of determination in Madsen et al.'s study.

A study by Drzensky et al. (2012) recalled the work of Madsen et al. (2005). Like Madsen et al., Drzensky et al. focused on the effect of organizational commitment on organizational readiness for change. In order to test this relationship, Drzensky et al. obtained data from over 3,500 participants, a sample far in excess of that of Madsen et al. Drzensky et al. operationalized organizational commitment through a preexisting 6-item scale with a Cronbach's α of 0.89, indicating a high degree of internal reliability. To measure organizational change readiness, Drzensky et al. piloted a 7-item scale to measure organizational readiness for change. Both of the scales in Drzensky et al.'s study were scored on Likert scales.

According to Drzensky et al.'s (2012) findings, the correlation between organizational change commitment and organizational change readiness was 0.49. This correlation was significant at an Alpha of .05. The coefficient of determination of the relationship was 0.2401, indicating that slightly more than 24% of the variation in organizational change readiness could be predicted through variation in an organization's

commitment to change. It is interesting to observe that the *r* in Drzensky et al.'s study was very close in magnitude to the *r* obtained by Madsen et al., despite the fact that these two studies sampled from different populations and relied on different scales. The similarity between the findings in Drzensky et al.'s study and Madsen et al.'s study indicates that, in fact, organizational commitment to change is a predictor of organizational change readiness, but that the magnitude of this prediction is, as measured through the coefficient of determination, quite modest.

In another study, Soumyaja et al. tested the predictive power of individual employees' creative intelligence and training on the dependent variable of organizational readiness for change (Soumyaja et al., 2011). Soumyaja et al. proposed (Soumyaja et al., 2011, p. 87) the following six hypotheses:

H1: Creative intelligence is positively related to readiness to change

H2: Practical intelligence is positively related to readiness to change

H3: Participation in decision-making is positively related to readiness to change

H4: Quality of communication is positively related to readiness to change

H5: Trust in top management is positively related to readiness to change

H6: Perception of positive history of change is positively related to readiness to change

The sixth hypothesis was closest to Weiner's (2009) theory. Perception of positive change history is closely related to Weiner's variable of past experience, which was identified as one of the contextual factors that underlie organizational change readiness. In this respect, the key finding in the work of Soumyaja et al. (2011) was that perception

of a positive history of change is indeed positively related to change readiness. This finding provides important empirical support for a key tenet of Weiner's model of organizational readiness for change.

Sequels of Organizational Readiness for Change

In the previous sections of the literature review, both antecedents and intermediate factors were examined with respect to the construct of organizational readiness for change. In this section of the literature review, the focus is on the sequels of organizational readiness for change—that is, the actions that take place after an organization indicates its readiness for change.

According to Hagedorn and Heideman (2010), the two most important consequences of organizational change readiness are (a) an implementation of the actual change, and; (b) the force with which the change is executed. Hagedorn and Heideman analyzed these relationships through a quantitative model in which organizational change readiness was the independent variable and change adoption and force of change adoption were the dependent variables. This analysis was carried out in the context of changes at substance disorder treatment clinics.

Hagedorn and Heideman operationalized organizational change readiness through the Organizational Readiness to Change Assessment (ORCA), which was administered to members of nine teams that were part of the Veterans Heath Administration and that underwent a training program, 6 months in duration, intended to convince the teams to adopt hepatitis prevention services.

As part of a pre-test / post-test design, Hagedorn and Heideman (2010) asked each team to complete the ORCA at baseline and, subsequently, at one month, three months, and six months after the beginning of training. The main result obtained by Hagedorn and Heideman was that organizational change readiness was indeed positively correlated with both (a) an implementation of the actual change, and; (b) the force with which the change is executed. This result was also hypothesized to exist in Weiner's (2009) theoretical model as change-related effort. Hagedorn and Heideman noted that their own measure of change-related effort was the number of prevention services adopted by trainees, but there are many other validated measures of change commitment in the wake of organizational readiness for change (Drzensky, Egold, & van Dick, 2012; Helfrich et al., 2011; Madsen, Miller, & John, 2005).

Gaps in the Literature

As illustrated throughout this review, there were numerous gaps in the literature. These gaps should be understood distinctly from limitations, some of which appear to be intractable. For example, almost every statistically expressible concept in Weiner's (2009) model is rooted in perception. Leaving aside the conceptual difficulties in measuring perception, there are important issues of methodological bias that can arise when under or oversampling employees whose perceptions skew to either support for, or rejection of, change. It is also possible that the same employee, measured at two distinct points in time, might experience and express varying perceptions. These concerns, while indicating important limitations of empirical studies of organizational readiness for change, are distinct from literature gaps. For purposes of this study, a gap in the literature

can be described as the failure of past scholars to have explored some aspect of a phenomenon that can in fact be explored with existing methods and data. Accordingly, the focus of this section of the literature review was placed on plausible and practical research functions that do not appear to have been addressed in the extant literature.

Before proceeding to a focused examination of the main gap in the literature, and the outline of a means of closing the gap, it was necessary to acknowledge the generally low quality of statistical analysis in much of the existing organizational readiness literature. A number of empirical studies identified in the literature review relied on simplistic and often incomplete inferential statistics that are unlikely to offer the necessary insight into the precursors of, and sequels to, organizational readiness for change (Drzensky et al., 2012; Madsen et al., 2005; Soumyaja et al., 2011). One of the most common inferential statistical techniques employed was the Pearson correlation (*R*-value), sometimes accompanied by an ordinary least squares (OLS) regression. Traditional correlation and regression operate on the assumption of linearity, which is not necessarily well suited to situations in which, for example, only a very high level of change valence—a threshold value—predicts organizational readiness for change. However, none of the empirical studies read for or analyzed in this literature review presented any data fitting or residual diagnostics to support the use of linear techniques. Overall, the topic of organizational readiness for change could benefit from the use of more appropriate statistical techniques than those that were used in previous studies. Chapter 3 of this study contained a description and defense of a statistical methodology that can add significant value to the existing empirical literature about organizational

readiness for change, and whose justification is provided below, in the contexts of both (a) the larger gap in the literature, and; (b) the possibilities presented by Weiner's (2009) organizational readiness for change model.

Weiner (2009) noted that there are various empirical difficulties in testing the model of organizational readiness for change. However, these difficulties appear to exist mainly at the level of organizational factors of (a) organizational culture; (b) policies and procedures; (c) past experience; (d) organizational resources, and; (e) organizational structure. Change valence is easily measured, because it is merely a metric of how much or how little certain stakeholders like a proposed change (Eby et al., 2000; Weiner, 2009). An argument was presented earlier in this chapter for removing informational evaluation from Weiner's model. Finally, Shea et al.'s (2014a) work can be utilized for its description of what comes out of organizational readiness for change, namely change-related effort. Taken together then, the following causal chain can be proposed:

Change valence→Organizational readiness for change→Change-related effort.

This chain of linkages could reasonably be tested by existing empirical means and with few conceptual difficulties. However, the empirical literature did not appear to contain studies that tested this entire chain. As discussed earlier in this literature review, there were studies that tested the link between change valence and organizational readiness for change (such as Eby et al., 2000) as well as studies that have tested the linkage between organizational readiness for change its sequels (such as Hagedorn & Heideman, 2010), but no studies that have tested the contiguous causal chain of Change valence→Organizational readiness for change→Change-related effort.

The testing of this chain could be carried out with structural equation modeling (SEM), which might be the superior alternative if subscales were used for both organizational readiness for change (change efficacy, change commitment) and change-related effort (initiation, persistence, and cooperative behavior). One advantage of using SEM to close the observed empirical gap in the literature would be to discover whether organizational readiness for change and change-related effort could indeed be inferred as latent variables from their subscales. However, this approach could be considered needlessly complex, given that PCA is a better way of reducing and exploring the dimensionality of the data, while retaining as much of the information contained in the data as possible (Jolliffe & Cadima, 2016). This makes PCA an optimal tool for validating the constructs of organizational readiness for change and change-related effort based on their respective subscales. A simpler approach would be to treat change valence, organizational readiness for change, and change-related effort as index values, using ORIC (Shea et al., 2014b) as the value for organizational readiness for change, and construct a mediation study on the three variables.

A mediation study might address one of the larger goals put forward by Weiner (2009), which was to argue for a special conceptual place for organizational readiness for change. Given that organizations undergo change at varying levels of readiness, the usefulness of the concept of organizational readiness for change lies in suggesting that organizations that enter into change initiative at high levels of readiness are at an advantage. Indeed, Weiner stated, “Organizational readiness for change is considered a critical precursor to the successful implementation of complex changes in healthcare

settings. Indeed, some suggest that failure to establish sufficient readiness accounts for one-half of all unsuccessful, large scale organizational change efforts" (Weiner, 2009, p. 4).

However, it does not automatically follow that organizations should deliberately raise their readiness on measures such as ORIC. There is a competing theory in economics, the efficiency wage theory (Wu & Ho, 2012), according to which increasing valence alone might be a sufficient driver to produce sufficient levels of change-related effort to effectuate a successful change outcome. The often replicated central premise of the efficiency wage theorem is that when monetary incentives are raised, employees spontaneously increase the efficiency of their work so as to be able to claim the added incentives (Wu & Ho, 2012). Thus, from the perspective of efficiency wage theory, it might be sufficient to simply raise change valence through the introduction of financial incentives for those who achieve and maintain the desired change outcomes, and skip a formal readiness for change stage altogether, counting instead on the increased valence to drive the change-related effort that is the endpoint of Weiner's (2009) model.

There is a simple statistical test, the three-step mediation approach (Kenny, 2016), that can measure the distinct usefulness of Weiner's (2009) construct of organizational readiness for change. According to Kenny, there are three sequential steps in a mediation study, with Y = dependent variable, X = independent variable, M = mediating variable:

1. Regress X on Y. In this step, the existence of an effect that is mediated is established.

2. Regress X on M. In this step, the effect between the independent variable and the mediator is established.
3. Regress X and M on Y. In this step, X is controlled when testing the effect of M on Y.

The observed gap in the literature, and the testing of Weiner's (2009) prediction about the usefulness of organizational readiness for change, could be closed by designating the following variables:

- Y = Change-related effort
- X = Valence
- M = Organizational readiness for change

Ordinary least squares (OLS) regression could then be used as follows:

- Regress valence on change-related effort
- Regress valence on organizational readiness for change
- Regress valence and organizational readiness for change on change-related effort

Such an approach would be a simple but explanatorily powerful empirical means of (a) exploring the links between change valence, organizational readiness for change, and change-related effort in a manner that does not appear to have been duplicated in the existing empirical literature, and; (b) empirically determining whether organizational readiness in fact plays a special role in determining the success of planned changes, through the mechanism of high change-related efforts.

Conclusion

The purpose of this literature review was to describe and critically evaluate theories and empirical studies relevant to the topic of organizational change management, and specifically to organizational readiness for change. In order to achieve this stated objective of the chapter, the literature review was divided into several sections. The first section, the introduction, described the content of the literature review, presented the organization of the literature review, and detailed the strategy used for searching the literature. The second section of the literature review consisted of a more detailed overview of Weiner's theory (Weiner, 2009) of organizational readiness for change alongside alternate and complementary change management theories. The third section of the literature review consisted of the presentation and critical evaluation of numerous empirical studies related to the topic of organizational readiness for change. The fourth section of the literature review contained a discussion of gaps in theory as well as in the empirical literature. The concluding section of the literature review contained a synthesis and discussion of the main empirical findings and theoretical themes arising from the literature review.

The first point to note was that there was substantial empirical support for the existence and validity of Weiner's (2009) five organizational factors of (a) organizational culture; (b) policies and procedures; (c) past experience; (d) organizational resources, and; (e) organizational structure as predictors of an organization's subsequent readiness for change. Intellectual property, financial resources, and human resources (Ananthram &

Nankervis, 2013; Clardy, 2014) were all identified as important inputs into a company's orientation towards future change.

Support was also found for both organizational culture (Al-Faouri et al., 2014; Oliveira et al., 2012), organizational structure (Felipe, Roldán, & Leal-Rodríguez, 2016), and as determinants of organizational readiness for change. Particular support was found for the claims that (a) some organizations have a higher capacity for change and are more adept than others in terms of prioritizing change, and; (b) organizational structures often reflect and build upon organizational culture, for example by creating flatter, more collaborative, more *ad hoc* structures to support organizational cultures in which change is prized and embraced (Heckmann, Steger, & Dowling, 2016).

It was further concluded that Weiner's (2009) category of policies and procedures has been amply treated in the literature about culture and structure (Corrigan, Bink, Schmidt, Jones, & Rüsch,2016; Mousseau, Scott, & Estes, 2014), and that Weiner's category of past experience has been easier to measure in terms of individual rather than team based or organizational behavior, perhaps explaining the predominance of studies on individually oriented past experience as a predictor of change-related decision making (Kuo et al., 2014; Mousseau, Scott, & Estes, 2014; Pettijohn et al., 2014).

Eby et al.'s (2000) empirical study, which included the utilization of both change valence and perceived organizational support—which can be related to Weiner's (2009) category of organizational factors—provided some foundational empirical support for Weiner's subsequent claim that change valence and contextual factors predict organizational readiness for change. Madsen et al.'s (2005) findings also provided some

empirical foundational support for the subsequent inclusion of another precursor, that of organizational commitment, to Weiner's model. However, it should be noted that the *R2* values in both Eby et al.'s and Madsen et al.'s studies were fairly low, which means that these empirical studies were not successful in identifying precursors that can explain the majority of variation in the variable of organizational readiness for change. The same limitation also applied to the work of Soumnyaja et al. (2011) and Drzensky et al. (2012).

There was limited empirical work on the topic of organizational change management's sequels. Hagedorn and Heideman's (2010) study was one of the few empirical examinations of this topic. Hagedorn and Heideman's study did not rely upon regression, so it could not be used to calculate an effect size for the impact of organizational readiness for change on change adoption or change commitment. Hagedorn and Heideman also had one of the smallest samples of all the empirical studies reviewed, further limiting the usefulness of these findings.

Perhaps the most unexpected conclusion to emerge from the literature review was that, despite the extensive body of empirical literature about the topic of organizational readiness for change, the empirical studies examined in depth had such low effect sizes. Given that organizational readiness for change is a mature concept, it was expected that a review of the existing studies would uncover larger effect sizes, which in turn would indicate that both the precursors and the sequels of organizational readiness for change are also well understood. Because the review of studies did not identify large effect sizes, there appears to be justification for added empirical testing centered on models such as that of Weiner (2009), including the modification of the original Weiner model proposed

by Shea et al. (2014a). Had the existing empirical studies (a) concurred with each other on the precise nature of both precursors to and sequels of organizational readiness for change, and; (b) obtained high *R2* and other measures of effect size, then there would be less justification for proposing another empirical test of a model of organizational readiness for change.

However, the empirical testing of Weiner's (2009) model of organizational readiness for change is not merely a matter of adding to the empirical literature simply because of the existence of a gap. The gap, as described in detail in the penultimate section of this chapter, is one with extremely important implications for practice. Weiner (2009) stated that, if organizational readiness for change is indeed an important precursor of the (a) occurrence, and; (b) implementation force of an actual change, then organizations would naturally need to devote themselves to improving their level of readiness. On the other hand, if some version of the efficiency wage theory (Wu & Ho, 2012) is correct, then deliberately inculcating organizational readiness for change might be as simple as increasing the financial incentives related to the successful implementation and maintenance of the change state.

For the majority of organizations, determining whether or not to engage in a formal organizational readiness evaluation represents a major choice, one with important implications for strategy and resource expenditure. Thus, further testing of Weiner's (2009) theory of organizational readiness for change (particularly in terms of the Change valence→Organizational readiness for change→Change-related effort chain) can be of value to numerous organizations in addition to closing an important gap in the empirical

literature. Indeed, Weiner as well as Shea et al. (2014a) have called for further empirical testing of this sort to ensure that theory development in the field of organizational readiness for change can benefit from reliable statistical findings. Chapter 3 contains a description and defense of a quantitative methodology capable of achieving such an objective.

Chapter 3: Methodology

The purpose of this quantitative, nonexperimental study was to address the specific question of whether and to what degree expressed levels of change valence and informational assessment (the antecedents of change commitment and change efficacy), along with other demographic covariates, are associated with and effect measured levels of organizational readiness for change. The purpose of this chapter is to describe and defend the methodology of the study in as comprehensive a manner as possible. To do so, the chapter has been subdivided into several sections. Each section offers specific insight into one aspect of the study's methodology.

