Applying a Systems Psychodynamics Lens to Examine Group Processes Influencing Organizational Readiness for Change: A Mixed-Methods Approach

Ramya Kumar

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Abstract

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Ramya Kumar

Although current change literature is replete with prescriptive models on how to effectively implement organizational change, empirical evidence indicates that the success rate of organizational change continues to be low. Additionally, while several researchers argue that understanding both overt and covert dynamics in groups and teams is crucial for successfully navigating organizational change, research on the role of covert group processes in OCR is limited. The first goal of this comprehensive research was to address this gap in the literature by using an evidence-based approach to examine the role of both overt and covert group processes in developing organizational change readiness (OCR). This paper used a systems psychodynamics approach to explore the system, i.e., the structural aspects of the organizational change, as well as the psychoanalytic perspectives within that system, such as individual experiences, affective responses to change, and conscious and unconscious group processes pertaining to change. Affect was assessed in three ways – by incorporating visual research methods such as images to access change-related affect and unconscious implicit dynamics, through an affect scale, and via interviews. The second goal of this research was to explore the use of a mixed-methods multiple-case design to collect and analyze data to leverage the strengths of both quantitative and qualitative methods and enable cross-case comparisons to gain a deeper, more nuanced understanding of the topic.

The research findings demonstrated that employees' affective responses to change significantly influenced OCR in both groups. Specifically, the results revealed a statistically significant difference in affect between the two groups as well as significant associations between affect and the change readiness measures of need for change, leadership alignment, and vision for change in both groups. Furthermore, the mixed-methods analysis uncovered the prevalence of covert subgroup dynamics and sources of resistance that likely influenced affect and change efforts in both groups. Finally, the multiple-case design used in this research elucidated the importance of considering contextual and within-group factors such as organizational culture, change history, industry, and employee demographics in developing change readiness.

These findings emphasize the need for organizations to incorporate examining employees' affective response to change as an integral part of their assessment of change readiness. Moreover, it is critical for organizations to utilize both quantitative and qualitative methods to collect data to gain valuable insights into both overt and covert group processes prevalent at the intergroup, intragroup, and organizational levels, and evaluate their potential impact on developing OCR.

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Chapter 1: Introduction

Change is an integral and inherent part of organizational life. Globalization, advances in technology, and a changing workforce have all emphasized the need for organizations to embrace change to survive and stay competitive (Cummings & Worley, 2009; Kotter, 1996). With the recent COVID-19 pandemic further transforming workplaces around the world and accelerating the current trends in digitization, remote work, and workforce transitions (Pew Research Center, 2022), the ability of organizations to navigate change adeptly is critical to organizational success.

Although current change literature encompasses several prescriptive models on how to best implement organizational change, empirical evidence indicates that the success rate of organizational change is quite low and that only one in three organizational change interventions actually succeed (Burke, 2021; Jarrel, 2017). This emphasizes the need for researchers and change leaders alike to gain a deeper understanding of organizational change to improve the likelihood of successful change. However, identifying ways to make change that is both meaningful and sustainable is often challenging (Stouten et al., 2018), a key reason being the fragmented literature on change management. For instance, several widely used practitioner-oriented change models contend that organizational readiness for change is a key precursor to successful change implementation (e.g., Kotter, 1996; Armenakis et al., 1993; Hiatt, 2006). However, change literature does not offer consensus on what constitutes readiness for change and the approach to examine readiness for change (Weiner et al., 2008; Stouten et al., 2018). For example, Armenakis et al. (1983) describe readiness for change as an essential antecedent to behaviors of either support for, or resistance to, any change effort. They further assert that

change readiness encompasses an individual's beliefs, attitudes, and intentions regarding the extent to which changes are needed, as well as the organization's capacity to successfully undertake those changes. Weiner (2009), on the other hand, describes change readiness as organizational members' shared commitment to implement change and their shared belief in their collective capability to do so. Nevertheless, change readiness is one of the most extensively studied change attitudes in change literature (Bouckenooghe, 2010) and is considered an important antecedent to effective change management (Stouten et al., 2018).

Furthermore, many researchers argue that understanding prevalent dynamics in groups and teams - both those that are explicit and easily observable (i.e., overt) and those that are implicit and not readily observable (i.e., covert) are critical to successfully navigating organizational change (Schein, 2015; Noumair, 2013; Noumair et al., 2010; Marshak, 2006). However, research on the role of group dynamics in developing change readiness in organizations is scant. This research aims to address this gap in the literature and focuses on taking an evidence-based approach to examine the role of group processes in developing OCR.

This research uses a systems psychodynamics approach (Gould et al., 2006) to aid this examination. A systems psychodynamics approach (Gould et al., 2006) is a conceptual framework that enables both the examination of the system, i.e., the structural aspects of the organization such as organizational design, policies, processes, roles, etc. and the psychoanalytic perspectives within that system such as individual experiences, conscious and unconscious group processes. There are several reasons why a systems psychodynamics approach is best suited for this research. For instance, change management efforts in organizations often involve modifications to structural aspects such as cultural patterns, organizational design, roles, technology, policies, and procedures. Additionally, the course of change is also disruptive and

evokes as well as heightens anxiety (Krantz, 2006; Obholzer, 2021). While most change management practitioners "make the logical case for change" and rely on rational approaches to navigate change, the non-rational or psychodynamic dimensions of organizational change are often ignored, contributing to failed or ineffective change initiatives (Marshak, 2006). Thus, applying a systems psychodynamics approach (Gould et al., 2006) will enable a comprehensive review of both the structural aspects of an organization as well as the psychoanalytic dimensions of individual and group processes in the system (Gould et al., 2006; Neumann & Hirschhorn, 1999; Kets DeVries et al., 2013; Noumair et al., 2017). Further, this research draws from the Burke-Litwin Model of Organizational Performance and Change (Burke & Litwin, 1992) to examine the structural aspects of change readiness and the X-Ray Vision tool (Noumair et al., 2017) to uncover unconscious and hidden group dynamics that are less observable, yet impactful in developing change readiness in organizations.

Also, this research focuses on the group-as-a-whole (Wells, 1995) level of analysis. Wells (1995) describes group-level processes as those that refer to the behavior of the group as a social system and an individual group member's relatedness to that system such that changes in one part of the system affect the whole. A group-as-a-whole level of analysis refers to studying a group of individual members, not just as separate identities but as a collective unit whose dynamics, patterns, norms, and behaviors cannot be fully understood by examining the individual members alone. Further, the group-as-a-whole level of analysis offers a framework for understanding behaviors at the intrapersonal, interpersonal, group, intergroup, and inter-organizational levels (Wells, 1995). Thus, this level of analysis is valuable in this research, where the key focus is to examine group dynamics that influence change readiness in organizations.

Lastly, empirical studies using a systems psychodynamics lens have predominantly utilized qualitative research methods such as interviews and focus groups to collect, categorize, and analyze data (Lawlor & Sher, 2023). However, while qualitative methods aid an in-depth understanding of how people perceive and deal with change and help gather rich data and descriptions from people in various situations and roles (Myers, 2009), the ability to generalize the results to many is diminished (Creswell & Plano Clark, 2018). On the other hand, quantitative methods can be an efficient means to collect change-related data from a larger population (e.g., organization-wide) in relatively shorter time frames and allow generalization of results, but might not enable a nuanced understanding of the context and the topic studied. Mixed methods research provides a way to leverage the strengths of both qualitative and quantitative research, offset the limitations of each of these methods, and offer more evidence for examining a research problem than either qualitative or quantitative research alone (Creswell & Plano Clark, 2018). For these reasons, this research explores a mixed methods approach to collect, categorize, and analyze data.