The first section of the chapter contains an overview of available methodologies and a discussion of the appropriateness of quantitative methodology for the study. The second section of the chapter contains an overview of available quantitative designs and a discussion of the appropriateness of a correlational and case study design for the study. The third section includes an overview of instrumentation for the study while the fourth section is focused on the population and sampling considerations. The fifth section includes a discussion of data collection. The sixth section of the chapter contains a discussion of data analysis. The seventh section provides a discussion of the potential threats to the study's reliability and validity and how those will be managed. The eighth section of the chapter contains a discussion of ethical considerations related to the study. The ninth and final section of the chapter is a summary of the various aspects of the study's methodology and research design.

Overview and Selection of Methodologies

The three commonly accepted methodologies discussed in the literature were quantitative, qualitative, and mixed methods (combined quantitative and qualitative) methodologies (Lucero et al., 2016; Punch, 2013; Venkatesh, Brown, & Bala, 2013). The quantitative approach to methodology is one in which individual variables are mathematically coded, and relations between variables are mathematically investigated and tested (Kerrick, Cumberland, Church-Nally, & Kemelgor, 2014). The qualitative approach to methodology is one in which, while mathematical coding might be utilized in some phase of the study, research variables and phenomena are conceived and analyzed in a more subjective, context-dependent manner (Zumbrunn, McKim, Buhs, & Hawley, 2014). Finally, a mixed methodology involves blending or otherwise combining quantitative and qualitative methodologies to achieve deeper insight into a research phenomenon than might be possible using either single methodology alone (Zumbrunn, McKim, Buhs, & Hawley, 2014).

Table 2 contains McNabb's (2015) overview of differences between quantitative and qualitative research. This overview appears to reflect the consensus in the existing literature about the key differences between quantitative and qualitative research. McNabb argued that these differences could be systematically understood through an examination of differences in ontology, epistemology, axiology, rhetoric, and procedures. McNabb's overview of methodologies was utilized as a means of understanding the numerous differences between quantitative and qualitative research and also as a means

of structuring the presentation of findings and their discussion in the fifth chapter of this study.

Table 2

Differences Between Quantitative and Qualitative Research

Philosophical Foundations	Qualitative Research Designs	Quantitative Research Designs
Ontology (perceptions of reality)	Researchers assume that multiple, subjectively derived realities can coexist.	Researchers assume that a single, objective world exists.
Epistemology (roles for the researcher)	Researchers commonly assume that they must interact with their studied phenomena.	Researchers assume that they are independent of the variables under study.
Axiology (researchers' values)	Researchers overtly act in a value-laden and biased fashion.	Researchers overtly act in a value-free and unbiased manner.
Rhetoric (language styles)	Researchers often use personalized, informal, and context-laden language.	Researchers most often use impersonal, formal, and rule-based text.
Procedures (as employed in research)	Researchers tend to apply induction, multivariate, and multiprocess interactions, following context-laden methods.	Researchers tend to apply deduction, limited cause-and-effect relationships, with context-free methods.

Note. Adapted from "Research Methods for Political Science," by D. McNabb, 2015.

There was a consensus in the literature related to research methodology that none of the conventional approaches to methodology is superior to any other (Allen, 2016; Davies & Hughes, 2014). Instead, the choice of a particular research methodology depends on the nature of the research problem and phenomena chosen for analysis by a

researcher rather than a preference for one methodology over the other (Venkatesh, et al., 2016).

Organizational change management is a topic that has been widely examined through the use of available quantitative approaches. Some scholars have explored organizational change management from the perspective of measuring the precursors, characteristics, and antecedents of such change (Sullivan, Rothwell, & Balasi, 2013; Wang, Fang, Qureshi, & Janssen, 2015). Some have studied change readiness with a view to building a predictive model to evaluate the likelihood of successful change (Caliskan & Isik, 2016; Timmings et al., 2016). There have also been qualitative attempts to better understand the subjective experience of change and its management within organizations (Chadwick, Knapp, Sinclair, & Arshoff, 2014; Holden, Eriksson, Andreasson, Williamsson, & Dellve, 2015) as well as attempts to blend quantitative and qualitative (e.g. mixed) methods to better understand the phenomenon of organizational change (Molina-Azorín, Tarí, Pereira-Moliner, López-Gamero, & Pertusa-Ortega, 2015; Sørensen & Holman, 2014).

The orientation of this study was towards quantitative methods because of the study's theoretical foundation and the identified research problem. Weiner's (2009) model of organizational readiness for change, which was the theoretical foundation of the study, is empirically testable, implying the use of quantitative methods. Second, the problem identified in terms of both the literature gap and the organizational setting for the study was the absence of knowledge about the relationship between change valence and informational assessment (the precursor variables) and the strength of organizational

readiness for change (an outcome variable). Thus, the study's theoretical model and rationale—at the level of the site-specific problem as well as of the literature gap—were well aligned with the use of quantitative methods. However, a specific quantitative design remained to be identified and justified.

Overview and Selection of Research Designs

The three most commonly recurring research designs associated with the quantitative tradition are experiments, pseudo experiments, and correlational studies (Zhang, Zhang, & Seiler, 2013). Both experimental and pseudo experimental methods are related by the idea of researcher manipulation of variables in a controlled or semi controlled setting. Horváth (2016) noted that in a pure experiment, researchers carefully control treatments and other conditions in laboratory or laboratory-like settings in which random assignment to control and case groups is also possible. Conversely, in pseudo experiments, researchers tend to have reduced control of settings, treatments, and assignments to control versus case groups, usually because the study is not carried out under laboratory conditions (Horváth, 2016).

Correlation studies test hypotheses by observing naturally occurring phenomena and the effect they have on a variable of interest without manipulating or interfering with that effect (Field, 2013). In essence, correlational testing establishes a relationship between variations in the *X* variable to variations in the *Y* variable. In the context of the current study, the various measured phenomena all occur naturally, in both people and organizations, thus justifying the use of a correlational design. Moreover, variables associated with organizational readiness cannot be experimentally or pseudo

experimentally induced unless researchers somehow simulate an organizational setting or can impel actual changes in an organization (Drzensky et al., 2012). Both of these scenarios were beyond the scope of the current study, further justifying the use of a correlational design. Correlational designs are often associated with survey-based designs, as they typically require that data be gathered from human subjects who respond to surveys (Soumyaja et al., 2011). Much of the key empirical literature evaluated in the literature review has also utilized correlational designs embedded in Likert-type surveys (Hagedorn & Heideman, 2010).

This study can also be defined as an example of a case study design. Although case studies are often discussed as one of the available designs with qualitative methodology, the case study format can be applied to quantitative studies as well (Holloway & Wheeler, 2013). According to Yin, a case study focuses on a research phenomenon "in depth and within its real-life context" (Yin, 2013, p. 18), and case studies are assumed to be appropriate when "the boundaries between phenomenon and context are not clearly evident" (p. 18). However, it should be noted that the choice of a single case design may weaken the validity and generalizability of the findings (Stapleton & Hawkins, 2015). It is possible that the dynamics of organizational readiness vary from organization to organization, in which case there could be some conceptual blurring between the empirical relationships posited in Weiner's (2009) model and the context of the organization in which these relationships are observed. Moreover, the sample for this study was taken from a single organization. In this respect, the study was an example of a quantitative case study design.

Instrumentation and Measurement

The instrumentation and measurement used in this study can be understood in light of Weiner's (2009) model of organizational readiness for change, which appears in Figure 2. Weiner's model is associated with an instrument published in the public domain that measures several constructs related to the model. Shea et al.'s (2014b) scale, which itself constitutes an empirical framework of Weiner's model, functioned as the instrument for this study. Before this study the instrument had not been used to study an organizational undergoing an actual organizational change implementation. Initial testing of the study was performed for content adequacy, factor structure, and reliability.

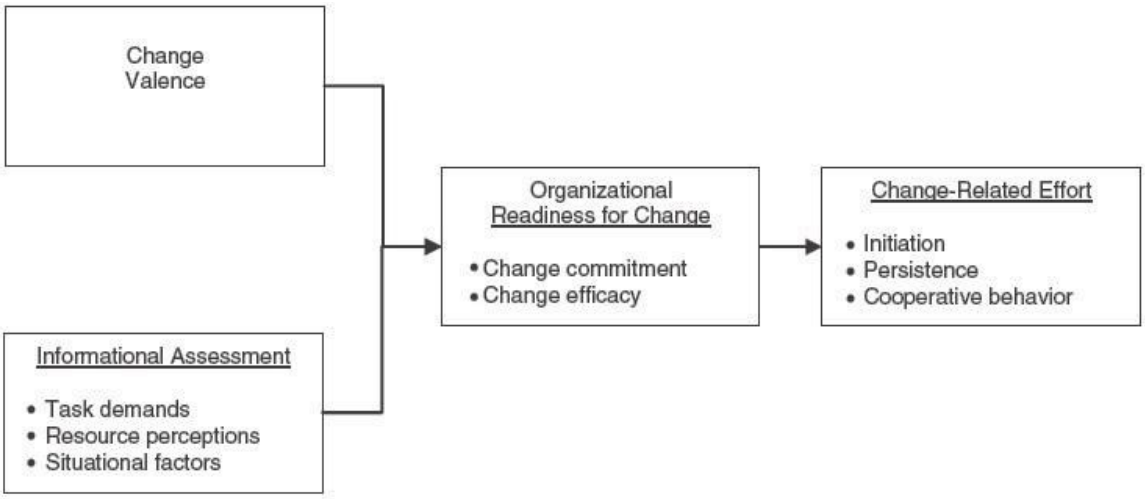

*Figure 2.*Determinants and outcomes of Organizational Readiness for Change. Adapted from "A Theory of Organizational Readiness for Change" by B. J. Weiner, 2009, Implementation Science, 4, p. 70.

The items in Shea et al.'s (2014b) scale that measure the independent variable *change valence* were as follows:

- People who work here feel this change is compatible with our values
- People who work here feel we need to implement this change

- People who work here believe this change will benefit our community
- People who work here believe this change will make things better
- People who work here believe this change is a good idea
- People who work here value this change

Given the use of a 5-point Likert-type scale with a starting point of 1, the possible range of scores for the change valence subscale was 6-30.

In Weiner's (2009) model, informational assessment is a complement to change valence as a predictor of organizational readiness for implementing change. The measurable components of informational assessment consist of perceptions of a company's resources and knowledge of task demands. The following questions in Shea et al.'s (2014b) scale measure the independent variable *informational assessment*:

- People who work here believe we have the equipment we need to implement this change
- People who work here believe we have the expertise we need to implement this change
- People who work here believe we have the time we need to implement this change
- People who work here believe we have the skills we need to implement this change
- People who work here believe we have the resources we need to implement this change
- People who work here know how much time it will take to implement this change

- People who work here know what resources we will need to implement this change
- People who work here know what each of us has to do to implement this change

Given the use of a 5-point Likert scale with a starting point of 1, the possible range of scores for the informational assessment subscale was 8-40.

Finally, in Weiner's (2009) model, organizational readiness for implementing change (the dependent variable) is the sum of change commitment and change efficacy. The items that measure the independent variables *change commitment* and *change efficacy* in Shea et al.'s (2014b) scale are as follows:

- People who work here are committed to implementing this change
- People who work here are determined to implement this change
- People who work here are motivated to implement this change
- People who work here will do whatever it takes to implement this change
- People who work here want to implement this change
- People who work here feel confident they can keep the momentum going in implementing this change
- People who work here feel confident they can manage the politics of implementing this change
- People who work here feel confident the organization can support people as they adjust to this change
- People who work here feel confident that the organization can get people invested in implementing this change

- People who work here feel confident they can coordinate tasks so that implementation goes smoothly
- People who work here feel confident that they can track the progress in implementing this change
- People who work here feel confident they can handle the challenges that might arise in implementing this change

Given the use of a 5-point Likert scale with a starting point of 1, the possible range of scores for the dependent variable ORIC scale was 12-60.

The following research questions and hypotheses were specified on the basis of the instrument and its measurement:

RQ1: To what extent is change valence score associated with organizational readiness for change score?

$H_0$1: Change valence score is not significantly associated with organizational readiness for change score.

*Ha*1: Change valence score is significantly associated with organizational readiness for change score.

RQ2: To what extent is informational assessment score associated with organizational readiness for change score?

$H_0$2: Informational assessment score is not significantly associated with organizational readiness for change score.

H_a2: Informational assessment score is significantly associated with organizational readiness for change score.

RQ3: To what extent is the combination of change valence and informational assessment score associated with organizational readiness for change score?

$H_0$3: The combination of change valence and informational assessment score is not significantly associated with organizational readiness for change score.

H_a3: The combination of change valence and informational assessment score is significantly associated with organizational readiness for change score.

RQ4: To what extent can organizational readiness for change score be factor reduced to separate change efficacy and change commitment items?

$H_0$4: Organizational assessment score cannot be factor reduced to separate change efficacy and change commitment items.

H_a4: Organizational assessment score can be factor reduced to separate change efficacy and change commitment items.

Additionally, several demographic covariates may be predictors of readiness for change within the organizational readiness construct. In their study of willingness to change in a new technology implementations in Chile, Rojas-Méndez, Parasuraman, and Papadopoulos (2017) reported that demographic variables were better predictors than attitude and perception. While researching impacts of organizational culture on organizational readiness for change, Dhingra and Punia (2016) reported that age, gender, and other demographic covariates were associated with differing levels of organizational readiness for change. In their investigation of readiness for change among school teachers, Kondakci, Beycioglu, Sincar, & Ugurlu (2017) found that tenure was a significant predictor of readiness for change in a school system. Consequently, the

covariates of age, gender, tenure, organization position, and prior experience with change were included in this study to test for the possible effect of these demographics on reported levels of organizational readiness for change by study respondents.

The analyses involved in RQs 1-3 were conducted once for the sample as a whole and again for participants sorted by (a) age; (b) gender; (c) tenure; (d) organizational position, and; (e) prior experience with organizational change. Each of these demographic variables was treated as a covariate (as dummy variable) in RQs 1-3. For RQ 4, a PCA was conducted to determine loadings for change commitment and change efficacy items.

Population, Sample, and Setting

The setting for the study was an organization in the United States that was undergoing a significant organizational change in the form of computerization of all its operations and activities. The project consisted of the installation of operations-specific software hosted on both stationary (wired) terminals and portable (wireless) terminals, as well as the orientation and training of all related personnel.

The population of the study consists of all individuals employed in public or private organizations that may be exposed to organizational change initiatives. The sampling needs of the study were decided by *a priori* sample size analyses. RQs 1-3 were designed as ordinary least squares (OLS) regressions with six predictors, including the main predictor specified for each of the research questions as well as the five covariates of (a) age; (b) gender; (c) tenure; (d) organizational position, and; (e) prior experience with organizational change specified in the model. RQ4 was designed as a PCA, the

sampling needs of which were measured through a combination of Bartlett's sphericity test and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. Because Bartlett's sphericity test and the KMO measure of sampling adequacy are ordinarily treated as *post hoc* measures, and because the *a priori* sample size requirements of an OLS with 6 predictors were assumed to be large enough to meet Bartlett's sphericity test and the KMO measure of sampling adequacy, only OLS was used as an input in the calculation of the *a priori* test (Gholizadeh, Naeini, & Moini, 2015).

The *a priori* sample size calculation was performed in G*Power 3.1.9.2 software. The sample size calculation was two-tailed, as there was no need to specify directionality on RQs 1-3. The standard (Cohen, 2013) effect size, α error probability, and desired power were chosen, and six predictors were entered into the model. Based on these inputs, the recommended sample size for the study was 89 respondents from across the organization (Figure 3).

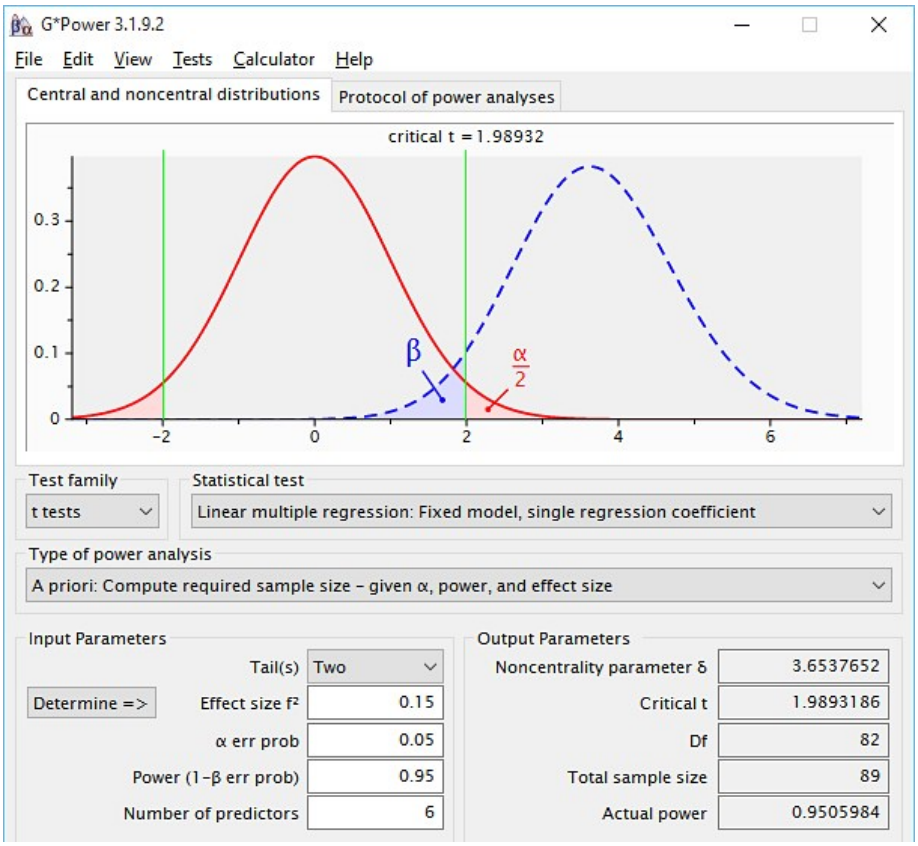

Figure 3. *A priori* sample size analysis.

A *post hoc* sample size calculation, as well as (for RQ4) the results of Bartlett's sphericity test and the KMO measure of sampling adequacy are presented in the fourth chapter of this study as proof of the actual statistical power attained in this study.

Ethical Procedures

Participation by employees in the study site was completely voluntary. Participants were not at any risk at any time during this study. Participants were fully informed of their right to withdraw from this study at any time. The researcher's contact information was made available to all participants to provide the opportunity to communicate questions or further comments.

To maintain confidentiality of all data, I employed an anonymous online survey. As a further safeguard to participant anonymity and confidentiality, the Internet Protocol (IP) tracking feature in the survey interface was disabled throughout the duration of the data collection period.

With respect to the protection of data, only the researcher had access to participant self-response data. Once downloaded from the survey site the raw data was kept in digital form on the researcher's password protected computer. A backup archive copy of participant supplied data was kept on an external USB hard drive locked in a fireproof safe. Paper copies of the data that produced were also stored in a locked safe. Following publication of this study, paper copies of the data were shredded, separated, and disposed of in commercial refuse. Digital data were permanently archived on compact discs and locked in a fireproof safe where they will remain for a period of five years, after which time they will be shredded and disposed of in commercial refuse.

Prior to collection of any data the researcher obtained Institutional Review Board endorsement from the Walden University Institutional Review Board (IRB).

Data Collection

Data collection for this study were from a single organization. Once a formal cooperation agreement was established with the study site a 32-item online survey (including every item from Shea et al.'s (2014b) Organizational Readiness for Implementing Change (ORIC) scale), and five demographic covariate prompts were made available to employees via the site leadership using the organization's internal email system.

The survey was hosted online. It was completely anonymous and the Internet Protocol (IP) tracking feature of the survey interface was disabled to prevent collection of any identifying information. Additionally, the beginning of the survey contained all required participant's rights and confidentiality statements along with an opt-out feature for those who chose to exit and not participate in the study.

Following ten days of response collection, a reminder email was sent by site leadership to employees to remind them of the opportunity to participate. Following the end of data collection the survey collector was closed and the data was exported the data in MS Excel® (2010) format and downloaded it into IBM SPSS® for coding and analysis.

Data Analysis

Data analyses were conducted in order of the research questions in this study. Each discussion below specifies the exact inferential procedures used and how the null hypotheses were tested. Diagnostic procedures were discussed separately, under the headings of reliability and validity.

Data Analysis, RQ1

The first research question was: To what extent is change valence score significantly associated with organizational readiness for change score? In order to answer this research question, change valence score was regressed on organizational readiness for change score. If the *p*-value of the regression of change valence on organizational readiness for change was below 0.05, the null hypothesis was rejected and sufficient evidence was found to support the alternative hypothesis that change valence

score is significantly associated with organizational readiness for change score. After the initial regression test, all the measured covariates were added to the model as follows:

- Gender, organized by two dummy variables:

  0 = male

  1 = female

- Age group, organized by seven dummy variables:

  0 = under 18 years old

  1 = 18 – 24 years old

  2 = 25 to 34 years old

  3 = 35 to 44 years old

  4 = 45 to 54 years old

  5 = 55 to 64 years old

  6 = 65 or more years old

- Tenure, organized by six dummy variables:

  0 = less than one year

  1 = 1 -5 years

  2 = 6 - 10 years

  3 = 11 - 15 years

  4 = 16 - 20 years

  5 = more than 20 years

- Organizational position, organized by four dummy variables:

  0 = Director/Manager

1 = Supervisor/Team Leader

2 = Administrative Employee

3 = Operations Employee

- Prior experience with organizational change, organized by two dummy variables:

  0 = no previous change experience

  1 = 1 previous organizational change experience

  2 = 2 previous organizational change experiences

  3 = 3 previous organizational change experiences

  4 = 4 previous organizational change experiences

  5 = 5 or more previous organizational change experiences

With all the covariates added to the regression model of change valence on organizational readiness for change, a stepwise backward elimination, multiple regression was performed to establish which (if any) of the covariates improved the predictability of the model (see Table 3). Observed changes in the *p*-value, adjusted R2, and β coefficient of change valence as a predictor of organizational readiness for change indicated improvement (if any) of the model. Of the available stepwise methods available for this portion of the analysis, a backward elimination method was preferable due to potential suppressor effects (e.g. a forward method may mask and eliminate a good predictor). Consequently, a forward method may have introduced a Type II error by eliminating a predictor that may have, in fact, improved the predictability of the model.

Table 3

Model for RQ1

	Model
Change valence	X
Gender	X
Age	X
Tenure	X
Organizational position	X
Prior change experience	X

The results of the stepwise backward multiple regression were subsequently used to reach conclusions about the effects of identified demographic covariates on the relationship between change valence and organizational readiness for change model. The results were not, however, used to test the null hypothesis for RQ1.

Data Analysis, RQ2

The second research question was: To what extent is informational assessment score significantly associated with organizational readiness for change score? In order to answer this research question, informational assessment score was regressed on organizational readiness for change score. If the *p*-value of the regression of informational assessment on organizational readiness for change was below 0.05, the null hypothesis was rejected and sufficient evidence found to support the alternative

hypothesis that informational assessment score is significantly associated with organizational readiness for change score. After this test, covariates were added to the model in the same manner as in RQ1 (see Table 4).

Table 4

Model for RQ2

	Model
Informational assessment	X
Gender	X
Age	X
Tenure	X
Organizational position	X
Prior change experience	X

With all the covariates added to the regression of change valence on organizational readiness for change, and a stepwise backward elimination multiple regression was performed on the expanded model to establish which (if any) of the covariates contributed to the improved predictability of the model. Observed changes in the *p*-value, adjusted R2, and β coefficient of change valence as a predictor of organizational readiness for change indicated improvement of the model.

As in the case of RQ1, the results of the stepwise backward multiple regression were subsequently used to reach conclusions about the effects of identified demographic

covariates on the relationship between informational assessment and organizational readiness for change model. The results were not, however, used to test the null hypothesis for RQ2.

Data Analysis, RQ3

The third research question was: To what extent is the combination of change valence and informational assessment scores significantly associated with organizational readiness for change score? In order to answer this research question, the combination of change valence and informational assessment was regressed on organizational readiness for change. If the *p*-value of the regression of the combination of change valence and informational assessment on organizational readiness for change was below 0.05, the null hypothesis was rejected and sufficient evidence found to support the alternative hypothesis that the combination of change valence and informational assessment score is significantly associated with organizational readiness for change. After this test, covariates were added to the model in the same manner as in RQ1 and RQ2.

As in the case of RQ1 and RQ2, a stepwise backward elimination multiple regression analysis was performed on the expanded model to establish the effect of the covariates on the predictability of the model. And, as in the case of RQ1 and RQ2, while the results of the stepwise backward multiple regression were used to reach conclusions about the effects of identified demographic covariates on the predictability of the model, they were not used to test the null hypothesis for RQ3.

Table 5

Model for RQ3

	Model
Informational Assessment + Valence	X
Gender	X
Age	X
Tenure	X
Organizational position	X
Prior change experience	X

Data Analysis, RQ4

The fourth research question was: To what extent can organizational readiness for change score be factor-reduced to separate change efficacy and change commitment items? In order to answer this question, PCA with orthogonal (Varimax) rotation was performed on the items in the organizational readiness for change scale (change commitment + change efficacy). While significance of factor loading was sample size dependent, for a sample size of 50 to 100 a loading of an absolute value of 0.722 was deemed a significant factor loading (Field, 2013, p. 681). If the change efficacy and change commitments items on the organizational readiness for change scale weighed highly (≥ 0.722) on two distinct factors then the null hypothesis for this research question was rejected.

Reliability and Validity

The reliability and validity of the four subscales (change valence, informational assessment, change commitment, and change efficacy) assessed by various means. The construct validity of the organizational readiness for change scale and of its associated subscales was established by Weiner (2009) and by Shea et al. (2014a), who described the development of the organizational readiness for change scale as the end result of a thorough process of empirical testing, expert input, and examination of the literature. In this study, the internal reliability of the subscales were assessed by a measurement of Cronbach's α in SPSS and reported in Chapter 4. A Cronbach's $\alpha \geq 0.75$ was considered as a sufficient level of internal reliability. Shea et al.'s (2014b) scale had a reported Cronbach's α over 0.80, indicating that the scale had sufficiently high internal reliability for use in this study.

Each of the regressions in this study was checked for the assumption of homogeneity of variances. Each regression was accompanied by a reported χ^2 value for the Breusch-Pagan test for heteroscedasticity, which, if demonstrating a p below 0.05, meant that the assumption for heteroscedasticity was met. While SPSS lacked an innate functionality for the Breusch-Pagan test for heteroscedasticity, an *R* extension bundle was installed into SPSS that added a Breusch-Pagan heteroscedasticity function to the SPSS Analyze/Regression submenu, with results ported to a traditional SPSS output window.

Conclusion

The purpose of this chapter was to describe and defend the methodology of this study in as thorough a manner as possible. To do so, the chapter was subdivided into

numerous sections. The first section of the chapter contained an overview of available methodologies and a discussion of the appropriateness of quantitative methodology for this study. The second chapter of this study contained an overview of available quantitative designs and a discussion of the appropriateness of a correlational and case study design. The third section of the chapter contained an overview of instrumentation for this study. The fourth section of the chapter contained a discussion of population and sampling considerations. The fifth section of the chapter contained a discussion of data collection. The sixth section of the chapter contained a discussion of data analysis. The seventh section of the chapter contained a discussion of the potential threats to this study's reliability and validity and how they were managed. The eighth section of the chapter contained a discussion of ethical considerations related to this study. The final section of the chapter contained a summary of the main methodological and design elements of this study.

The orientation of this study was selected as quantitative because Weiner's (2009) model of organizational readiness for change, the theoretical foundation of this study, is empirically testable, implying the use of quantitative methods. In addition, the problem identified in the literature gap was the absence of knowledge about the relationship between organizational readiness for change (a precursor variable) and the strength of change (an outcome variable), also strongly suggesting the use of quantitative methods for investigation and analysis.

Because the various measured phenomena in this study all occur naturally in people and organizations, the use of a correlational design was justified. Because of the

possibility that the dynamics of organizational readiness vary from organization to organization, it was hypothesized that there could be some conceptual blurring between the empirical relationships posted in Weiner's (2009) model and the context of the company in which these relationships are observed to take place, suggesting a case study approach.

An *a priori* sample size analysis identified a required sample size of 89. The instrument selected for this study was Weiner's (2009) measurement of organizational readiness, including subscales to measure change valence and informational assessment. Given the use of a 5-point Likert scale with a starting point of 1, the possible range of scores for the change valence subscale is 6-30, the possible range of scores for the informational assessment subscale is 8-40, and the possible range of scores for the organizational readiness for change scale is 12-60.

The following research questions were specified: (1) is change valence score significantly associated with organizational readiness for change score? (2) Is informational assessment score significantly associated with organizational readiness for change score? (3) Is the combination of change valence and informational assessment score significantly associated with organizational readiness for change score? (4) Can organizational readiness for change score be factor-reduced to separate change efficacy and change commitment items?

RQs 1-3 were designed as linear regressions with six predictors, including the main predictor specified for each of the research questions as well as the five covariates of (a) age; (b) gender; (c) time in organization; (d) organizational position, and; (e)

previous exposure to organizational change, specified in the expanded models. RQ4 was designed as a PCA, the sampling needs of which were measured through a combination of Bartlett's sphericity test and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy.

Data collection for this study was from a single organization. With the assistance of the organization's leadership, an online 32-item survey (including every item from Weiner, 2009's scale as well as demographic prompts) were made available to all employees, regardless of position. Data analysis was conducted using IBM's SPSS statistical analysis package.

In accordance with the methodology described and defended in this chapter, Chapter 4 contains the results of this study, including descriptive, inferential, and diagnostic statistics. Chapter 5 contains a discussion of the findings of this study, as well as recommendations for future research and a discussion of the impact this study may have on creating positive social change within both the field of management, and in the greater community at large.

Chapter 4: Results

Introduction

The purpose of this study was to address the specific question of whether and to what degree expressed levels of change valence and informational assessment (the antecedents of change commitment and change efficacy), along with other demographic covariates, are associated with and affect measured levels of organizational readiness for change (ORC). The purpose of this chapter is to present the statistical results associated with this study.

The research questions of this study were as follows, accompanied by null and alternative hypotheses:

RQ1: To what extent is change valence score associated with organizational readiness for change score?

$H_0$1: Change valence score is not significantly associated with organizational readiness for change score.

H_a1: Change valence score is significantly associated with organizational readiness for change score.

RQ2: To what extent is informational assessment score associated with organizational readiness for change score?

$H_0$2: Informational assessment score is not significantly associated with organizational readiness for change score.

H_a2: Informational assessment score is significantly associated with organizational readiness for change score.

RQ3: To what extent is the combination of change valence and informational assessment score associated with organizational readiness for change score?

$H_0$3: The combination of change valence and informational assessment score is not significantly associated with organizational readiness for change score.

H_a3: The combination of change valence and informational assessment score is significantly associated with organizational readiness for change score.

RQ4: To what extent can organizational readiness for change score be factor-reduced to separate change efficacy and change commitment items?

$H_0$4: Organizational readiness for change score cannot be factor-reduced to separate change efficacy and change commitment items.

H_a4: Organizational readiness for change score can be factor-reduced to separate change efficacy and change commitment items.

To achieve its purposes, the fourth chapter was structured as follows. The first section, the introduction, consisted of a restatement of purpose, research questions and hypotheses, and IRB approval information for this study. The second section contains a discussion of data collection. The third section consists of a presentation of results for each research question. The fourth section consists of a summary and transition to Chapter 5.

IRB Approval

The IRB application for this study was submitted on March 25, 2016. Initially, a conditional approval was obtained on July 7, 2016 due to an unforeseen delay in locating a second community research partner for this study. After agreeing to participate in this

study, the initial research partner withdrew their participation. After an elongated secondary search, a second research site was secured and final IRB approval was received on April 5, 2017, under Walden University IRB Approval No. 07-07-16-0171696.