Specifically, this research uses a survey questionnaire and one-on-one interviews for data collection. Surveys not only allow the collection of quantitative data and qualitative data but also enable data comparison across groups. Further, surveys are especially useful in making meaningful inferences about the distributions of knowledge, attitudes, and behaviors in groups and examining variability in such knowledge, attitudes, and behaviors (Maruyama & Ryan, 2014). Such inferences are especially applicable to this research as it entails the examination of change-related awareness, attitudes, and behaviors. However, although a survey method may be applicable to the design of this research, to the researcher's knowledge, there is no precedence of using surveys in examining group processes through a systems psychodynamics frame. Thus, a

pilot study (Kumar, 2024) proposing a survey instrument that enabled such an examination was conducted to explore the use of survey-based approaches in change studies applying a systems psychodynamics conceptual frame. A 20-item survey was developed to assess the overt, socio-structural aspects and potentially uncover covert and unconscious group processes influencing organizational readiness for change. Survey items were developed based on a review of change literature and included both items assessing the five change readiness measures as informed by change literature and items assessing affect (feelings and emotions of organizational members pertaining to change). Visual images were used to tap into participants' implicit and unconscious affective responses to change. Further, the survey included seven optional open-ended questions as follow-up questions, inviting participants to reflect on their response choices and provide open-ended responses.

The results of the pilot study (Kumar, 2024) indicated that the survey design and instrument not only enabled an understanding of the social structural aspects examined in this study but also provided valuable insights into some of the unconscious aspects of group processes. For example, a quantitative analysis of the survey items pertaining to affect revealed intra-group variation in affective responses to change, and a qualitative analysis of the open-ended responses on affect offered metaphors and insights that shed light on the prevalence of unconscious dynamics and potential sources of resistance. Additionally, the pilot study identified the need to add additional survey items to the questionnaire and collect demographic information such as years of experience in the organization to enable the researcher to understand the audience better, identify any skewed demographic information, and provide contextual information (e.g., years of experience in the organization could shed light on the participants' awareness of the change history in the organization). Furthermore, it highlighted the opportunity

to complement the survey with a qualitative method such as interviews to provide a more nuanced, richer narrative of the covert and unconscious group processes identified from the quantitative responses and help identify sources of resistance and potential defense mechanisms at play that could impede change readiness. Thus, a mixed-methods approach using a survey questionnaire and one-on-one interviews is used in this research to help gain a comprehensive understanding of the overt processes and an in-depth understanding of the covert and unconscious group processes. The revised survey questionnaire is available in Appendix A and the visual images used in the survey is available in Appendix B.

In sum, the two main goals of this research are to examine the role of group processes in developing change readiness in organizations and to explore the use of mixed methods design as a potential research method to collect, categorize, and analyze data when using systems psychodynamics as the conceptual frame.

The following research questions *(RQ)* guide this research.

RQ1. How do overt and covert group processes influence OCR?

RQ2. How do quantitative results from survey responses help examine the role of group processes influencing OCR?

RQ3. How do qualitative results from interviews and open-ended survey responses help examine the role of group processes influencing OCR?

RQ4. How might a mixed methods approach contribute to a more comprehensive and nuanced understanding of the role of group processes in developing OCR?

It is important to note here that this research is an exploratory study that focuses on an in-depth investigation of the role of overt and covert group processes in developing OCR - aspects that have been rather under-studied in current change readiness literature. Thus, unlike

confirmatory research, this research is not designed to confirm or reject hypotheses about the role of group processes in developing OCR. Rather, this exploratory research is guided by the above research questions with a key focus on gaining insights into the topic studied and potentially generating hypotheses that can be used in future research.

The next chapter presents a comprehensive literature review on the areas of research pertinent to this thesis and discusses the conceptual frame and organizational models used in this research.

Chapter 2: Literature Review

This chapter aims to provide a conceptual background and a critical review of the areas of research pertinent to this thesis. First, this chapter will present a comprehensive overview of the current research on OCR and discuss various measures of OCR as informed by change literature. Second, this chapter emphasizes the need to consider organizations as social systems and adopt an interdisciplinary approach to assessing change readiness by drawing from group literature and change research to gain theoretical and research insights. In particular, this chapter discusses the importance of examining the various implicit social defenses in organizations in the context of change. Finally, this chapter demonstrates the importance of using a systems psychodynamics conceptual frame and highlights the rationale for using the group-as-a-whole level of analysis to aid such an examination. Specifically, it elaborates on using the Burke-Litwin model and the X-ray Vision tool as organizational models in this research that enable a comprehensive and systematic framework to investigate both the rational, overt, and explicit group processes as well as the irrational, covert, and implicit group processes influencing OCR.

Organizational Change Readiness

Lewin's seminal work on organizational change encompasses the three-stage model of change (1951) - *unfreezing*, *changing*, and *refreezing,* and serves as a foundation for most subsequent theories and models of change. The *unfreezing* stage aims to create the necessary motivation to change, *changing* focuses on introducing new information, and learning and doing things differently, and r*efreezing* comprises steps to support and reinforce change. Armenakis et al. (1993) argue that change readiness, similar to *unfreezing*, "is reflected in organizational members' beliefs, attitudes, and intentions regarding the extent to which changes are needed and the organization's capacity to successfully make those changes" (pp. 681-682). Additionally,

they posit that readiness is a key precursor to the behaviors of either support for or resistance to a change effort. That is, change readiness may increase the potential for change efforts to be more successful while preempting the likelihood of resistance to change.

One of the earliest conceptualizations of change readiness was a change formula from David Gleicher (Beckhard & Harris, 1987), who identified three factors critical for change to occur. The formula is as follows:

$$C = A \times B \times D > X$$

Accordingly, change (C) will likely occur only when the product of *dissatisfaction* with the way things are (A), a clear *vision* of where the organization needs to go (B), and the *first steps* in the right direction (D) are greater than the *cost of change* (X). That is, unless these three factors are in place and unless the multiplicative effect of these factors outweighs the cost of change, not just financially but also emotionally and mentally, change will not occur. However, a limitation of this conceptualization is that the authors do not quantify A, B, D, and X. Rather, it was left to the discretion of the user to determine the quantitative values of each of these factors, thus making it hard to generalize across different contexts.

Subsequent change readiness literature and practitioner models alike draw much from Lewin's change model and Gleicher's formula. However, change readiness literature is rather fragmented and lacks consensus regarding the various factors contributing to change readiness, models, processes, assessment, and timing of such assessment (Weiner et al., 2008; Stouten et al., 2018). Recent systematic reviews of both findings from scholarly research on organizational change and widely-used practitioner-based organizational change models (e.g., Stouten et al., 2018; ten Have et al., 2016; Albrecht & Roughsedge, 2023) attempted to identify any areas of convergence and synthesize steps in change management backed by scientific evidence. These

articles shine a light on five key measures pertaining to OCR identified across the models. A brief discussion on each of the five change readiness measures is provided below. Table 1 below offers a summary table of these five measures.

Table 1

Change Readiness Measures and Key Indicators

Change Readiness Measure	Key indicators as informed by change literature
Need for Change (e.g., Kotter, 1996; Armenakis et al. 1993; Burke, 2018; Hiatt, 2006)	• Employees believe that a need for change exists • Employees perceive that the proposed change will benefit the organization and address the needs or gaps • Employees believe that the change could be implemented • Employees perceive that the proposed change will benefit them
Leadership Alignment (e.g., Beer, 1980; Kanter, 1999; Kotter, 2012)	• Employees believe that leaders are committed to and fully support the change initiative • Employees believe that leaders are serving as role models for all organizational members on the changes • Employees believe that there is alignment in the leadership function on the change initiative
Vision for Change (e.g., Beer, 1980; Kanter et al., 1992; Kotter, 1996, 2012; Burke 2018)	• Employees believe that they have clarity on the organization's vision for change • Employees believe that they have clarity on direction and next steps of the change initiative
Change Communication (e.g., Beer, 1980; Kotter, 1996; Hiatt 2006)	• Employees believe that the communication on change is timely, periodic, and consistent with what they hear from informal sources • Employees believe that communication on change is credible and transparent
Mobilizing Energy for Change (e.g., Beer, 1980; Cooperrider & Srivastava, 1987; Kanter et al., 1992; Kotter, 1996; Burke, 2018; Hiatt 2006)	• Employees believe the organization's change history is an indicator of success/failure of the current change initiative • Employees believe they have the skills and abilities to implement the change initiative • Employees believe they have more agency in the change process • Employees trust leaders to have their back • Employees feel motivated to implement the change

Need for Change

Several models (e.g., Lewin, 1951; Beckhard & Harris, 1987; Armenakis et al., 1993; Kotter, 1996; Burke, 2018; Hiatt, 2006) emphasize the importance of creating awareness of the need for change, communicating the reasons for such change, and the consequences of failing to do so appropriately. For instance, Armenakis et al. 's (1993) readiness model posits that *discrepancy* is imperative for creating change readiness. *Discrepancy*, similar to Gleicher's *dissatisfaction* factor, pertains to creating and communicating the belief that change is needed for the organization to move from the current state to the desired end state. Additionally, Armenakis and Harris (2009) assert that *appropriateness*, "the belief that a specific change designed to address a discrepancy is the correct one for the situation," along with *discrepancy*, plays a vital role in increasing change readiness (p. 129).