Data Collection

The community research partner for this study was an organization in the United States that was undergoing a significant organizational change to its operations and activities. The project consisted of the installation of operations-specific software hosted on stationary wired terminals and portable wireless terminals, as well as the training of all related personnel.

Data were collected from 70 anonymous participants within the organization. All data were collected from April 1 to April 30, 2017, through an online survey platform and associated software. A total of 92 individuals were contacted within the organization, meaning that the response rate of this study was $70/92 \approx 76.1\%$. This higher-than-average participation rate reflected a commitment on the part of site leadership to encourage stakeholder participation in the survey and to embrace this study as an integral part of their overall project execution.

Despite an impressive participation rate, the number of participants in this study ultimately fell below the *a priori* sample size recommendation of 89 individuals as defined in Chapter 1. A *post hoc* sample size analysis (see Figure 4) indicated that the achieved statistical power of the analysis was not .95, as intended, but .89. Consequently,

assuming a population greater than 10 million, this study's confidence level was calculated as being 95 ±11.71%.

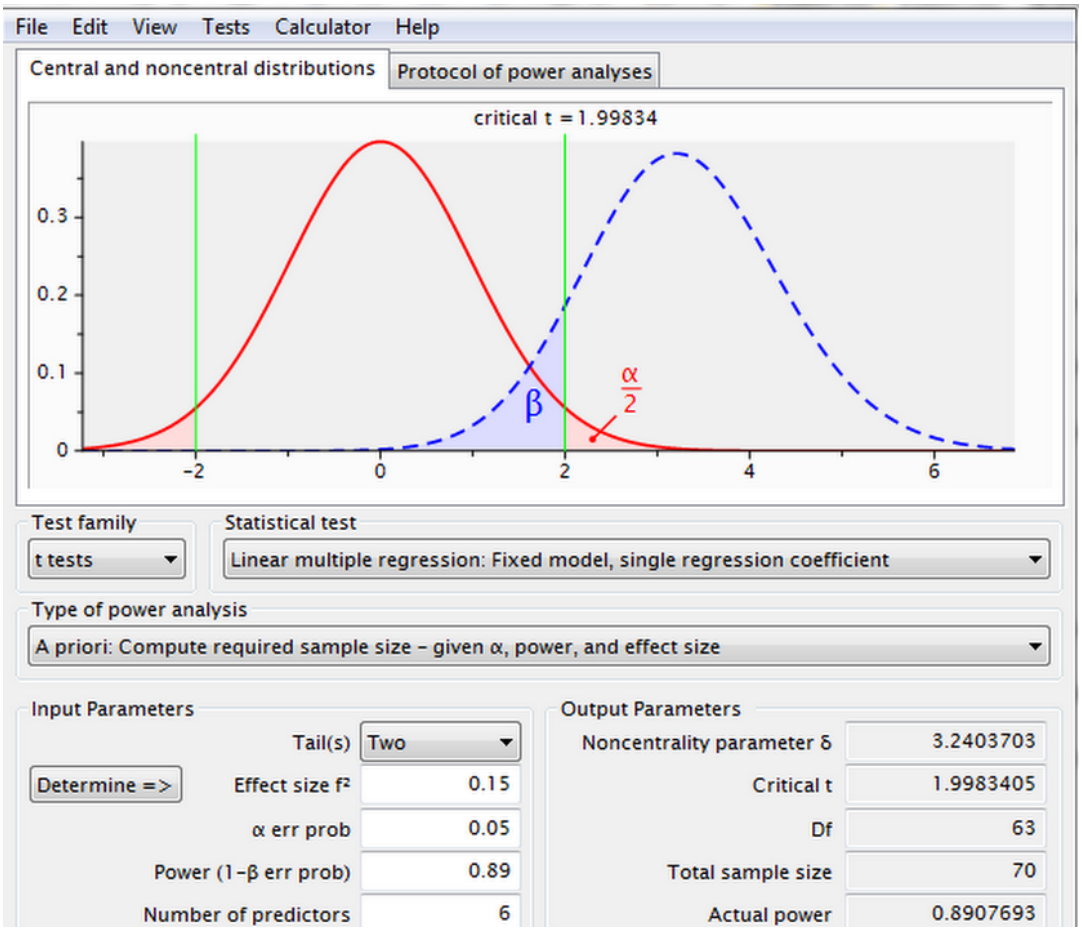

Figure 4. *Post hoc* sample size analysis. Note: The actual power of this study was .89 rather than the desired power of .95.

Demographic Statistics

Of the 70 individuals in the sample, the majority (57.1%) were between 18 and 44 in age. A plurality of the sample (25.7%) was between 25 and 34 in age (Table 6). Of the participants, 39 were male and 31 female (Table 7), and the majority (58.6%) of all participants had between 1 and 5 years in experience (Table 8). A majority (64.3%) of the

participants consisted of operations employees, with the remainder nearly evenly divided between director or manager, supervisor or team leader, and administrative employee status (Table 9). Eighty percent of the sample reported at least one prior organizational change experience, with a plurality (35.7%) having experienced one previous organizational change experience (Table 10). Thus, on the whole, the sample was young, of limited experience within the organization, and the vast majority of respondents expressed at least one experience with organizational change.

Covariate Data Coding

The demographic covariates proposed for inclusion in this study were those of age, gender, tenure, position, and prior experience with organizational change. After data collection, an analysis of the frequencies for each of these covariates suggested the usefulness of some coding changes.

Instead of creating several dummy variables for age, a single dummy variable was created, with 0 = 34 or below and 1 = 35 and above (Table 6). This approach was taken because of the relatively low numbers of participants across the several age categories, suggesting the superiority of consolidating age into a single dummy variable representing younger and older workers.

Table 6

Frequency Distribution by Age of all Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 18	3	4.3	4.3	4.3
	18-24	11	15.7	15.7	20.0
	25-34	18	25.7	25.7	45.7
	35-44	11	15.7	15.7	61.4
	45-54	16	22.9	22.9	84.3
	55-64	6	8.6	8.6	92.9
	65-Over	5	7.1	7.1	100.0
	Total	70	100.0	100.0	

For gender (Table 7), the coding plan was unchanged; as there was a nearly even split between men and women, a single dummy variable could be used for gender, with the coding scheme being 0 = male and 1 = female.

Table 7

Frequency Distribution by Gender of all Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	39	55.7	55.7	55.7
	Female	31	44.3	44.3	100.0
	Total	70	100.0	100.0	

For tenure, a single dummy variable was created, with 0 = 5 years or less of experience and 1 = 6 or more years of experience (Table 8). This approach was taken because of the relatively low numbers of participants in several tenure categories, suggesting the superiority of consolidating tenure into a single dummy variable representing more and less experienced workers.

Table 8

Frequency Distribution by Tenure of all Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 year	9	12.9	12.9	12.9
	1-5 years	41	58.6	58.6	71.4
	6-10 years	13	18.6	18.6	90.0
	11-15 years	4	5.7	5.7	95.7
	16-20 years	1	1.4	1.4	97.1
	20 or more years	2	2.9	2.9	100.0
	Total	70	100.0	100.0	

For the organization position variable (Table 9), the obvious dummy variable coding scheme was 0 = ordinary employees and 1 = leaders or managers.

Table 9

Frequency Distribution by Organization Position of all Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Director/Manager	7	10.0	10.0	10.0
	Supervisor/Team Leader	9	12.9	12.9	22.9
	Administrative Employee	9	12.9	12.9	35.7
	Operations Employee	45	64.3	64.3	100.0
	Total	70	100.0	100.0	

Finally, for change experiences (Table 10), it was decided to encode those with no change experience as = 0 and those with at least one change experience as = 1.

Table 10

Frequency Distribution by Change Experience for all Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No previous organizational change experiences	14	20.0	20.0	20.0
	1 previous organizational change experience	25	35.7	35.7	55.7
	2 previous organizational change experiences	15	21.4	21.4	77.1
	3 previous organizational change experiences	8	11.4	11.4	88.6
	4 previous organizational change experiences	5	7.1	7.1	95.7
	5 or more previous organizational change experiences	3	4.3	4.3	100.0
	Total	70	100.0	100.0	

This approach captured the dichotomy between those who had experienced a change (80%) and those who had not experienced a change (20%). Thus, for purposes of clarity and brevity, the dummy coding for age, position, tenure, and organizational experience was different from the coding proposed in the third chapter, whereas the coding for gender remained unchanged.

Analyses and Results

The results of this study are presented in order of the research questions.

RQ1 Results

The first research question of this study was as follows: To what extent is change valence score associated with organizational readiness for change score? The first step in answering this research question was to apply an ordinary least squares (OLS) regression of change valence score on organizational readiness for change score. The regression of

change valence score on organizational readiness for change score was significant, $F(1, 68) = 268.597$, $p < .001$ as shown in Table 11.

Table 11

Summary of RQ1 OLS Regression Model

				Std. Error	Change Statistics					
Model	R	R Square	Adjusted R Square	of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.893[a]	.798	.795	4.748	.798	268.597	1	68	.000	1.581

Note. a. Predictors: (Constant), Change Valence. Dependent Variable: Organizational Readiness for Implementing Change (Commitment + Efficacy).

The adjusted R^2 of this regression was .795, indicating that 79.5% of the variation in organizational readiness for change score can be explained through variation in change valence score. The regression equation was as follows: Organizational Readiness for Change = (Change Valence × 1.778) + 3.28. Thus, every 1-point increase in change valence score is associated with a 1.778-point improvement in organizational readiness score. Note that the 95% confidence interval for the Beta coefficient of change valence score (Table 12) was from 1.562 to 1.995, whereas the 95% coefficient for the constant was from -1.827 to 8.388.

Table 12

Coefficients for RQ1 OLS Regression Model

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	3.281	2.560		1.282	.204	-1.827	8.388
	Change Valence	1.778	.109	.893	16.389	.000	1.562	1.995

Note. Dependent Variable: Organizational Readiness for Implementing Change (Commitment + Efficacy).

The scatterplot of this relationship (Figure 5) suggested a strong and positive relationship between change valence score and organizational readiness for change score.

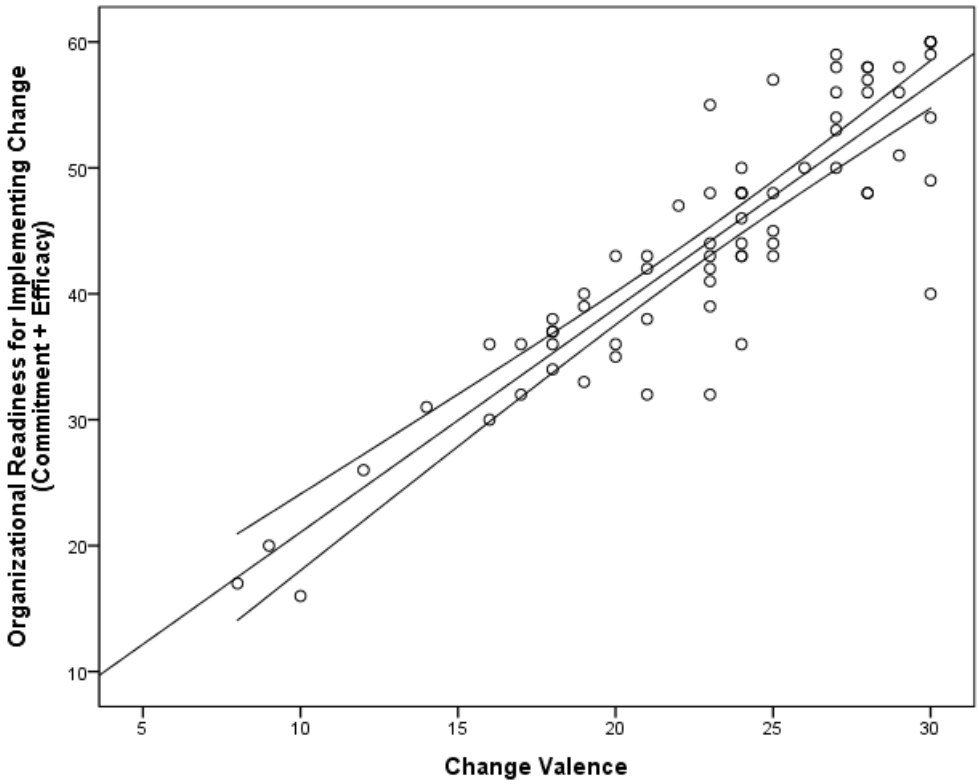

Figure 5. Scatterplot of Organizational Readiness for Change as a function of change valence. *Note*: OLS line of best fit and 95% confidence interval superimposed.

While statistically significant, the regression for RQ1 violated the assumption of homoscedasticity, as is clear from Figure 6. The increasing spread of values from left to right and around the *X* axis is typically indicative of heteroscedasticity.

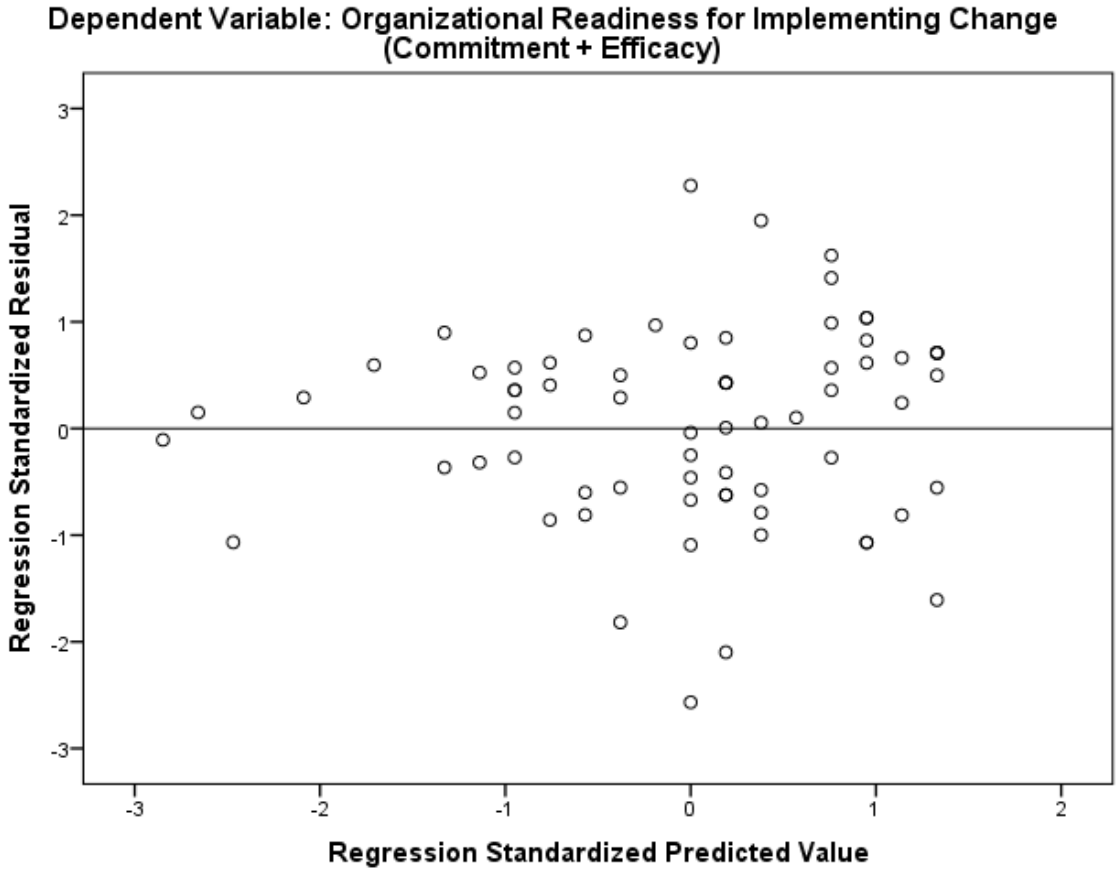

Figure 6. Residuals-versus-fitted values plot of the RQ1 unexpanded model.

The Breusch-Pagan / Cook-Weisberg test was significant, indicating the existence of heteroscedasticity ($\chi^2(1) = 5.796$, $p = .016$). Before making adjustments, the regression was run again with the addition of the covariates of age, gender, tenure, position, and experience with organizational change in a stepwise backward elimination, multiple regression. This expanded regression was significant (Table 13), $F(6, 63) = 52.045$, $p < .001$.

Table 13

Summary of RQ1 Backward Elimination Regression Model

				Std. Error	Change Statistics					
Model	R	R Square	Adjusted R Square	of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.912[a]	.832	.816	4.496	.832	52.045	6	63	.000	
2	.912[b]	.832	.818	4.467	.000	.178	1	63	.674	
3	.912[c]	.831	.821	4.442	-.001	.271	1	64	.605	1.727

Note. a. Predictors: (Constant), Change Experience, Change Valence, Gender, Tenure, Age, Position; b. Predictors: (Constant), Change Valence, Gender, Tenure, Age, Position; c. Predictors: (Constant), Change Valence, Gender, Age, Position. Dependent Variable: Organizational Readiness for Implementing Change (Commitment + Efficacy).

The main point of note in the stepwise backward regression for RQ1 was that, while none of the models emerged as a significant predictor of organizational readiness for change score, the covariate 'position' did emerge as a significant (p = .046) predictor when the 'change experience' and 'gender' covariates were removed in Model 3, as shown in Table 14. The negative nature of its B number (-2.642) indicated an inverse association between 'position' and organizational readiness for change as a function of change valence. That is, as the value of 'position' increased (recalling that "0 = ordinary employee", "1 = manager/supervisor") the association change valence score and the readiness for change score in the models decreased. Despite the emergence of this covariate within Model 3, it did not result in a significant overall change in the expanded model. Similarly, none of the other covariates (age, gender, tenure, change experience) resulted in any significant change in the expanded model.

Table 14

Coefficients for RQ1 Backward Elimination Regression Model

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	5.632	2.817		2.000	.050	.003	11.261
	Change Valence	1.773	.107	.891	16.517	.000	1.559	1.988
	Age	-1.974	1.129	-.094	-1.748	.085	-4.230	.283
	Gender	-1.966	1.096	-.094	-1.794	.078	-4.157	.224
	Tenure	-.751	1.349	-.033	-.557	.579	-3.446	1.943
	Position	-2.361	1.436	-.095	-1.644	.105	-5.231	.508
	Change Experience	.580	1.373	.022	.422	.674	-2.165	3.324
2	(Constant)	5.962	2.689		2.217	.030	.590	11.334
	Change Valence	1.777	.106	.892	16.697	.000	1.564	1.989
	Age	-1.927	1.116	-.092	-1.726	.089	-4.157	.303
	Gender	-1.936	1.087	-.092	-1.781	.080	-4.107	.235
	Tenure	-.693	1.333	-.030	-.520	.605	-3.356	1.969
	Position	-2.342	1.426	-.094	-1.642	.105	-5.190	.507
3	(Constant)	5.895	2.671		2.207	.031	.561	11.229
	Change Valence	1.778	.106	.893	16.806	.000	1.566	1.989
	Age	-2.040	1.089	-.098	-1.874	.065	-4.215	.134
	Gender	-1.998	1.074	-.095	-1.860	.067	-4.143	.147
	Position	-2.642	1.296	-.107	-2.038	.046	-5.231	-.053

Note. Dependent Variable: Organizational Readiness for Implementing Change (Commitment + Efficacy).

The inclusion of the covariates in the model did, however, result in an improvement of the heteroscedasticity problem that occurred in the original unexpanded model (Figure 7). With the addition of the covariates, the Breusch-Pagan/Cook-Weisberg test indicated the absence of heteroscedasticity ($\chi^2(1) = 2.424$, $p = .119$), an acceptable homoscedasticity of errors for the RQ1 expanded model.

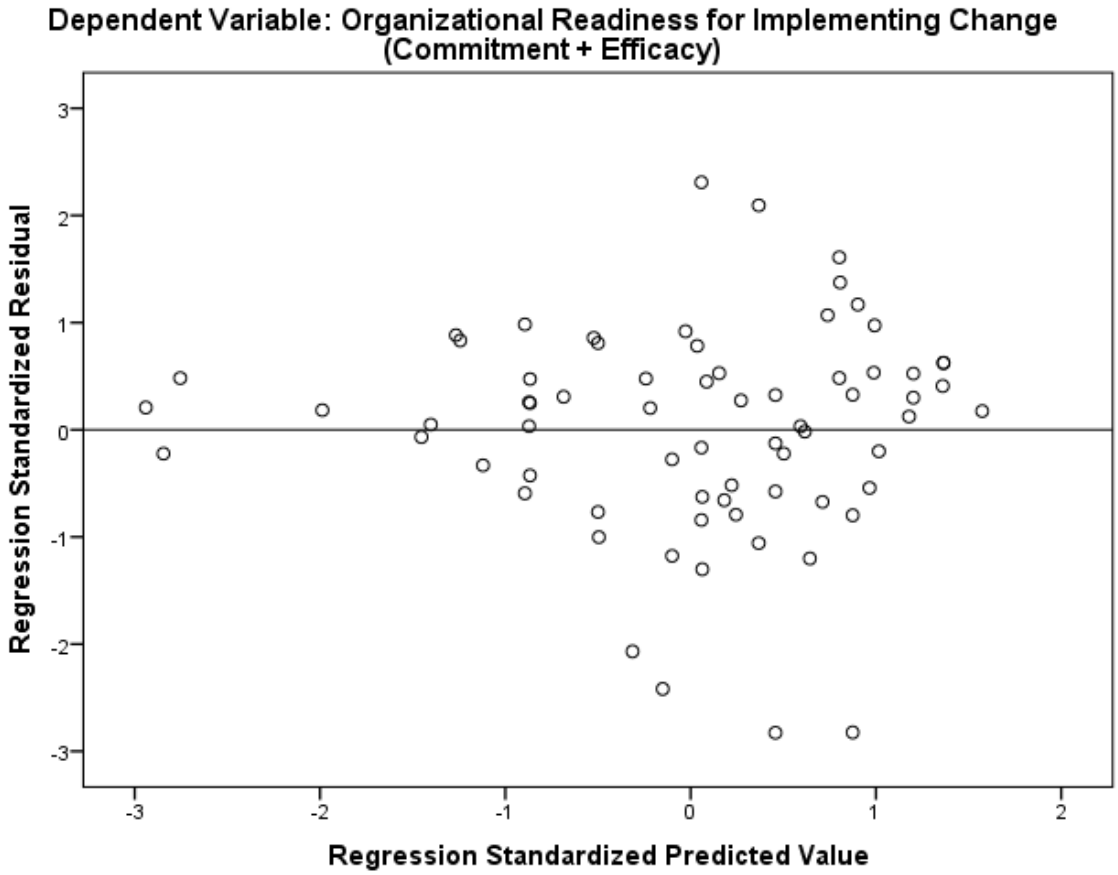

Figure 7. Residuals-versus-fitted values plot of the RQ1 expanded model.

RQ2 Results

The second research question of this study was as follows: To what extent is informational assessment score associated with organizational readiness for change score? The first step in answering this research question was to apply a regression of informational assessment score on organizational readiness for change score.

The regression itself was significant, $F(1, 68) = 605.33$, $p < .001$ (Table 15). The adjusted R^2 of this regression was .898, indicating that 89.8% of the variation in

organizational readiness for change score can be explained through variation in informational assessment score.

Table 15

Summary of RQ2 OLS Regression Model

				Std. Error	Change Statistics					
Model	R	R Square	Adjusted R Square	of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.948[a]	.899	.898	3.357	.899	605.329	1	68	.000	1.538

Note. a. Predictors: (Constant), Informational Assessment (Resource Availability + Task Knowledge). Dependent Variable: Organizational Readiness for Implementing Change (Commitment + Efficacy).

The equation for this regression was: Organizational Readiness for Change = (Informational Assessment × 1.392) + 2.78. Thus, every one-point increase in informational assessment score is associated with a 1.392-point improvement in organizational readiness for change score (Table 16).

Table 16

Coefficients for RQ2 OLS Regression Model

		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	2.780	1.730		1.607	.113	-.672	6.233
	Informational Assessment	1.392	.057	.948	24.603	.000	1.279	1.505

Note. Dependent Variable: Organizational Readiness for Implementing Change (Commitment + Efficacy).

Note that the 95% confidence interval for the Beta coefficient of informational assessment score was from 1.279 to 1.505, whereas the 95% coefficient for the constant

was from -0.672 to 6.233 (Table 16). The scatterplot (Figure 8) suggested a strong and positive relationship between informational assessment score and organizational readiness for change score.

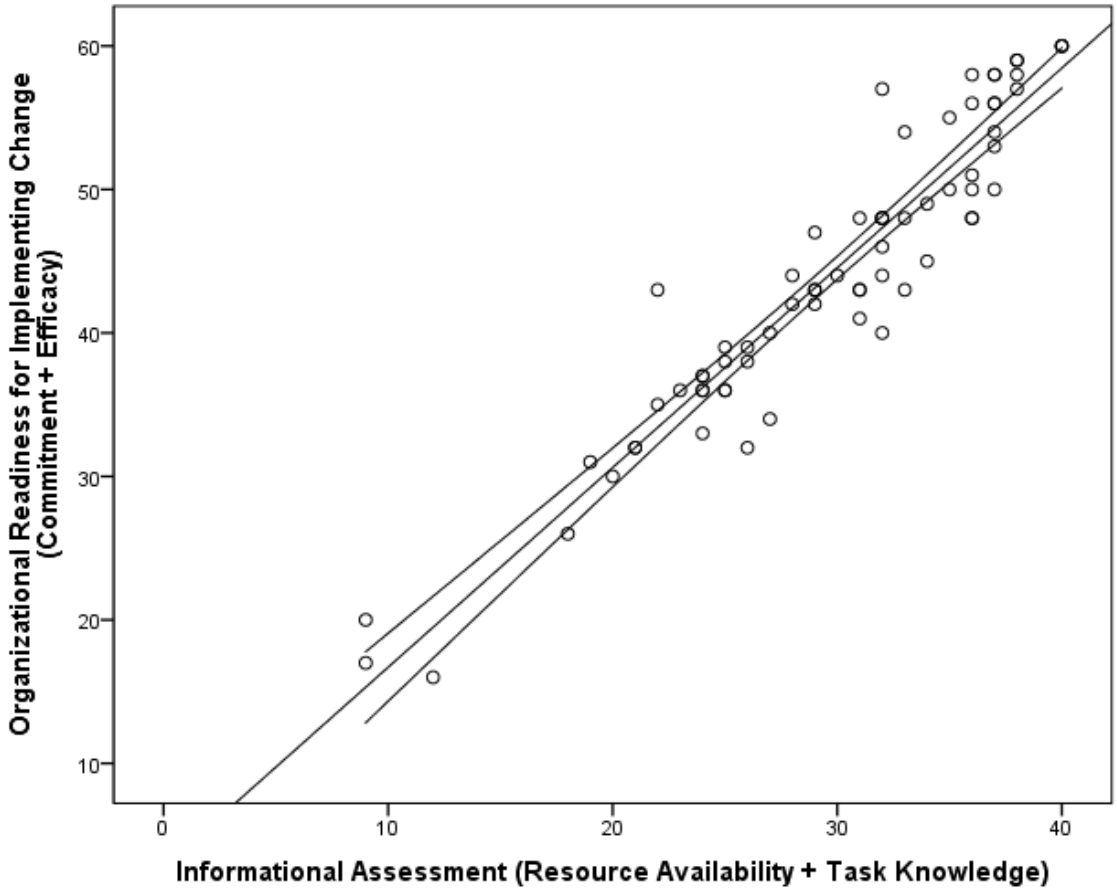

Figure 8. Scatterplot of Organizational Readiness for Change as a function of informational assessment. *Note*: OLS line of best fit and 95% confidence interval superimposed.

The regression for RQ2 did not violate the assumption of homoscedasticity, as illustrated in Figure 9. The Breusch-Pagan / Cook-Weisberg test indicated the absence of heteroscedasticity ($\chi^2(1) = 0.025$, $p = .874$).

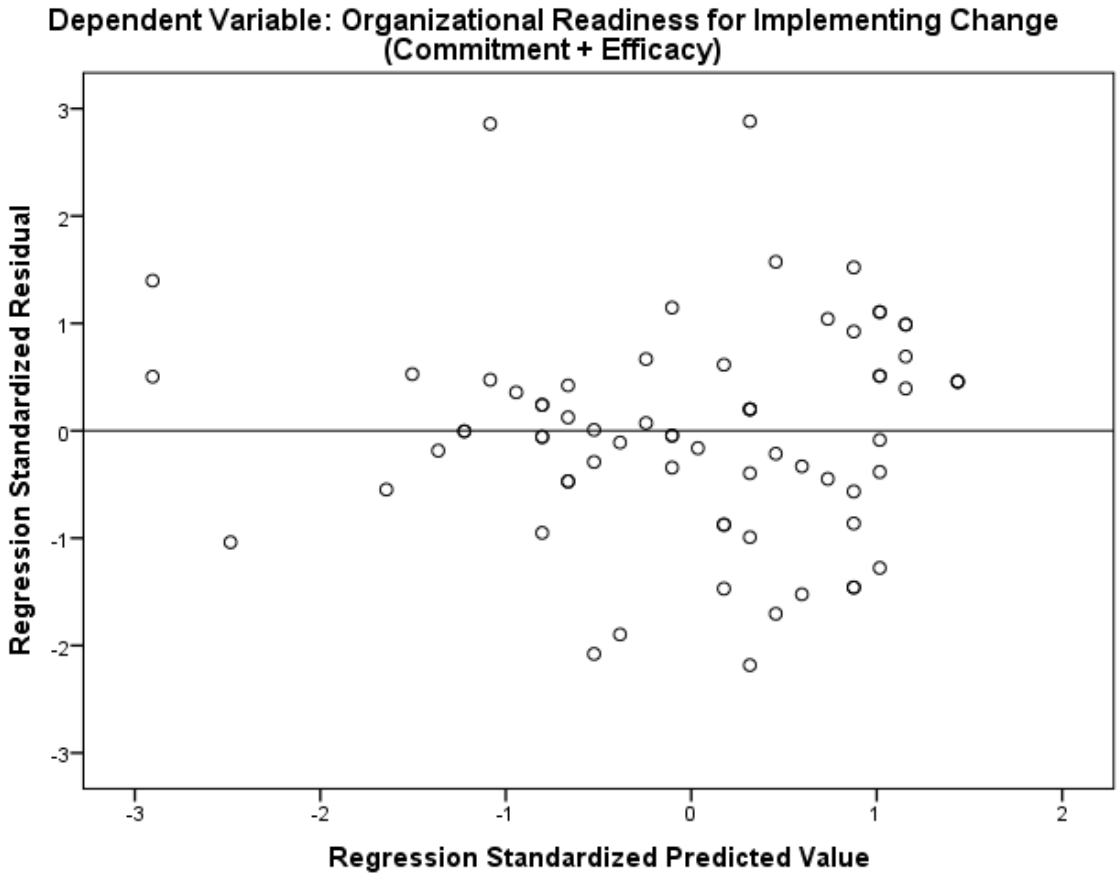

Figure 9. Residuals-versus-fitted values plot of the RQ2 unexpanded model.

The regression was run again with the addition of the covariates of age, gender, tenure, position, and experience with organizational change in a stepwise backward elimination, multiple regression. This expanded regression was significant, $F(6, 63) = 85.11$, $p < .001$, as depicted in Table 17.

Table 17

Summary of RQ2 Backward Elimination Regression Model

				Std. Error	Change Statistics					
Model	R	R Square	Adjusted R Square	of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.953[a]	.907	.899	3.338	.907	103.007	6	63	.000	
2	.953[b]	.907	.900	3.312	.000	.006	1	63	.939	
3	.952[c]	.907	.901	3.298	-.001	.454	1	64	.503	
4	.952[d]	.906	.902	3.285	-.001	.494	1	65	.485	
5	.951[e]	.905	.902	3.276	-.001	.644	1	66	.425	1.744

Note. a. Predictors: (Constant), Change Experience, Informational Assessment (Resource Availability + Task Knowledge), Tenure, Gender, Age, Position; b. Predictors: (Constant), Change Experience, Informational Assessment (Resource Availability + Task Knowledge), Tenure, Age, Position; c. Predictors: (Constant), Change Experience, Informational Assessment (Resource Availability + Task Knowledge), Tenure, Age; d. Predictors: (Constant), Change Experience, Informational Assessment (Resource Availability + Task Knowledge), Tenure; e. Predictors: (Constant), Informational Assessment (Resource Availability + Task Knowledge), Tenure. Dependent Variable: Organizational Readiness for Implementing Change (Commitment + Efficacy).