Furthermore, a content analysis of empirical and field research on change efforts by Armenakis and Harris (2009) underscored the importance of considering the change recipient's perspective in creating a need for change and highlighted *valence* as critical to creating change readiness. Armenakis and Harris (2009) describe *valence* as "the belief that the change is beneficial to the change recipient; there is something of benefit in it for them" (p. 129). Additionally, Oreg (2006) argues that a change recipient's attitude towards change involves an interplay of cognitive, affective, and behavioral components. The cognitive component involves how an individual thinks about change (e.g., What is the importance of change? Will the change benefit my organization, workgroup, and me?). The affective dimension involves the individual's feelings about change (e.g., anxiety, fear, enthusiasm, anger). The behavioral component encompasses how the individual behaves in response to change (e.g., complaining about it, embracing it). Piderit (2000) further notes that individuals operate in all these dimensions and

may be ambivalent in all three. For example, an individual might be excited about change but fearful about not being able to step up to the requirements of change. Similarly, an individual might agree on the need for change but not make any necessary efforts to implement change. Empirical research (e.g., Oreg, 2006; Giangreco & Peccei, 2005) indicates that individuals' perceptions of both organizational and personal implications and outcomes of change are influential in guiding their reactions to change. Specifically, research highlights perceived loss of control, perceived threats to identity, status, or social relationships, fear of the unknown, lack of trust in one's capability to accomplish change, lack of trust in management, and insufficient communication as potential sources of resistance to change (Oreg, 2006; Erwin & Garman, 2010; Chreim, 2006).

Several change models also assert the need to create a sense of urgency early on to help develop change readiness. For example, Kotter (1996, 2012) asserts the need to create a sense of urgency around a strategic and emotionally exciting opportunity. Similarly, Lewin (1948) emphasizes the need to generate a sense of anxiety that members can transform into motivation for change. However, others disagree and warn that overselling change by stressing the urgency of change might increase fear, reduce credibility (Hiatt, 2006), and fail to generate a felt need for the change (Kanter et al., 1992). Empirical evidence for creating a sense of urgency to help develop change readiness is limited (Stouten et al., 2018; ten Have et al., 2016). Further, ten Have et al. (2016) emphasize the importance of context and the reasons behind any change that is initiated to determine whether there is a need to create a sense of urgency. For instance, while creating some sense of urgency could contribute to change readiness when there is a real urgency to change, establishing an artificial crisis might only contribute to the desired behavior in the short term.

In sum, while creating and communicating the need for change is underscored by scientific evidence, the focus on creating an urgency for change is not supported by research (Stouten et al., 2018; ten Have et al., 2016).

Leadership Alignment

A second measure of change readiness that emerges from the literature is the role of leadership in successfully implementing and sustaining change. Several organizational scholars (e.g., Schein, 1987; Kanter, 1999) assert the importance of strategic leadership in increasing the legitimacy of change, securing sufficient resources for the change to succeed, and enhancing top management's as well as members' buy-in (Kanter et al., 1992). A systematic analysis of empirical and field research by Armenakis and Harris (2009) underscore the importance of *principal support* in creating change readiness. "*Principal support* is the belief that the formal leaders (vertical change agents) in an organization are committed to the success of a change and that it is not going to be another passing fad or program of the month" (Armenakis & Harris, 2009, p. 129).

Several cross-sectional studies further indicate that leadership support increases positive change perception, enhances commitment to change, and helps members cope with change (ten Have et al., 2016). Additionally, role modeling behaviors demonstrated by leaders seem effective in building members' trust in management, another key factor contributing to developing a favorable attitude towards change and facilitating better acceptance of the reasons provided for change (Rousseau & Tijoriwala, 1999; Rousseau & ten Have, 2022; Albrecht & Roughsedge, 2023).

Further, many prescriptive models (e.g., Beer, 1980; Kotter, 1996; 2012) also stress the role of a guiding change coalition in overseeing the change process. However, the composition

and task of the guiding coalition vary across models. For instance, Beer (1980) refers to the guiding coalition as a group comprising both management and other stakeholders who primarily conduct the diagnosis of the problem and identify alternative solutions. Alternatively, Kotter (1996; 2012) envisions the guiding coalition as mainly comprising leaders and line managers striving to further a sense of urgency, advance a shared understanding of the need for change, secure members' buy-in, and determine strategic actions to support change. However, while empirical research emphasizes the need for leadership alignment in creating OCR, scientific evidence on the role of the guiding coalition in developing OCR is limited (Stouten et al., 2018; ten Have et al., 2016).

Vision for Change

Formulating a clear, compelling vision for change is yet another measure of change readiness reiterated by change literature and popular management practices. Accordingly, a clear and compelling vision for change is one that expresses the end goal or state (Kanter et al., 1992), translates opportunities into action, appeals to a broad range of stakeholders (Kotter, 2012), is perceived as feasible by change recipients, is emotionally appealing, and easy for leaders to communicate (Kanter et al., 1992).

Research on goal setting highlights the importance of setting clear, articulate goals in motivating members to implement changes (Locke & Latham, 2006). Empirical evidence indicates that group goals focusing on shared interests have more favorable effects on collective outcomes than individual-centric goals to the extent that such goals address stakeholder needs (Kleingeld et al., 2011). Hence, it could be argued that crafting a clear, compelling vision for change is imperative to developing change readiness, thus increasing the likelihood of the success of change efforts in an organization.

Change Communication

Change readiness literature asserts the importance of communicating the change vision in a way that generates awareness (Hiatt, 2006) and garners the required support for implementing change (Kotter, 2005). Further, it underscores the need for adopting a multichannel strategy to communicate change vision (via emails, meetings, one-on-ones, etc.) in a way that motivates organizational members to perceive change as favorable (e.g., Oreg et al., 2011). Change models also largely agree that open, transparent, timely, and consistent communication is crucial in building change readiness (Beer, 1980; Kotter, 1996; Hiatt, 2006), without which members would likely experience uncertainty, anxiety, and fear (Krantz, 2010).

Finally, empirical research indicates that although it is essential for the change vision to be broad and reflect shared goals (ten Have et al., 2016), stakeholder perspectives matter - that is, how the change is beneficial to various stakeholder groups (i.e., employees, managers, clients, etc.) plays an influential role in endorsement and adoption of change (Stouten et al., 2018). Thus, change communication could do well to include ways to create awareness of the benefits of change not just for the organization as a whole but also for individuals and stakeholder groups.

Mobilizing Energy for Change

Mobilizing energy for change refers to the planning stage before the change is actually implemented in the organization. Empirical research indicates that leadership effectiveness in managing change is positively related to implementation success (Lok et al., 2005) and negatively related to member stress (Amiot et al., 2006). Thus, the need for managers to build the necessary skills and capabilities to implement change and the extent to which they are trusted by organizational members are important aspects of mobilizing energy for change (Stouten et al., 2018). Armenakis et al. (1993) posit that although emphasizing the need for change can be a

powerful motivator for change, it can also result in counterproductive energy and defensive reactions like denial, flight, or withdrawal (Nadler & Tushman, 1989). Thus, it is also imperative to build members' confidence in their capability to implement the change successfully. Research has shown that this confidence in the perceived capability to reduce discrepancy, referred to as *efficacy*, consistently influences thought patterns, emotional responses, and behaviors (Bandura, 1982, 1986).