The internal results of the individual elimination models are presented in Table 18. The main point of note in the stepwise backward regression for RQ2 was that in models 3, 4, and 5, the covariate ‘tenure’ became an increasingly significant ($p < .05$) predictor in the model as the ‘position’, ‘age’, and ‘change experience covariates were removed ($p = .049$, $p = .032$, $p = .040$, respectively), as shown in Table 18. In each of the three models in which ‘tenure’ emerged as a significant predictor, the negative nature of its *B* number indicated that as the value of ‘tenure’ increased (e.g. the tenure of the respondent increased) the association of informational assessment and readiness for change in the model decreased.

Despite the emergence of the ‘tenure’ covariate as significant within Models 3, 4, and 5, it did not result in a significant change in the expanded model. Similarly, none of

the other covariates (age, gender, position, change experience) resulted in a significant change in the RQ2 backward elimination analysis.

Table 18

Coefficients for RQ2 Backward Elimination Regression Model

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	3.236	2.103		1.538	.129	-.968	7.439
	Informational Assessment (Resource Availability + Task Knowledge)	1.385	.059	.943	23.376	.000	1.266	1.503
	Age	-.611	.849	-.029	-.719	.475	-2.308	1.086
	Gender	-.063	.821	-.003	-.076	.939	-1.703	1.578
	Tenure	-1.529	1.001	-.066	-1.528	.131	-3.529	.470
	Position	-.702	1.053	-.028	-.667	.507	-2.805	1.402
	Change Experience	.900	1.018	.035	.883	.380	-1.136	2.935
2	(Constant)	3.196	2.023		1.580	.119	-.845	7.238
	Informational Assessment (Resource Availability + Task Knowledge)	1.385	.058	.944	23.801	.000	1.269	1.502
	Age	-.611	.843	-.029	-.725	.471	-2.294	1.072
	Tenure	-1.537	.988	-.067	-1.557	.124	-3.510	.436
	Position	-.704	1.044	-.028	-.674	.503	-2.790	1.382
	Change Experience	.894	1.008	.034	.887	.378	-1.120	2.908
3	(Constant)	3.266	2.012		1.623	.109	-.753	7.284
	Informational Assessment (Resource Availability + Task Knowledge)	1.381	.058	.940	23.998	.000	1.266	1.495
	Age	-.589	.838	-.028	-.703	.485	-2.264	1.085
	Tenure	-1.805	.900	-.078	-2.006	.049	-3.603	-.008
	Change Experience	.866	1.003	.033	.863	.391	-1.137	2.869

(table continues)

Model		B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95% Confidence Interval for B Lower Bound	Upper Bound
4	(Constant)	2.726	1.853		1.471	.146	-.973	6.425
	Informational Assessment (Resource Availability + Task Knowledge)	1.391	.055	.947	25.110	.000	1.280	1.502
	Tenure	-1.926	.880	-.084	-2.188	.032	-3.683	-.168
	Change Experience	.798	.994	.031	.803	.425	-1.187	2.784
5	(Constant)	3.297	1.707		1.932	.058	-.110	6.703
	Informational Assessment (Resource Availability + Task Knowledge)	1.392	.055	.948	25.209	.000	1.282	1.502
	Tenure	-1.814	.867	-.079	-2.093	.040	-3.544	-.084

Note. Dependent Variable: Organizational Readiness for Implementing Change (Commitment + Efficacy).

RQ3 Results

The third research question of this study was as follows: To what extent is the combination of change valence and informational assessment score associated with organizational readiness for change? This research question required the combination of change valence and informational assessment as predictors. The regression was significant, $F(2, 67) = 310.693$, $p < .001$, as depicted in Table 19. The adjusted R^2 of this regression was .900, indicating that 90.0% of the variation in the organizational readiness for change score can be explained through variation in informational assessment and change valence scores.

Table 19

Summary of RQ3 OLS Regression Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.950[a]	.903	.900	3.320	.903	310.693	2	67	.000	1.502

Note. a. Predictors: (Constant), Informational Assessment (Resource Availability + Task Knowledge), Change Valence. Dependent Variable: Organizational Readiness for Implementing Change (Commitment + Efficacy).

Upon initial examination of these two predictor variables only informational assessment score appeared to be significant (Table 20), B = 1.188 (95% C.I. = 0.909 to 1.468), $p < .001$, while change valence score appeared not to be significant, B = 0.301 (95% C.I. = -0.078 to 0.680), $p = .117$. The constant was 1.908 (95% C.I. = -1.679 to 5.495).

Table 20

Coefficients for RQ3 OLS Regression Model

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	1.908	1.797		1.062	.292	-1.679	5.495
	Change Valence	.301	.190	.151	1.588	.117	-.078	.680
	Informational Assessment (Resource Availability + Task Knowledge)	1.188	.140	.809	8.489	.000	.909	1.468

Note. Dependent Variable: Organizational Readiness for Implementing Change (Commitment + Efficacy).

The Breusch-Pagan / Cook-Weisberg indicated the absence of heteroscedasticity in this OLS model, $\chi^2(1) = 0.075$, $p = .784$ (Figure 10).

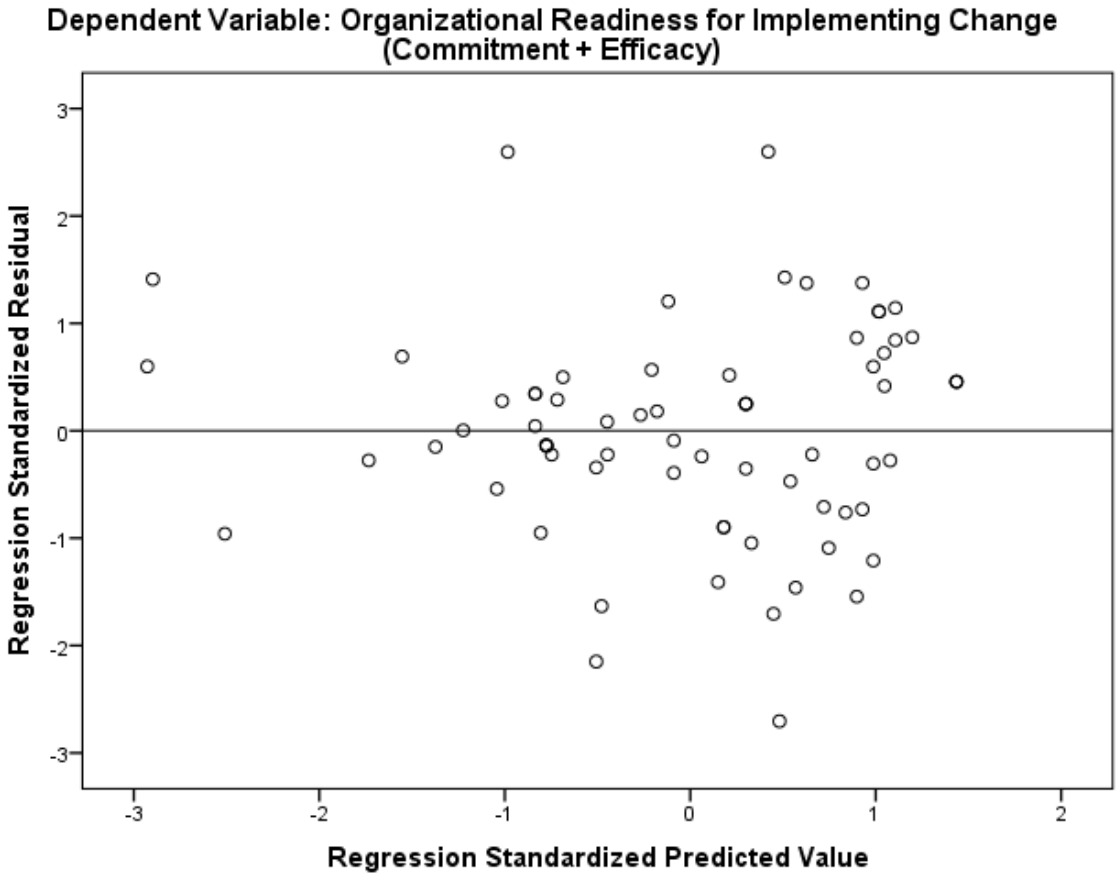

Figure 10. Residuals-versus-fitted values plot of the RQ3 unexpanded model.

However, closer examination of the both the correlation and collinearity statistics in the model (Table 21) revealed a very high correlation between the change valence and informational assessment predictor variables (r = .917). The possibility of multicollinearity was likewise a concern, with the variance inflation factor elevated (VIF = 6.258), and the tolerance (1/VIF) was .160. While Field (2013) suggested that a VIF below 10 is acceptable and tolerances below .2 are possible causes for concern (p. 224), taken together these statistics create a real possibility that multicollinearity may have biased the combined change valence and informational assessment model. The presence

of these conditions called into question the stability of the RQ3 model and made any assessment about whether one predictor is dominant over another a very difficult exercise.

Issues of correlation and multilinearity notwithstanding, the regression was run again as a backward elimination, multiple regression with the addition of the covariates of age, gender, tenure, position, and experience with organizational change (Table 21). This expanded regression was significant, $F(7, 62) = 93.113$, $p < .001$. The adjusted R^2 of the expanded regression was .903, not much greater than the adjusted R^2 of .900 when informational assessment score and change valence score were the sole predictors in the model.

Table 21

Summary, RQ3, Backward Elimination Regression Model

				Std. Error	Change Statistics					
Model	R	R Square	Adjusted R Square	of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.956[a]	.913	.903	3.260	.913	93.113	7	62	.000	
2	.955[b]	.913	.904	3.241	.000	.253	1	62	.617	
3	.955[c]	.912	.905	3.231	-.001	.597	1	63	.443	
4	.954[d]	.911	.905	3.224	-.001	.748	1	64	.390	
5	.954[e]	.909	.905	3.226	-.001	1.069	1	65	.305	1.739

Note. a. Predictors: (Constant), Change Experience, Informational Assessment (Resource Availability + Task Knowledge), Tenure, Gender, Age, Position, Change Valence; b. Predictors: (Constant), Change Experience, Informational Assessment (Resource Availability + Task Knowledge), Tenure, Age, Position, Change Valence; c. Predictors: (Constant), Informational Assessment (Resource Availability + Task Knowledge), Tenure, Age, Position, Change Valence; d. Predictors: (Constant), Informational Assessment (Resource Availability + Task Knowledge), Tenure, Position, Change Valence; e. Predictors: (Constant), Informational Assessment (Resource Availability + Task Knowledge), Tenure, Change Valence. Dependent Variable: Organizational Readiness for Implementing Change (Commitment + Efficacy).

The main point of note in the expanded regression (Table 22) was with all other covariates removed in Model 5, *tenure* emerged as a significant predictor ($p = .029$), but it did not result in any significant change in the expanded model for RQ3.

Table 22

Coefficients for RQ3 Backward Elimination Regression Model

Model		Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	2.560	2.082		1.229	.224	-1.602	6.721
	Change Valence	.396	.197	.199	2.007	.049	.002	.790
	Informational Assessment (Resource Availability + Task Knowledge)	1.114	.147	.759	7.605	.000	.822	1.407
	Age	-.778	.834	-.037	-.933	.355	-2.444	.889
	Gender	-.413	.821	-.020	-.503	.617	-2.053	1.228
	Tenure	-1.360	.981	-.059	-1.386	.171	-3.321	.601
	Position	-1.158	1.053	-.047	-1.099	.276	-3.263	.947
	Change Experience	.792	.996	.030	.795	.430	-1.200	2.783
2	(Constant)	2.348	2.027		1.158	.251	-1.703	6.398
	Change Valence	.375	.192	.188	1.957	.055	-.008	.757
	Informational Assessment (Resource Availability + Task Knowledge)	1.133	.141	.772	8.029	.000	.851	1.415
	Age	-.769	.829	-.037	-.928	.357	-2.425	.887
	Tenure	-1.419	.968	-.062	-1.465	.148	-3.353	.516
	Position	-1.146	1.047	-.046	-1.095	.278	-3.237	.945
	Change Experience	.764	.989	.029	.772	.443	-1.212	2.739
3	(Constant)	2.810	1.930		1.456	.150	-1.047	6.666
	Change Valence	.385	.190	.193	2.020	.048	.004	.765
	Informational Assessment (Resource Availability + Task Knowledge)	1.128	.141	.768	8.028	.000	.847	1.409
	Age	-.711	.823	-.034	-.865	.390	-2.355	.932
	Tenure	-1.335	.959	-.058	-1.392	.169	-3.251	.581
	Position	-1.125	1.043	-.045	-1.079	.285	-3.208	.958

(table continues)

	Model	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B Lower Bound	95.0% Confidence Interval for B Upper Bound
4	(Constant)							
	Change Valence	.367	.189	.185	1.944	.056	-.010	.745
	Informational Assessment (Resource Availability + Task Knowledge)	1.152	.138	.784	8.372	.000	.877	1.426
	Tenure	-1.506	.937	-.065	-1.608	.113	-3.377	.365
	Position	-1.075	1.039	-.043	-1.034	.305	-3.150	1.001
5	(Constant)	2.379	1.759		1.353	.181	-1.133	5.891
	Change Valence	.326	.185	.164	1.762	.083	-.043	.695
	Informational Assessment (Resource Availability + Task Knowledge)	1.172	.136	.798	8.604	.000	.900	1.444
	Tenure	-1.903	.855	-.083	-2.226	.029	-3.610	-.196

Note. Dependent Variable: Organizational Readiness for Implementing Change (Commitment + Efficacy).

RQ4 Results

The fourth research question of this study was as follows: To what extent can organizational readiness for change score be factor-reduced to separate change efficacy and change commitment items? The ORC scale consisted of the following 12 items, of which the first five were change commitment items and the remaining seven were change efficacy items:

1. People who work here are committed to implementing this change.
2. People who work here are determined to implement this change.
3. People who work here are motivated to implement this change.
4. People who work here will do whatever it takes to implement this change.
5. People who work here want to implement this change.
6. People who work here feel confident they can keep the momentum going in implementing this change.

7. People who work here feel confident they can manage the politics of implementing this change.
8. People who work here feel confident the organization can support people as they adjust to this change.
9. People who work here feel confident that the organization can get people invested in implementing this change.
10. People who work here feel confident they can coordinate tasks so that implementation goes smoothly.
11. People who work here feel confident that they can track the progress in implementing this change.
12. People who work here feel confident they can handle the challenges that might arise in implementing this change.

A PCA was conducted on the 12 items using an orthogonal (Varimax) rotation. The first step in the PCA was to determine sampling adequacy for the analysis.

A Kaiser-Meyer-Olkin (KMO) measure was used to provided verification of adequacy. The KMO measure of sampling adequacy was 0.923 (Table 23), indicating an adequate sample. Similarly, all KMO values for the 12 individual items were > .86 (Table 24) which was well above the generally accepted limit of .5 (Field, 2013).

Table 23

Kaiser-Meyer-Olkin Measure of Sampling Adequacy, Bartlett's Test of Sphericity

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.923
Bartlett's Test of Sphericity	Approx. Chi-Square	782.833
	df	66
	Sig.	.000

Next, Bartlett's Test of Sphericity was used to test the suitability of the correlation matrix for factoral analysis. The null hypothesis of Bartlett's test states that the observed correlation matrix is equal to the identity matrix (e.g. the matrix correlations are all equal to 0) and therefore not suitable for factor analysis (Poser, 2017, p. 119). A significant Bartlett's measure would indicate that there are factorable relationships within and between the variables that are worthty of analysis. Bartlett's test of spericity (Table 23) was *significant*, $\chi^2(66) = 782.833$, $p < .001$). Consequently, the null hypothesis was rejected and the test confirmed that correlations between the selected items were large enough to allow for principal components analysis.