Indeed, research on the theory of planned behavior (Ajzen, 1991) highlights three categories of interventions required for successful planned changes to human behavior - "(1) ability, the capability of individuals, groups, and organizations to engage in new behavior and responses; (2) motivation, the underlying drive or willingness to behave and respond in new ways; and (3) opportunity to practice, the support available to actually demonstrate new behavior and responses" (Stouten et al., 2018, p. 763). This suggests that an effective change planning process should include building skills and capabilities related to the change, designing reward systems that motivate individuals and groups to engage in expected new behaviors, and ensuring that the organization has the necessary structures, processes, and systems to support the desired change outcomes (Stouten et al., 2018; ten Have et al., 2016; Albrecht & Roughsedge, 2023). Additionally, Rousseau and ten Have (2022) argue that trust between leaders and change recipients is essential to increase commitment to change. Low trust can generate doubt and fear and negatively impact the quality of organizational data and information available from members. Such information is vital for understanding members' awareness, attitudes, and behaviors toward change. Finally, change history - the frequency and success (or failure) of previous change efforts should be taken into account (Rafferty & Restubog, 2017; Hiatt, 2006) as past change successes contribute to both increased capacity for change and a positive outlook

toward change (e.g., Heckmann et al., 2016; Suddaby & Foster, 2017; Stouten et al., 2018; Bordia et al., 2011; Burke, 2021).

Thus, change history, developing individual and managerial skills and capabilities to implement change, fostering a climate of trust where organizational members trust change leaders and managers to successfully implement change, and creating enabling structures and processes such as reward systems that reinforce new skills and behaviors are all essential to mobilize energy for successful change implementation.

In sum, while current change literature lacks a general consensus on the content and process of change readiness, a review of the literature highlights five significant factors or measures that contribute to developing change readiness - i) need for change, ii) leadership alignment, iii) vision for change, iv) change communication, and v) mobilizing energy for change. This research focuses on these five measures of change readiness.

However, it is important to note here that although many practitioners and scholars have often conceptualized change as a multi-step process that often transitions from one step of the process to the next (e.g., Lewin, 1951; Kotter, 1996; Beer, 1980; Hiatt, 2006), organizational change is not a neat, sequential process (Beckhard & Harris, 1987; Burke, 2018). Burke (2018) further argues that although the sequential steps offered by these models help make sense of seemingly unrelated, complex organizational behavior pertaining to change and that such steps can often help plan and manage a change effort, "as organizational change actually occurs, it is not sequential and is far more complex, ambiguous, and even "messier" than the models convey" (p.182). Thus, this research emphasizes that the above-mentioned five change readiness measures are not independent or linear steps in developing change readiness. Instead, these

should be seen as non-linear measures or steps that can be useful in both making sense of and developing change readiness in organizations.

Group Processes and Change Readiness

Organizations as Social Systems

It is imperative to note that change readiness has a significant social component. According to Lewin (1948, 1951), behavior is a function of the individual and the environment or situation in which the individual is acting. While individual behavior is primarily examined in terms of motivation and needs, the environment is described as a field of forces that affect that individual. Forces can be positive or negative to the individual, imposed on the individual, or emanate from the individual's own needs. Further, forces can be *driving* (i.e., those that push an individual in the desired direction to facilitate change) or *restraining* (i.e., those that hinder change and counter the driving force).

Thus, an individual's behavior can be predicted based on both their needs and the nature and intensity of environmental forces acting on them at any given time. In sum, Lewinian theory emphasizes the need to view organizations as social systems with several subsystems, mainly groups. Hence, one can argue that in the context of OCR, any attempts made to change the attitude or behavior of members in organizations are futile unless these are accompanied by attempts to change attitude or behavior at the group level.

Social Defenses

Organizational change efforts often pose psychological challenges to their members. With change, individuals and groups may have to cope with heightened feelings of uncertainty, anxiety, fear, and confusion (Obholzer, 2021). Individuals and groups unconsciously adopt and employ a set of dynamics, or primitive and destructive defenses, such as *splitting*, *projective*

identification, *role differentiation*, and *scapegoating*, to protect themselves from such profound anxieties that result from change.

Splitting refers to a defense mechanism where individuals unconsciously disown undesirable parts of themselves (Wells, 1995). The concept of *projection*, introduced by Sigmund Freud (1856-1939), refers to a defense mechanism in which individuals unconsciously attribute unwanted aspects of themselves to another person. *Projective identification* is a process that occurs when the other person internalizes these unwanted projected qualities and starts believing those to be true (Klein, 1946; Shapiro & Carr, 1991). Projective identification and symbolization in groups results in *role differentiation* (e.g., business is responsible for the bottom line, and HR is responsible for the employees) and helps group members manage their conflicts, tasks, and ambivalence (Well, 1995). *Scapegoating* is a special and destructive form of role differentiation in groups (Wells, 1995). It is "a stereotyped example in groups where shared patterns of denial is focused by the process of projective identification on one member. That member is asked and often agrees to express all of the given undesirable attitudes of the group" (Miller, 1974, p. 12). Scapegoating a member shields the other members in the group from any anxiety or threat from any significant negative consequence of an outcome.

Krantz (2010) argues that organizational change efforts require distinctive efforts, diagnosis, and planning to adequately contain the anxieties and social defenses evoked by such disruption. In the absence of the above-mentioned efforts, "change efforts are likely to fail, in part because members will tend to employ primitive and destructive defenses to protect themselves from the painful anxieties and fears that attend disruption and turmoil" (Lawler & Sher, 2023, p. 28).

Group-Level Analysis of OCR

Furthermore, although several change researchers have acknowledged change readiness as a multilevel process (e.g., Caldwell et al., 2009; Whelan et al., 2003; Rafferty et al., 2012), empirical research on change readiness has stayed mainly at the individual level of analysis or at an organizational level (e.g., Sverdlik & Oreg, 2023) with limited focus on group-level processes. This is not to say that literature does not acknowledge the role of group processes in organizational change. Rather, many researchers argue that understanding group processes, both explicit and implicit, is imperative to successfully manage change (Schein, 2015; Noumair, 2013; Burke & Noumair, 2015; Noumair et al., 2010; Marshak, 2006).

Explicit dynamics are those that are overt and easily observable, while implicit dynamics are those that are covert, unconscious, and not readily observable. Marshak (2006) further argues that while overt aspects of organizational change, such as reason or "making the case for change," are a common theme in change readiness literature, aspects that are more covert or implicit in nature, such as emotions and feelings of organizational members, despite their critical role in influencing change outcomes, are often overlooked. For instance, although emotions and feelings are an integral part of human life, emotions are historically viewed as the enemy of reason, and any felt emotion towards change tends to be hidden or suppressed by organizational members due to the fear of being labeled as irrational. However, major change efforts not only involve modifications to many facets of an organization, such as structures, technologies, policies, and role designs, but are also profoundly disruptive to organizations, groups, and members within them (Lawlor & Sher, 2023), necessitating a close examination of whether and to what extent do prevalent group processes impact change readiness in organizations.

Yet, empirical research on the role of group processes in developing change readiness in organizations is limited. Additionally, a majority of such studies focus on the overt aspects of change readiness. This research aims to address this gap in the literature and argues that examining group processes, both overt and covert, is essential to assessing and developing change readiness.

Theoretical Framework

Systems Psychodynamics Frame

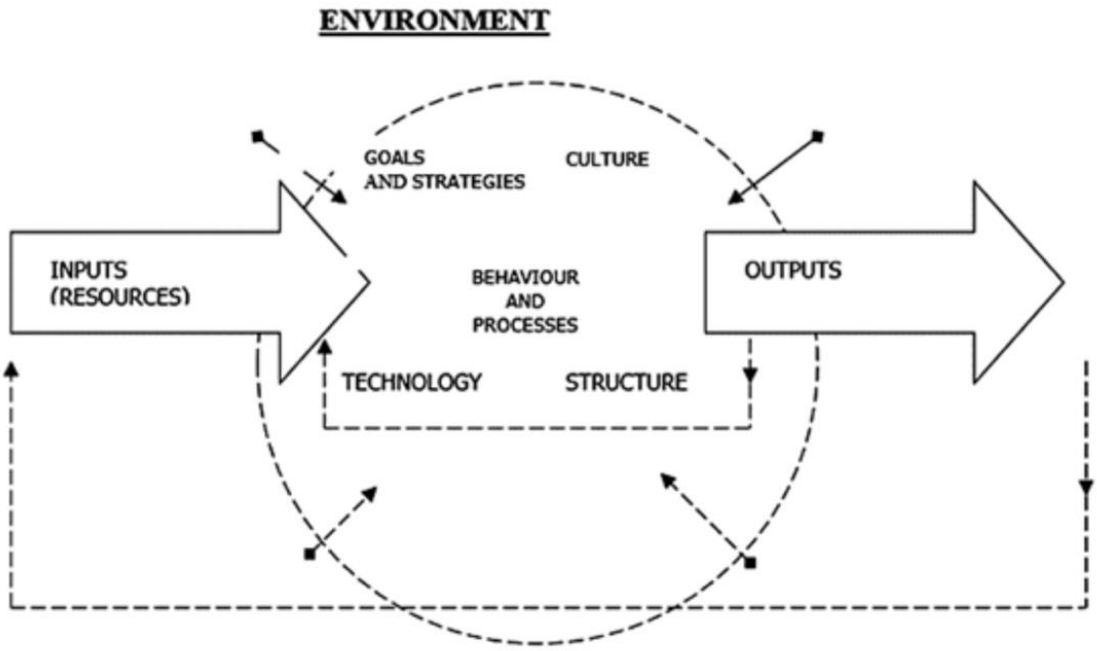
This research uses a systems psychodynamics approach (Gould et al., 2006) as the conceptual lens to aid such an examination and encompasses two interlinked processes often characterized as working above the surface and below the surface (Lawlor & Sher, 2023). The systems psychodynamics framework (Gould et al., 2006) integrates the open systems perspectives and psychodynamic perspectives. In the context of organizations, open systems theory states that the environment has a significant impact on both the organization as a whole and all its component parts (Katz & Kahn, 1978). Further, to exist, organizations need to exchange information, materials, output, and feedback with the environment and between and among its various departments, functions, and structures.

Gould (2006) argues that the open system concepts "provide the dominant framing perspective for understanding the structural aspects of an organization system. These include its design, division of labor, levels of authority, and reporting relationships; the nature of work tasks, processes, and activities; its mission and primary task; and in particular, the nature and patterning of the organization's task and sentient boundaries and the transactions across them" (p. 2). Thus, the open systems perspective enables a critical examination of the technical and social aspects of an organization, the relationships between the various subsystems (e.g.,

departments, groups, functions) to the organization as a whole, and between the organization and the external environment. Figure 1 below provides an illustration of the open systems perspective.

Figure 1

Open Systems Diagram



Source: Sher & Lawlor (2022)

The psychodynamic perspective refers to an examination of unconscious processes that occur in organizations, including subconscious anxiety and resistance (e.g., to change), object relations (e.g. sentient relations and interpersonal relationships) and notions of fantasy and transference (displacing thoughts, feelings and behavior from primary childhood relationships onto workplace dynamics) that may cause or result from unexpressed and unresolved organizational challenges (Gould et al., 2006; Wells, 1995; Neumann & Hirschhorn, 1999; Kets DeVries et al., 2013; Noumair, 2013; Noumair et al., 2017). Thus, applying a systems

psychodynamics approach enables examination of both "above the surface" or overt group processes that may affect rational structural aspects (i.e. organizational design, structure, cultural patterns, roles, technology, policies, and procedures) of an organization as well as "below the surface" or covert psychoanalytic dimensions of individual and group processes in the organization (Gould et al., 2006; Neumann & Hirschhorn, 1999; Kets DeVries et al., 2013; Noumair et al., 2017).

Group-as-a-whole Level of Analysis

This research focuses on the group-as-a-whole (Wells, 1995) level of analysis. In this level of analysis, "a group is conceptualized as being more and less than the sum total of the individual co-actors (members) and their intrapsychic dynamics" (p. 55). That is, the group-as-a-whole perspective conceptualizes groups as living systems and its members as interdependent coactors or subsystems whose interactions with each other form a gestalt. This gestalt makes up the elan vital (i.e., the existential core) of the group and connects the group members by an unconscious tacit agreement (Bion, 1961) whereby the behaviors of members are considered as representations and manifestations of the group's elan vital.

Thus, the group can be considered to have a life of its own that is related to the dynamics of the individual members of the group yet distinct from its group members. The group-as-a-whole level of analysis embraces this perspective and assumes that a member's behavior or actions must not only be examined based on their individual needs and motivation but also seen as those enacted on behalf of the group or parts of the group. Then, this level of analysis helps provide an explanation of why individuals can sometimes act differently as members of groups than when they are acting on their own behalf (Burke & Noumair, 2015), thus facilitating a

multilevel examination of how individuals, subgroups, and the entire organization participate in building change readiness - a key goal of this research.

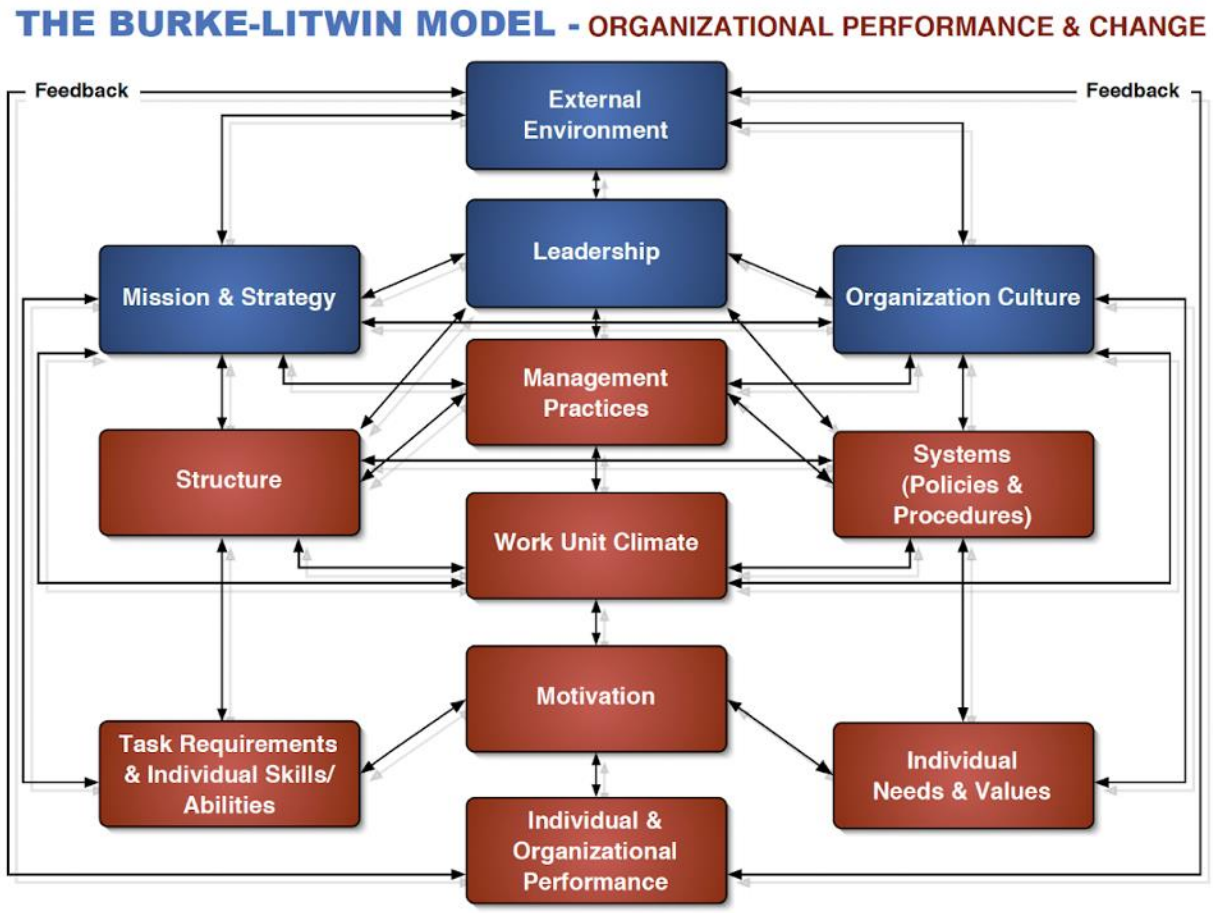
Burke and Noumair (2015) assert that, together, the systems psychodynamics frame and group-as-a-whole level of analysis provide an effective theoretical framework for diagnoses that call for multilevel analysis of uncovering both overt and covert group processes in an organization. However, they warn against using this approach solely by itself as referring to the unconscious "conjures up negative and fearful images of psychoanalysis, psychotherapy, and irrationality, and a journey into the realm of deep emotionality" (Burke & Noumair, 2015, p.166). Further, the term diagnosis might implicitly or explicitly invoke the doctor-patient model that assumes there is a problem to be addressed or that something is broken that needs to be fixed, which could inhibit today's practitioners from engaging in such an examination (Marshak, 2013). Thus, Burke and Noumair (2015) recommend that this approach is best used along with other organizational models and frameworks.