Table 24

KMO Anti-image Correlation Matrix for all Extracted Items

	Q7-C1	Q12-C2	Q17-C3	Q22-C4	Q26-C5	Q8-E1	Q13-E2	Q18-E3	Q23-E4	Q27-E5	Q30-E6	Q32-E7
Q7-C1	**.927**[a]	-.292	.006	-.230	-.371	-.159	.168	.103	-.194	-.086	.072	-.012
Q12-C2	-.292	**.855**[a]	-.284	-.314	.282	-.183	-.374	.020	.357	-.129	.085	.030
Q17-C3	.006	-.284	**.919**[a]	.066	-.091	-.479	.089	-.324	-.150	-.133	.171	-.025
Q22-C4	-.230	-.314	.066	**.919**[a]	-.118	-.053	.187	.078	-.262	.003	-.329	.156
Q26-C5	-.371	.282	-.091	-.118	**.938**[a]	.034	-.073	-.160	-.001	-.062	-.053	-.011
Q8-E1	-.159	-.183	-.479	-.053	.034	**.946**[a]	-.117	-.065	.037	.038	-.041	-.054
Q13-E2	.168	-.374	.089	.187	-.073	-.117	**.905**[a]	-.401	-.368	-.044	-.009	.105
Q18-E3	.103	.020	-.324	.078	-.160	-.065	-.401	**.923**[a]	.023	.123	-.351	-.059
Q23-E4	-.194	.357	-.150	-.262	-.001	.037	-.368	.023	**.904**[a]	-.286	-.062	-.386
Q27-E5	-.086	-.129	-.133	.003	-.062	.038	-.044	.123	-.286	**.953**[a]	-.335	-.177
Q30-E6	.072	.085	.171	-.329	-.053	-.041	-.009	-.351	-.062	-.335	**.927**[a]	-.173
Q32-E7	-.012	.030	-.025	.156	-.011	-.054	.105	-.059	-.386	-.177	-.173	**.949**[a]

Note. Measures of Sampling Adequacy(MSA)

Consequently, an extraction analysis was run to determine what the initial eigenvalues were for each component contained in the data. One component had an eigenvalue, λ, over Kaiser's criterion of 1 (λ = 8.465), and accounted for 70.54% of the variance in the data. A second component had an initial eigenvalue of λ = .959, accounting for 7.99% of the variance, as shown in Table 25.

Table 25

Total Variance of Extracted Components

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.465	70.539	70.539	8.465	70.539	70.539	5.207	43.391	43.391
2	.959	7.989	78.528	.959	7.989	78.528	4.216	35.137	78.528
3	.680	5.667	84.195						
4	.434	3.616	87.811						
5	.344	2.870	90.681						
6	.244	2.037	92.718						
7	.194	1.620	94.337						
8	.185	1.539	95.876						
9	.174	1.448	97.324						
10	.140	1.168	98.492						
11	.099	.826	99.318						
12	.082	.682	100.000						

Note. Extraction Method: Principal Component Analysis.

While the eigenvalue of the second component was just under the Kaiser criterion cut-off, a review of the scree plot (Figure 11) indicated an inflexion point that would suggest retaining at least two additional components in the analysis (Field, 2013, p. 652). As Beavers, et al. (2017) noted, that screeplot determination of a precise point of inflexion is a subjective exercise. Deciding whether or not to retain additional items based on such a subjective determination can lead to overextraction of components. In this analysis, the straight-line intersection clearly suggested a slight inflexion occurred somewhere between components 4 and 5, so choosing to extract components 2, 3 and 4 for analysis could have been argued.

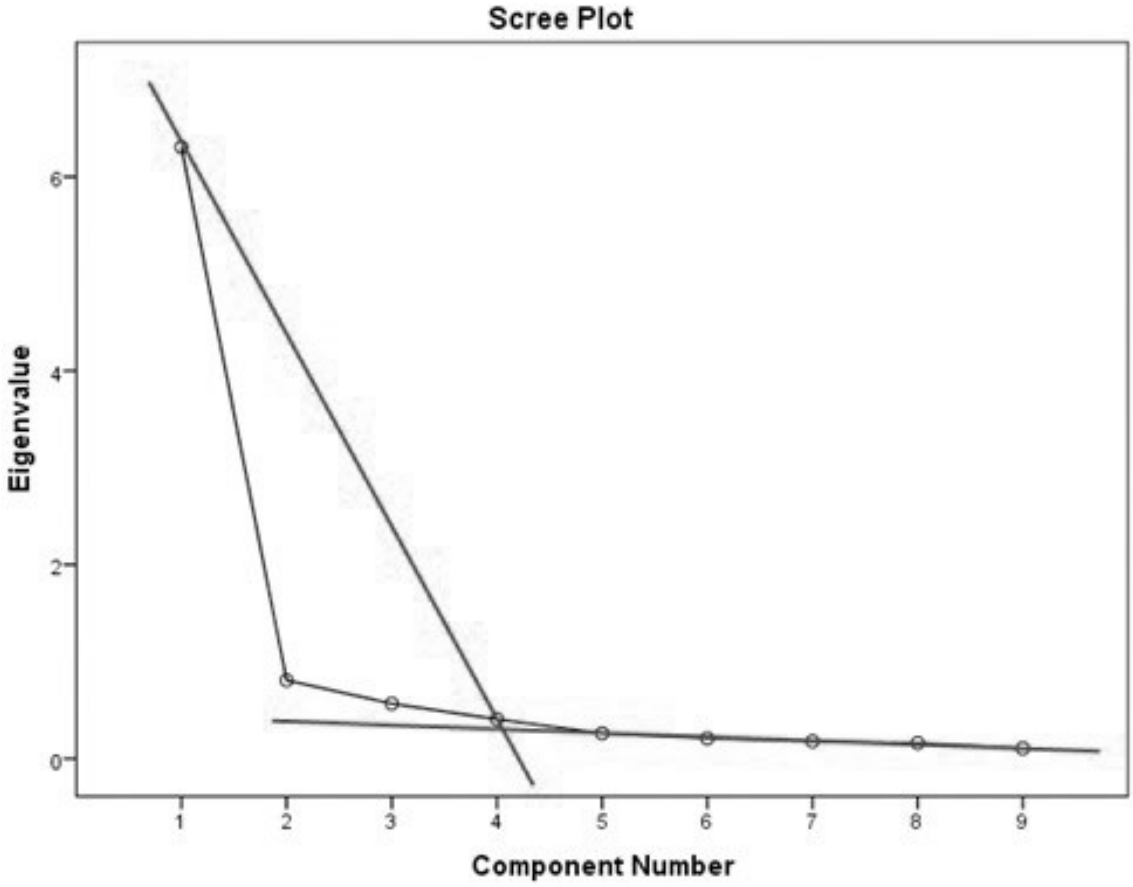

Figure 11. Scree plot of Eigenvalues for all PCA items.

In addtion to the scree plot analysis, a parallel PCA for categorical data with bootstrap resampling was conducted to test for any possible improvements in the eigenvalues of the PCA items. The analysis resulted in improved eigenvalues for both components 1 and 2 (Table 26), with the bootstrapped eigenvalue for component at λ = 1.932, well above the Kaiser criterion. Consequently, based on both the scree plot analysis and the parallell bootstrapped PCA for catagorical data, components 1 and 2 were extracted for PCA.

Table 26

Model Summary for Principal Components Analysis for Categorical Data

Dimension	Cronbach's Alpha	Total (Eigenvalue)
1	.959	8.271
2	.526	1.932
Total	.984[a]	10.203

Note. a. Total Cronbach's Alpha is based on the total Eigenvalue.

Table 27 showed the factor loadings after orthogonal (Varimax) rotation. Typically, factor loadings above a criterion of .30 are considered salient and significant. However, when sampling is small or the eigenvalues are low in the Kaiser criterion, problems of replication are possible, suggesting an adjustment in the factor loading cutoff for the analysis (Kline, 2017, p. 52). Accordingly, due to the relatively small sample (N = 70), and revelation in trial analyses that loadings below .50 resulted in problems of replication among the items, the criterion for this analysis was set at .50. Within that adjusted criterion, items that clustered on the same components suggested that Component 1 represented the ‘change efficacy’ construct (the last seven items in the matrix), while Component 2 represented the ‘change commitment’ construct (the first five items in the matrix).

Table 27

Rotated Component Matrix of the Principal Components Analysis

Item	Component 1 Change Efficacy	Component 2 Change Commitment
People who work here are committed to implementing this change.	.603	.569
People who work here are determined to implement this change.		.923
People who work here are motivated to implement this change.		.795
People who work here will do whatever it takes to implement this change.	.635	.502
People who work here want to implement this change.	.770	
People who work here feel confident they can keep the momentum going in implementing this change.		.819
People who work here feel confident they can manage the politics of implementing this change.	.522	.680
People who work here feel confident the organization can support people as they adjust to this change.	.598	.626
People who work here feel confident that the organization can get people invested in implementing this change.	.857	
People who work here feel confident they can coordinate tasks so that implementation goes smoothly.	.797	
People who work here feel confident that they can track the progress in implementing this change.	.832	
People who work here feel confident they can handle the challenges that might arise in implementing this change.	.838	

Note. Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization; Rotation converged in 3 iterations.

Summary

The results of this study are summarized in Table 28.

Table 28

Hypothesis Testing Outcomes

RQ	Hypotheses	Outcome
RQ1: To what extent is change valence score associated with organizational readiness for change?	$H_0$1: Change valence score is not significantly associated with organizational readiness for change. H_A1: Change valence score is significantly associated with organizational readiness for change.	Null hypothesis was rejected. The regression of change valence on organizational readiness for change was significant, $F(1, 68) = 268.60$, $p < .001$.
RQ2: To what extent is informational assessment score associated with organizational readiness for change?	$H_0$2: Informational assessment score is not significantly associated with organizational readiness for change. H_A2: Informational assessment score is significantly associated with organizational readiness for change.	Null hypothesis was rejected. The regression of informational assessment on organizational readiness for change was significant, $F(1, 68) = 605.33$, $p < .001$.
RQ3: To what extent is the combination of change valence and informational assessment score associated with organizational readiness for change?	$H_0$3: The combination of change valence and informational assessment score is not significantly associated with organizational readiness for change. H_A3: The combination of change valence and informational assessment score is significantly associated with organizational readiness for change.	Null hypothesis was rejected. The regression of change valence and informational assessment on organizational readiness for change was significant, $F(2, 67) = 310.693$, $p < .001$. However, correlation and multicollinearity issues suggested an unstable model.

(table continues)

RQ	Hypotheses	Outcome
RQ4: To what extent can organizational readiness for change score be factor-reduced to separate change efficacy and change commitment items?	$H_0$4: Organizational assessment score cannot be factor-reduced to separate change efficacy and change commitment items. H_A4: Organizational assessment score can be factor-reduced to separate change efficacy and change commitment items.	Null hypothesis was rejected. Principal components analysis extracted two components which loaded favorably on both the change efficacy construct and the change commitment construct.

In summary, the main finding of this study was that informational assessment score is a significant predictor of organizational readiness for change. Although change valence score was also a significant predictor of organizational readiness for change, the significance of change valence declined in the presence of informational assessment in the model. Consequently, informational assessment can be described as moderating the explanatory power of change valence on organizational readiness for change. Additionally, the inclusion of covariates of age, gender, tenure, organization position, and change experience to the models made no significant difference in the outcome of the analyses. The significance of these findings, along with limitations and recommendations of this study are discussed at greater length in Chapter 5.

Chapter 5: Conclusion

Introduction

The purpose of this study was to address the specific questions of whether and to what degree expressed levels of change valence and informational assessment (the antecedents of change commitment and change efficacy), along with other demographic covariates, are associated with and affect measured levels of organizational readiness for change. The purposes of this concluding chapter are to interpret the findings, acknowledge the limitations of this study, issue recommendations for future scholarship and practice, discuss the implications of the findings, and present a summative conclusion of this study. Each of these purposes is addressed in a separate section of the chapter.

Interpretation of the Findings

There were four findings in this study that are subject to individual and collective interpretation.

The first finding of this study was that there was a statistically significant relationship ($p < .001$) between change valence and organizational readiness for change, such that each 1-point increase in change valence score was associated with a 1.778-point improvement in the ORC score. This finding was expected on the basis of expectancy theory and other theoretical frameworks of behavior. Organizational readiness is a measure of behavioral propensity to change (Weiner, 2009), and change valence has been posited (Hackman & Porter, 1968) as one of the two main precursors, along with expectancy, of change propensity and other forms of purposive behavior. In Weiner's (2009) model, change valence is, along with contextual factors and informational

assessment, one of the three predictors of organizational readiness for change; thus, the first finding of this study confirms Weiner's hypothesis that change valence is positively correlated with organizational readiness for change.

More generally, planned behavior theorists such as Ajzen (2015), Foxall (2011), and Nasri and Charfeddine (2012) have argued for the importance of valence as a precursor and predictor of behavior. Not surprisingly, individuals or organizations who actually value change are more likely to embrace and undertake favorable change behaviors (Ajzen, 2015). The first finding of this study confirmed this prediction made by both the planned behavior theorists and expectancy theorists upon whose work Weiner's (2009) and Shea's (2014a) model of organizational readiness for change was based.

The second finding of this study was that there was a statistically significant relationship between informational assessment and organizational readiness for implementing change ($p < .001$), such that each 1-point increase in informational assessment score was associated with a 1.392-point improvement in the ORC score. This finding confirmed an important aspect of Weiner's (2009) and Shea et al.'s (2014a) theoretical model, in which informational assessment is held to be positively correlated with organizational readiness for implementing change.

Both Weiner (2009) and Shea et al. (2014a) described informational assessment as consisting of task demands, resource perceptions, and other factors. According to Weiner, organizational readiness for change increases when individuals within an organization believe that change demands can be met, sufficient resources are available, and the overall situation is favorable to change. There are several other interpretations of

this positive relationship between informational readiness and organizational readiness for implementing change. With reference to the theory of planned behavior (Ajzen, 2015; Nasri & Charfeddine, 2012), there is a cognitive and rational dimension to the relationship between informational assessment and organizational readiness for change. Simply put, as understood from the perspective of planned behavior theory, the behavioral propensity to change is positively influenced by assessments of the likelihood and ease of the change actually occurring.

Planned behavior theorists are not the only theorists who have argued that behavioral changes—or attitudes to such changes—are governed, at least in part, by a rational assessment of how easy and possible such changes are. From the perspective of expectancy theory (Hackman & Porter, 1968), what Weiner (2009) and Shea et al. (2014a) referred to as informational assessment can be understood as a subset of expectancy. In expectancy theory, the predictor of behavioral change is the interaction of valence (how desirable a change is believed to be) and expectancy (how likely individuals believe certain actions to result in the proposed change) (Hackman & Porter, 1968). Conceptually, informational assessment is a form of expectancy, as it represents judgments about how change behaviors will lead to change-related action in a particular organizational climate, given the existence of particular organizational resources.

Therefore, the existence of a positive correlation between informational assessment and organizational readiness for change is an expected finding. Weiner's (2009) and Shea et al.'s (2014a) model, the classic expectancy model (Hackman & Porter, 1968), and theories of planned behavior (Ajzen, 2015; Oreg, Bartunek, Lee, &

Do, 2016) all suggest, albeit with slightly different emphases, that the motivational force of behaviors (and attitudes to such behaviors) is partly dependent on the change agents' perceptions of the ease or likelihood of a change actually taking place.

The third finding of this study was that there was a statistically significant relationship between the combination of change valence and informational assessment (treated as predictor variables) and the outcome of organizational readiness for implementing change. When combined change valence and informational assessment were regressed on organizational readiness for implementing change, both of these predictor variables were individually significant at an alpha of .05. A comparison of standardized beta coefficients for change valence (.199) and informational assessment (.759) indicated that informational assessment possessed substantially greater predictive power over organizational readiness for change than did change valence. This finding seems to be similar to that reported by Hannon et al. (2015), who found that informational assessment was more closely associated with change readiness and change-related effort than was change efficacy, one of two major predictors in Wiener's (2009) ORC and Shea, et al.'s (2014a) ORIC constructs.

There was no *a priori* theoretical reason to believe that either change valence or informational assessment would possess greater explanatory power vis-à-vis organizational readiness for change. The fact that both change valence and informational assessment were significant predictors confirms Weiner's (2009) model but raises questions about how and why informational assessment might possess more predictive power than change valence. However, the respective explanatory power of these two

variables was not predicted by Weiner's model and, consequently, requires a more speculative interpretation.