Organizational Models

The two organizational models used in this research are the Burke-Litwin model of organizational performance and change (Burke & Litwin, 1992) and the X-Ray vision tool (Noumair et al., 2017). The Burke-Litwin model is a causal model that attempts to specify the interrelationships of transformational and transactional organizational variables and the way these variables affect change. Figure 2 below summarizes the Burke-Litwin model (Burke & Litwin, 1992).

Figure 2

The Burke-Litwin Model of Organizational Performance and Change



Source: Burke & Litwin (1992). Adapted with permission.

The Burke-Litwin model (1992) conceptualizes organizations as open systems. The external environment box in the model represents the input aspect of the systems theory, the individual and organizational performance box represents the output, and the remaining boxes represent throughput. Feedback loops and the arrows go in both directions, indicating that a change in any one factor will eventually have an impact on other factors. The model distinguishes between two sets of variables: transformational factors and transaction factors. External environment, mission and strategy, leadership, and organization culture comprise transformation factors and structure, management practices, systems, work unit climate, motivation, task requirements and individual skills/abilities, and individual needs and values comprise transactional factors. The authors assert that organizational change stems more from

environmental forces than from any other factor, and so, the transformational variables (i.e., mission and strategy, leadership, and culture) have more "weight" of change dynamics than transactional variables (i.e., structure, management practices, and systems) with respect to organizational change (Burke & Noumair, 2015). Transformational issues call for an examination of the organization's mission and strategy, leadership, and culture. Such issues are likely caused by interaction with the external environment and call for significant behavioral change on the part of organizational members. Indeed, major organizational change efforts often entail significant modifications to human behavior, cultural patterns, and social systems, and are increasingly common as organizations try to adapt to accelerating rates of change in market, technologies, and competitive pressures (Lawlor & Sher, 2023). Transformational variables impact the culture of the organization.

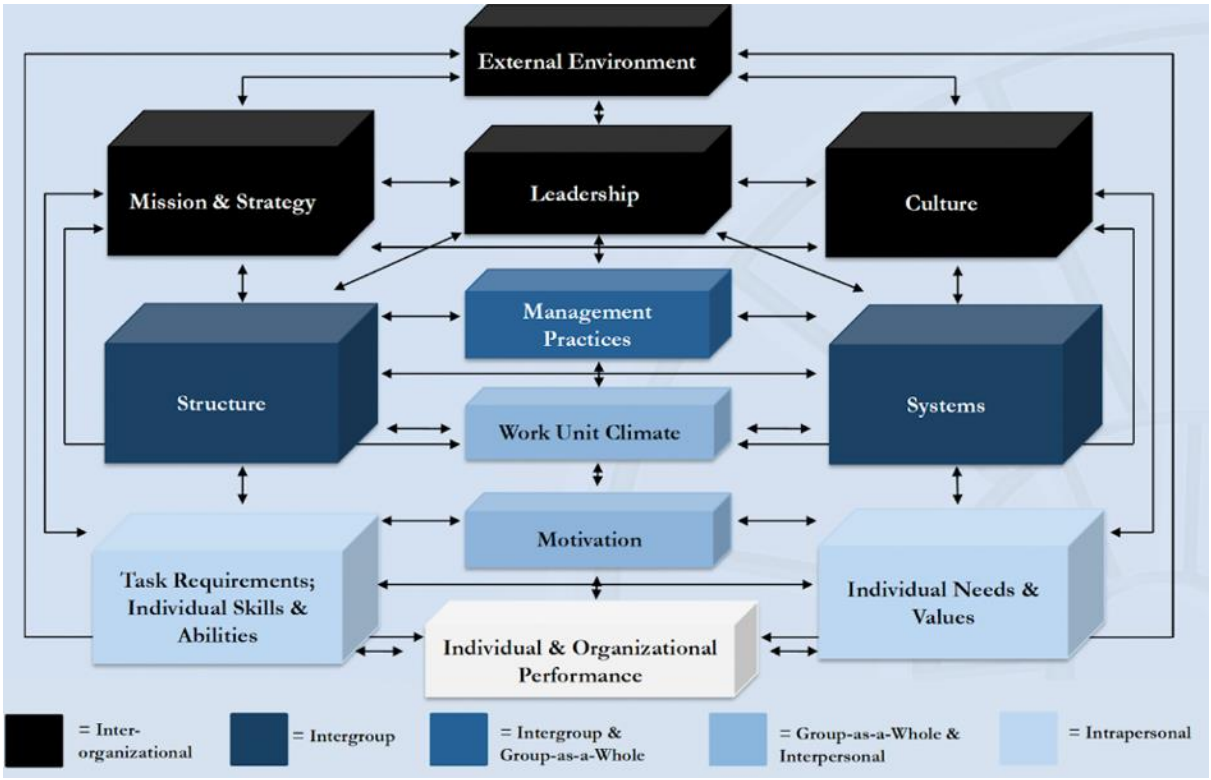
On the other hand, issues that are transactional in nature call for a focus on structure, systems, management practices, climate, motivation, individual needs and values, individual skills and abilities, and individual and organizational performance. Transactional variables impact the climate of the organization and often call for relatively short-term modification of behavior on the part of organizational members. Thus, the Burke-Litwin model offers a comprehensive, systems-based approach to examine the rational, overt, and explicit behaviors related to OCR.

However, the Burke-Litwin model (Burke & Litwin, 1992) does not offer a conceptual lens for examining the psychodynamic perspective and the irrational, covert, and unconscious behaviors pertaining to change readiness (Burke & Noumair, 2015). The X-ray vision tool (Noumair et al., 2017) enables such an exploration beneath the surface of the Burke-Litwin model. The X-ray vision tool, informed by the psychodynamic theory and socio-structural

concepts, provides a robust theoretical and diagnostic framework for investigating the irrational, covert, and unconscious behaviors (e.g., task avoidance, power and authority, anxiety, and unspoken conflicts) that may impact OCR. Figure 3 below illustrates the X-ray vision tool (Noumair et al., 2017).