In an organizational setting, change can be a top-down phenomenon. And, while an organization can respond to the imperative for change in an agile, bottom-up, and creative manner, the actual change is still likely to have been initiated or dictated by senior or top-level leaders (Al-Faouri, Al-Nsour & Al-Kasasbeh, 2014; Chung, Lee & Kim, 2014).

In the framework of planned behavior theory (Ajzen, 2015; Nasri & Charfeddine, 2012) and expectancy theory (Hackman & Porter, 1968), there is an assumption that the decision-making individual is an agent whose valence will be important in determining commitment to, or behavioral enactment of, change. One plausible interpretation of the third finding of this study is that, in an organizational setting, readiness for implementing change is less a matter of how desirable a change is assessed to be—because the change is a *fait accompli*—and more a matter of how likely it might be to implement the change, or what the positive consequences of the change are perceived to be (Vakola, 2014). In other words, because the change is assured by organizational dictate, individual attitudes about the desirability of the change appear to matter less than individual assessments about how practical it might be to enact the change in terms of resource availability, or how individuals or groups within the organization view the positive consequences of the change. This interpretation of the third finding of this study has the advantage of explaining the difference in the standardized beta coefficients of change valence and

informational assessment, while remaining aligned with theoretical predictions made in the literature about planned behavior and expectancy.

However, as was noted in Chapter 4 in the data analysis for RQ3, the high correlation and potential for multicollinearity-related bias that existed within the model (r = .917, VIF = 6.258, 1/VIF = .160), legitimately call into question the stability of the combined model, as well as the accuracy and reliability of its predictions. Consequently, the seeming emergence of the informational assessment variable over the change valence variable, and any predictive power ascribed to it in the model comes with certain caveats, and the predictive power of both variables in the prior, unexpanded OLS regression models in the RQ1 and RQ2 analyses are logically taken as superior indicators for both predictors.

The fourth finding of this study pertained to the existence of a potential separation between the change commitment and change efficacy components of the ORIC scale (Weiner, 2009; Shea et al., 2014b) utilized in this study. The ORIC scale consisted of 12 items, five of which were related to the concept of change commitment and seven which were related to change efficacy. Principal components analysis was utilized to determine whether, in fact, change commitment and change efficacy could be validly extracted from the 12 ORIC questions.

While a low sample rate resulted in diminished eigenvalues for the PCA components, a parallel bootstrap and accompanying analysis resulted in two components being extracted. The results of the PCA indicated that six of the seven items on the change efficacy subscale weighted heavily on the first extracted component, with the

seventh item weighting heavily on the second extracted component. Of the five change commitment items, four weighted heavily on the second component, and the fifth was grouped with the first component, where most of the change efficacy items were.

Overall, the results of the principal components analysis indicated that as Weiner (2009) and Shea et al. (2014a) hypothesized, change efficacy and change commitment were distinct from each other within the construct of organizational readiness for implementing change. This finding is in alignment with the earlier insights of Bandura (1997), indicating that efficacy and commitment are distinct from each other. Bandura argued that self-efficacy referred to an individual's beliefs that he or she could orchestrate and carry out the necessary actions to achieve a desired goal; thus, self-efficacy is distinct from valence, which is an aspect of change commitment, based in the preexisting assessment of the attractiveness of a goal that is decidedly independently of self-efficacy. The fourth set of findings therefore both confirmed Weiner's (2009) and Shea et al.'s (2014a) hypotheses that change efficacy and change commitment were separate components of change readiness and aligned with Bandura's conceptual distinction between self-efficacy and change commitment.

Overall, the findings of this study provided an empirical confirmation of Weiner's (2009) and Shea et al.'s (2014a) model of organizational readiness for change. Weiner posited that change valence and informational assessment would be significant and positive predictors of organizational readiness for change, a hypothesis that was confirmed by the answers to the first and second research questions. Weiner also posited that change commitment and change efficacy were distinct, a hypothesis that was

confirmed by the answer to the fourth research question of this study. The answer to the third research question of this study drew upon Weiner's theoretical framework but did not have specific implications for Weiner's model.

Limitations of the Study

The study had numerous limitations. One general limitation was related to the use of condensed scales to measure the conceptually complex construct of organizational readiness to implement change. Roodman (2007), in discussing Leamer's (1983) critique of econometrics and statistical studies in general, noted of papers with differing results that:

> These papers differ not only in their conclusions but in their specifications as well. Although probably none of the choices are made on a whim; these differences appear to be examples of what Leamer called "whimsy." From Leamer's point of view, the studies together represent a small sampling of specification space. And few include much robustness testing. Without further analysis, it is hard to know whether the results reveal solid underlying regularities in the data or are fragile artifacts of particular specification choices. (Roodman, 2007, p. 56)

This general limitation could apply to Shea et al.'s (2014b) ORIC instrument, which attempts to reduce the construct of organizational readiness for change into 12 questions. It is possible that organizational readiness for implementing change rests upon more factors than are covered in the condensed ORIC instrument.

This study had specific limitations as well. The final sample of 70 individuals failed to meet the criterion of 89 individuals required for a power of .95 at an alpha of .05. As a part of a post hoc power analysis, it was determined that this study possessed an actual power of .89 rather than .95. However, if this study is considered as a case study—which it is, given that all 70 individuals were from the same organization—then this limitation is mitigated because the organization only had 92 employees. Thus, although the reduced power of this study correspondingly reduces its generalizability, as a case study, it is far likelier to have produced results that represent the true organizational consensus. There is still the likelihood that the single case design and low sample of this study negatively impacted the generalizability of the findings across the broader population.

Finally, it is possible that this study was limited by having only five covariates in the data model. It is possible that covariates not included in this study could have altered the findings of this study in a notable manner. One such covariate was individual assessment of leadership. It is possible that the relationships between the predictors of change valence and informational assessment and the dependent variable of organizational readiness for implementing change could have been mediated or moderated by employee assessment of leadership within the organization. If so, then it might have been useful to include a measure of leadership in this study questionnaire and, consequently, the absence of leadership as a covariate—in addition to the absence of an assessment of organizational agility or organizational culture—can be considered collectively as limitation of this study.

Reliability and Validity

While there were several acknowledged limitations, this study was not limited by the internal reliability of the scales and subscales within the ORIC instrument. Cronbach's alpha, α, is the most common method of gauging internal consistency and reliability of scale items, and ultimately measures of how well those items correlate among themselves. Typically, measures of α = .65-.80 are considered acceptable for research in the human dimension domain (Vaske, Beaman, & Sponarski, 2017). In this study, the change commitment scale of ORIC instrument was .900. The change efficacy scale had a Cronbach's alpha of .951. The change valence scale had a Cronbach's alpha of .942. And, the informational assessment scale had a Cronbach's alpha of .947. Summarily, these alphas indicate indicated a strong correlation between survey items in their respective scales.

Moreover, this study's reliability and validity were increased by the sampling properties of the ORIC instrument. Bartlett's test of sphericity ($\chi^2(66) = 782.833$, $p <$ .001) confirmed that correlations between the selected items in ORIC measure were large enough to allow for principal components analysis, and the Kaiser-Meyer-Olkin measure of sampling adequacy was .923, substantially surpassing the minimum acceptable value of .7 for this measure.

Recommendations

A number of recommendations can be made based on the findings of this study. Such recommendations can be divided into recommendations for practice and recommendations for future scholarship.

Practice Recommendations

One general approach to generating recommendations from this study's finding is by applying Dixon's (2000) model of the distinctions between data, information, and knowledge, with the overall goal of turning this study's findings into knowledge:

> Information [is] data that is 'in formation'—that, data that has been sorted, analyzed, and displayed, and is communicated through spoken language, graphic displays, or numeric tables. Knowledge, by contrast, is defined as the meaningful links people make in their minds between information and its application in action in a specific setting. (p. 13)

From an organizational perspective, perhaps the most important consideration related to readiness for implementing change is how to increase such readiness. In an era of agile business and competition, the need to remain at a high level of readiness for change is high (Al-Faouri et al., Shiri, 2014). Accordingly, any of this study's findings that generate information and knowledge about how to increase organizational readiness for change are particularly relevant to business practice.

Perhaps the most important recommendation that can be made on the basis of this study's findings is for organizations to increase the informational assessment components associated with Weiner's (2009) and Shea et al.'s (2014a) ORIC model. The components of informational assessment include task demands, resources, and situational factors. Therefore, to increase organizational readiness for change, organizations could take the following kinds of steps:

- Ensure that the specific aspects of the change are made clear to all personnel.

- Ensure that every employee involved in the change knows exactly what is being requested of him or her.
- Consider resource assessments of employees involved in the change and provide appropriate resources to empower their positive participation in the change.
- Develop a change-oriented culture imbued with values such as innovativeness, agility, and optimism about the future.
- Ensure that employees know why the change is necessary, what the intended benefit of the change is, and what they can hope to gain from the change, thereby increasing employee valence vis-à-vis proposed organizational change.

Following these recommendations is likely to improve informational assessment as well as self-efficacy and change valence, thereby increasing the chances that individual employees possess a higher readiness for implementing change.

Scholarly Recommendations

Due to the centrality of Weiner's (2009) and Shea et al.'s (2014a) model to this study, recommendations for future scholarship can be made on the basis of specific gaps in Weiner and Shea et al.'s (2014b) instrument and accompanying theoretical framework for organizational readiness for implementing change. Weiner mentioned (2009, pp. 72-73) four specific recommendations for improvement of the ORIC instrument.

> (1) Some means of focusing respondents' attention on a specific impending organizational change, perhaps by including a brief description of the change in the survey instrument and by mentioning the change by name in the instructions for specific item sets. (2) Group-referenced rather than self-referenced items (e.g.,

> items focusing on collective commitment and capabilities rather than personal commitment and capabilities). (3) Items that only capture change commitment or change efficacy, not related constructs, like the antecedent conditions discussed previously. (4) Efficacy items that are tailored to the specific organizational change, yet not so tailored that that the instrument could be used in other circumstances without substantial modification (Weiner, 2009, pp. 72-73).

Based on these identified gaps, the following scholarly recommendations can be made for future scholars:

- Ensure that, wherever information about a change is being solicited, a specific change is named; general readiness for change can, on the other hand, be measured by the use of more generic language.
- Generate group assessments by pooling together individual responses (for example, the responses of individuals within a specific department, such as sales) or by asking individuals to describe the state of readiness within a department or an organization.
- Consider the use of efficacy and commitment items from existing, seminal measurements of these concepts.
- Generate efficacy items pertaining specifically to an assessment of organizational change.

There are other scholarly recommendations that can be made on the basis of this study. For example, the variable of organizational readiness for change can be rendered into a dichotomous or polytomous variable. It is possible that attempts to measure

organizational readiness for change as a continuous variable are inappropriate insofar as readiness might be easily understood as a general attitude than as a sliding scale of attitudes. That is, organizations may be ready, unready, or neither ready nor unready to change. If so, then, using a scale such as ORIC or a scale designed to capture general readiness orientations, researchers could examine the precursors of organizational readiness to change with the use of logistic regression models (for approaches in which organizational readiness to change is dichotomized), linear discriminant analysis (for approaches in which organizational readiness to change is divided into three or more categories), or ordinal regression (in approaches in which organizational readiness is defined as an ordinal variable).

If the scope of organizational readiness for implementing change studies is extended beyond a single organization, then an appropriate use of covariates in future studies could include the role of industry. The inclusion of dummy variables for various industries could make it possible to identify how the relationship between the predictors of change valence and informational assessment and the dependent variable of organizational readiness for change might be stronger or weaker in certain industries.

An important question that was unanswered in this study, but that could be examined in future studies, has to do with the role of leadership as a determinant of organizational readiness to change and also a potential mediating or moderating variable insofar as change valence, informational assessment, self-efficacy, and readiness to change are concerned. Accordingly, future scholars are recommended to measure

leadership as a possible covariate in studies whose dependent variable is organizational readiness to change.

Another plausible covariate to include in future studies could be that of organizational agility, which has been described as an important determinant of organizational readiness to change (Al-Faouri et al., 2014).

Implications for Practice

The study's findings have numerous implications for organizational practice. The first implication is that, because of the positive relationships between organizational readiness for implementing change (considered as an outcome variable) and change valence and informational assessment (considered as predictor variables), organizations clearly have to give more thought to improving change valence and informational assessment among employees. In turn, one implication of this inference is that CEOs, human resources managers, and other key personnel have to become more effective in identifying, communicating, and cultivating reasons why employees should feel positively about change. Another implication is that corporate leaders and managers should also pay more attention to ensuring that the resources in place to support change are adequate and appropriate for all stakeholders in a given change implementation.

Organizational change is concerned chiefly with the disruption and realignment of states and statuses within an enterprise or group. And, where most change research has focused the tasks of leadership to generate sustainable levels of valence, commitment, efficacy, and effort there is, as Lewis and Sahay (2017) have stated, a real need to tend as well to the communicative interactions and social constructs of enterprise stakeholders in

generating support for change and sustainability of change. Overall, these implications can be considered in light of the need for organizations to possess a high level of readiness for implementing change. In a time of ubiquitous change, organizations need to be ready for change; if so, then they need to pay more attention to ways of bolstering employees' collective-efficacy, change valence, and informational assessment in some of the ways suggested earlier in this chapter.

Significance to Social Change

This study may contribute significantly to social change since it addresses the issue of employee perceptions, attitudes, and commitment in the organizational change processes. By examining correlation of expressed change readiness levels among employees, leaders may be better informed about the differences in perceptions within an organization and be better equipped to develop change implementation plans that incorporate diverse beliefs and opinions of all stakeholders. In addition, by creating a greater understanding of differences in perception between employees and leadership, the research could contribute to greater inclusion of the broad array of employee insights and experiences that exist within the organization. Such inclusion may not only better inform leadership decisions concerning employee acceptance and commitment to change strategies and readiness, but may also help develop a greater sense of inclusion and worth among all organization participants.

Conclusion

The purpose of this quantitative, correlational research study was to address the specific questions of whether and to what degree expressed levels of change valence and

informational assessment (which are the antecedents of change commitment and change efficacy), along with other demographic covariates, might be associated with and effect measured levels of organizational readiness for change. Four research questions were posed in this study: (1) To what extent is change valence score associated with organizational readiness for change? (2) To what extent is informational assessment score associated with organizational readiness for change? (3) To what extent is the combination of change valence and informational assessment score associated with organizational readiness for change? (4) To what extent can organizational readiness for change score be factor-reduced to separate change efficacy and change commitment items?

Through the application of the ORIC instrument to 70 individuals from a 92-person organization in the United States, the following conclusions were reached. First, it was found that there was a statistically significant and positive relationship between change valence score and organizational readiness for change score. This finding was expected on the basis of expectancy theory and other theoretical frameworks of behavior predicting that commitment to change is partly determined by how desirable the change is perceived to be.

Second, it was found that there was a statistically significant relationship between informational assessment score and organizational readiness for change score. This finding aligned with theoretical assessments that change attitudes were partly dependent on change agents' perceptions of the ease or likelihood of a given change actually taking place.

The third finding of this study was that of a statistically significant relationship between the combination of change valence and informational assessment scores (treated as predictor variables) and the outcome of organizational readiness for implementing change score, with informational assessment positing substantially greater predictive power. The third finding of this study suggests that, in an organizational setting, readiness for implementing change is less a matter of how desirable an already-mandated change is assessed to be and more a matter of the perceived likelihood of executing the change in an appropriate manner.

The fourth finding of this study suggested the existence of separate change commitment and change efficacy components of organizational readiness for implementing change. In general, this study's results supported Weiner's (2009) and Shea et al.'s (2014a) model of change and the bodies of theory—including expectancy theory, self-efficacy theory, and planned theory—upon which Weiner's model drew.

The study's limitations were acknowledged with respect to the low number of covariates included, the reduced Power versus the *a priori* needs of this study, and the possible conceptual shortcomings of the ORIC instrument. Several recommendations were made to allow organizations to increase the levels of change valence, change commitment, informational assessment, and change efficacy of employees and to allow scholars to improve upon the ORIC instrument. The implications of this study were discussed in the context of a climate in which organizational change is ubiquitous and the ability of organizations large and small to properly prepare for and manage change has become an existential question. The demonstrated positive associations of change valence

and informational assessment, both independently and as antecedents to change commitment and change efficacy, are especially relevant given that readiness to change has seemingly become a *sine qua non* for organizations across a broad spectrum of enterprises and industries, around the globe.

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