Figure 3

X-Ray Vision Tool



Source: Noumair et al. (2017)

Furthermore, the X-ray vision tool (Noumair et al., 2017; Noumair & Jenkins, 2023) is organized using the Wells (1995) levels of organizational analysis. Hence, it lends itself well to examining organizational processes from the intrapersonal, interpersonal, group-as-a-whole, intergroup, and interorganizational levels, thus providing a robust framework to investigate the group processes in an organization from a systems perspective. Thus, together, the Burke-Litwin

model and the X-ray vision tool provide a comprehensive and systematic framework to investigate both the rational, overt, and explicit group processes as well as the irrational, covert, and implicit group processes influencing OCR.

In sum, a review of the literature highlighted five key measures that contribute to developing OCR - i) need for change, ii) leadership alignment, iii) vision for change, iv) change communication, and v) mobilizing energy for change. Additionally, the complex and non-linear nature of these measures are discussed. Further, the literature review on group processes shed light on the significant social component in organizational change and the psychological challenges such change efforts pose to their members, thus necessitating the examination of group dynamics, both overt and covert, in developing OCR. Also, the importance of examining the research questions guiding this research through the frame of systems psychodynamics using a group-as-a-whole level of analysis is emphasized. Finally, the relevance of using the Burke-Litwin model to diagnose the social structural aspects and overt group processes and the X-ray vision tool to examine the covert processes influencing change readiness are discussed.

Thus, this exploratory research focuses on an in-depth investigation of the role of overt and covert group processes in developing OCR. A key focus of this research is to use both quantitative and qualitative data to gain a comprehensive understanding of the topic studied and potentially generate hypotheses that can be used in future research. The research questions guiding this thesis are provided below.

RQ1. How do overt and covert group processes influence OCR?

RQ2. How do quantitative results from survey responses help examine the role of group processes influencing OCR?

RQ3. How do qualitative results from interviews and open-ended survey responses help examine the role of group processes influencing OCR?

RQ4. How might a mixed methods approach contribute to a more comprehensive and nuanced understanding of the role of group processes in developing OCR?

The next chapter discusses the methodology of data collection, categorization, and analysis used in this research. Further, it offers a theoretical framework informed by the systems psychodynamics approach that conceptually maps the change readiness measures informed by current change literature to the organizational models used in this research.

Chapter 3: Methods

Design

This research used a mixed-methods approach to collect, categorize, and analyze data. Specifically, this research used a mixed-methods multiple-case study design with a *convergent* approach and collected data by administering a survey and conducting one-on-one interviews. A mixed-methods case study design "is a type of mixed methods study in which the quantitative and qualitative data collection, results, and integration are used to provide in-depth evidence for a case(s) or develop cases for a comparative analysis" (Creswell & Plano Clark, 2018, p. 116). Further, two cases were used in this research, thus enabling cross-case analysis and enhancing the generalizability of this research.

The mixed-methods multiple-case study design was well suited to this research for several reasons. This research design is useful in gaining a detailed understanding of the group processes in intact groups in a system (e.g., an organization) by using both qualitative and quantitative data to uncover overt and covert group processes that impact change readiness. Further, a *convergent* approach is useful in obtaining diverse but complementary data on the same topic to best understand the research problem (Morse, 1991). The key objective in using the *convergent* approach in this research was to "bring together the strengths and weaknesses of quantitative and qualitative methods (e.g., quantitatively a large sample size, objective measures, trends, and generalization combined with, qualitatively, a small sample, subjective interpretation, details, and depth)" (Patton, 1990; Creswell & Clark, 2018, p. 68). Additionally, a *convergent* approach is useful when the researcher has limited time for data collection. This made it an efficient design for this research as both quantitative and qualitative data for this research were collected roughly at the same time. Finally, this research was oriented towards the worldview of

pragmatism, that is, "the focus is on the consequences of the research, on the primary importance of the question asked rather than the methods, and on the use of multiple methods of data collection to inform the problems under study" (Creswell & Clark, 2018, p. 37). Thus, this pluralistic orientation of the *convergent* approach towards "what works" and real-world practice made this approach the best suited for this research.

Participants

Participants for this research included two groups, henceforth referred to as Group A and Group B. As this research used the group-as-a-whole level of analysis and entailed understanding prevalent group dynamics of various groups and teams that had shared context and shared general timeline for change, it was essential for the participants to be working in the same group/department of the same organization. Accordingly, Group A comprised 53 members of the Digital Practice department of ABC Tech, an organization offering IT consulting and digital transformation services located in an urban setting (pseudonym used to de-identify the organization for confidentiality purposes). All participants were over 18 years of age and members of the same digital practice department. ABC Tech was keenly contemplating introducing a new suite of digital practice and artificial intelligence (AI)-based offerings, a major change effort that aimed at transforming the department's service offerings to accelerate their digital transformation goals and to keep pace with the ever-changing modern digital transformation and AI-based market demands. This involved a significant redesign of the department's service offerings, processes, software development methodology, and related training of personnel. As this department was a key revenue generator for the organization with a wide customer base, any change to the department's service offerings would impact the entire organization.

Group B comprised all 41 employees in the digital innovation department within XYZ, an institution of higher education located in an urban setting (pseudonym used to de-identify the organization for confidentiality purposes). All participants were over 18 years of age and members of the same digital innovation department. The department is currently undergoing a planned change of developing new AI-based offerings and capabilities in the team. This was in response to the institution's overarching vision of widespread adoption of language and image models by students, faculty, and staff. Change goals included introducing a new suite of AI-based offerings, a key change effort that involved designing and implementing innovative service offerings, redesigning processes, related training of personnel, and training of all end users of these models/ applications. As this department served all academic departments within the institution, any change to the department's processes or services provided would impact the whole institution.

Both organizations were in the initial stages of the change process. Specifically, the senior leadership of each organization had sent at least one formal communication on the changes to employees, there had been at least one department-wide meeting to discuss these changes, and both organizations were in their initial stages of implementing these changes.

Sampling

As this research focused on intact groups undergoing planned change, the survey and interview samples had to be from the same intact group/department. Accordingly, participants were recruited based on nonprobability sampling. "Unlike probability sampling, where each participant has the same chance of being selected, participants selected using the nonprobability sampling technique are chosen because they meet pre-established criteria" (Saumure & Given, 2008, p. 563). Nonprobability sampling techniques – *purposive sampling* and *snowball sampling*

– were used to recruit participants for this research. *Purposive sampling* "refers to a process where participants are selected because they meet criteria that have been predetermined by the researcher as relevant to addressing the research question" (Saumure & Given, 2008, p. 563). Participants were chosen based on the criteria that they were over 18 years old and working in the same workgroup or department in an organization undergoing planned change. Additionally, *snowball sampling* (Saumure & Given, 2008) was used to identify participants satisfying the established criteria through references from the researcher's professional and social networks.

The survey sample comprised all members of Group A ($n_1 = 53$) and all members of Group B ($n_2 = 41$). However, Creswell & Plano Clark (2018) recommend that the sizes of the samples for collecting quantitative data and quantitative data be different, with the size of the sample for qualitative data collection being much smaller than the size of the sample for quantitative collection, as this enables an in-depth qualitative as well as a rigorous quantitative examination. According to the authors, "this size differential is not a problem because the intent is to combine the conclusions from gathering the two different databases: quantitative data collection aims to make generalizations to a population while qualitative data collection seeks to develop an in-depth understanding from a few people" (Creswell & Plano Clark, 2018, p. 188). Keeping with this recommendation, the interview sample size was kept smaller than the survey sample size.

Stratified random sampling was used to derive the interview sample from each group. In *stratified random sampling*, the population is first divided into two or more strata (subgroups) based on key characteristics (e.g., age, gender, level in the organization). A simple random sample is then taken from each stratum. These subsamples are then combined to form the total sample (Maruyama & Ryan, 2014). Using a *stratified random sampling* approach enhances the

representativeness of the sample by ensuring that the sample includes all key characteristics of the population in proportion to their composition in the population, thus significantly reducing sampling bias. This approach is particularly effective in studies where certain key characteristics of the population are of particular interest to the research goals. One such characteristic that is especially pertinent to change readiness in this research was the classification of organizational members into subgroups based on the three management levels identified in both groups (i.e., senior leadership, manager, and individual contributor).

For instance, several models (e.g., Lewin, 1951; Kotter, 1996; Burke, 2018; Hiatt, 2006) emphasize the importance of creating awareness of the need for change (i.e., creating and communicating the belief that change is needed) as a key factor in developing OCR. While members at the senior leadership level may likely have more strategic insights into the organizational need for undergoing change, the extent to which this belief is effectively communicated down the chain of command, to managers and individual contributors, plays a key role in how managers and individual contributors think and feel about change, thus influencing their change-related attitudes and behaviors. A management level-wise comparison of the results, then, could yield valuable insights into any perceived differences in the need for change between these three subgroups (i.e., senior leadership, manager, individual contributor), thus paving the way for senior leadership to explore actionable ways to reduce any gap and develop change readiness at the manager and the individual contributor levels. Hence, for the purpose of *stratified random sampling*, this research used management level as the criterion and the three management levels identified in both the groups - senior leadership, manager, and individual contributor – as strata for deriving the sample group for one-on-one interviews. Table 2 below

provides an overview of the derivation of interview sample (C) for Groups A and B based on the management level (A) and survey sample (B) and balanced for proportion (P1, P2).

Table 2

Interview Samples for Groups A and B Using Stratified Random Sampling

Management Level (A)	Survey Sample (B)	Proportion % (No. of members by level / total no. of members) (P1)	Interview Sample (C)	Proportion % (No. of members by level in the sample / sample size) (P2)
Group A				
Senior Leadership	1	2	1	4
Manager	9	17	4	16
Individual Contributor	43	81	20	80
	53	**100**	**25**	**100**
Group B				
Senior Leadership	2	5	1	5
Manager	6	15	3	15
Individual Contributor	33	80	16	80
	41	**100**	**20**	**100**

Measures

Data was collected through the administration of a survey and conducting one-on-one interviews. The process for developing both the survey and interview questions is discussed in detail in the following paragraphs.

Survey Development

The survey consists of 24 items and one affect scale. Survey items and the affect scale are listed in their entirety in Appendix A. Out of these, two items (nos. 1 and 24) and the affect scale (no. 3) were developed to assess affective responses to change. Current change literature clearly indicates an overemphasis on the rational side of change. Indeed, several change readiness assessments (e.g., ROC, Holt et al., 2007; OCRBS, Armenakis et al., 2007) focus mainly on assessing rational and social structural aspects of change readiness. However, a change

recipient's attitude towards change is also influenced by affective components, i.e., the individual's feelings about change (e.g., anxiety, fear, enthusiasm, anger) (Marshak, 2006; Krantz, 2006; Obholzer, 2021). Yet, to the researcher's knowledge, prevalent change readiness assessments do not examine affect. This research emphasizes that understanding the affective aspects of change, although often overlooked, is essential to uncover implicit and unconscious processes that impact change readiness. Thus, the two survey items and the affect scale aimed to capture the change recipient's feelings and emotions associated with change.

Two survey items assessing affect (item nos. 1 and 24) drew upon visual research methods to access and assess affect and unconscious and implicit dynamics pertaining to change. Visual methods such as the use of images or drawings are especially effective in generating emotional data, both at an individual level and at a group level (Vince, 2020; Vince & Broussine, 1996). The use of visual methods such as drawings and images helps participants move away from an overemphasis on rationality, tap into the emotional complexity of change, and act as a catalyst for participants to say the 'unsaid' (Vince & Broussine, 1996). Further, Meyer (1991) asserts that research respondents often possess more nuanced, subtle, and useful cognitive maps of organizations or events than they can verbalize, and the use of visual data helps enhance that capacity of the respondents to make more sense of complex events. Additionally, the integration of visual data to other forms of data collection in this research acts as a valuable form of triangulation of data (Meyer, 1991).

Accordingly, the two survey items (item nos. 1 and 24) were formatted as multichoice questions where participants were asked to choose one image from the 25 images provided to them. While the first item asked the participants to choose an image that best captures how they felt about the change, the second item, appearing towards the end of the survey, asked them to

envision the organization a year after the change was implemented and choose an image from the same set of 25 images that best captured how they might feel after the change was implemented. This research used images from the Visual Explorer (2010) deck of cards. Visual Explorer (2010) is grounded on research on the power of images to facilitate effective conversations about complex issues (e.g., Burnside & Guthrie, 1992; De Ciantis, 1995; Palus & Horth, 2002). The images are diverse and global in content, subject, and aesthetics. Users of the Visual Explorer (2010) have often chosen a set of images from the deck based on their framing questions or goals to help their participants elicit stories and create metaphors, surface multiple perspectives, seek patterns in complex issues, and articulate what is unspoken or "undiscussable." A key goal of using images in this research was to surface participants' affective, unconscious, and implicit responses to change that might not be readily accessible otherwise. To the best of the researcher's knowledge, this is the first time that affective responses were assessed indirectly through visual images in the context of change.

The affect scale was rated on a 5-point Likert scale ranging from 1 (Not at all) to 5 (Extremely) and aimed to understand the extent to which the participants experience various feelings and emotions pertaining to change. Seven of the 14 feelings and emotions listed under this item (Enthusiastic, Upset, Inspired, Afraid, Determined, Nervous, Excited) were taken from the Positive and Negative Affect Schedule (PANAS) Scale (Watson, Clark & Tellegen, 1988). The alpha reliabilities ranged from .86 to .90 for Positive Affect and from .84 to .87 for Negative Affect (Watson, Clark & Tellegen, 1988). The remaining seven (Hopeful, Skeptical, Resigned, Safe, Out of Control, Energized, Burned Out) were based on practice-derived knowledge about change. Thus, the 14-item scale constituted of seven of the feelings and emotions pertaining to Positive Affect (Enthusiastic, Inspired, Determined, Excited, Hopeful, Energized, and Safe) and

seven pertaining to Negative Affect (Upset, Afraid, Nervous, Skeptical, Resigned, Out of Control, and Burned Out). Items pertaining to Negative Affect were reverse coded.

Twenty-one survey items were developed and organized based on the five OCR measures informed by a comprehensive review of current change literature – i) need for change, ii) leadership alignment, iii) vision for change, iv) change communication, and v) mobilizing energy for change. Each change readiness measure was then conceptually mapped to the overt factors from the Burke-Litwin model (Burke & Litwin, 1992) and corresponding covert concepts from the X-ray vision tool (Noumair et al., 2017) that most pertain to these dimensions. Forty-two survey items were initially developed with six to 14 items per change readiness measure. Four reviewers, subject-matter experts in change management and group processes, reviewed the item pool to examine the content and to identify redundancies, difficult questions, and ambiguous wording. Additionally, a pilot study (Kumar, 2024) was conducted to examine research design consistency and to reveal design inconsistencies, if any, at the early stage of the research.

Based on the expert reviews and the findings from the pilot study, the survey instrument was further refined to 21 items based on the five change readiness measures: i) need for change - seven items (item nos. 3 to 8); ii) leadership alignment - three items (item nos. 9 to 11); iii) vision for change - three items (item nos. 12 to 14); iv) change communication - three items (item nos. 15 to 17); and v) mobilizing energy for change - six items (item nos. 18 to 23). Out of the 21 items, one item (item no. 3) was assessed with a multiple-choice question with five answer choices, and the remaining 20 items (item nos. 4 to 23) were rated on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The theoretical framework used in the survey development, mapping the five change readiness measures to the Burke-Litwin

model and the X-ray vision tool, is illustrated in Figure 4 below and elaborated in Table 3 below. The table does not include the two items assessing affect and the affect scale, two of which used images, and one provided participants with a list of feelings and emotions pertaining to change.

Figure 4

Theoretical Framework

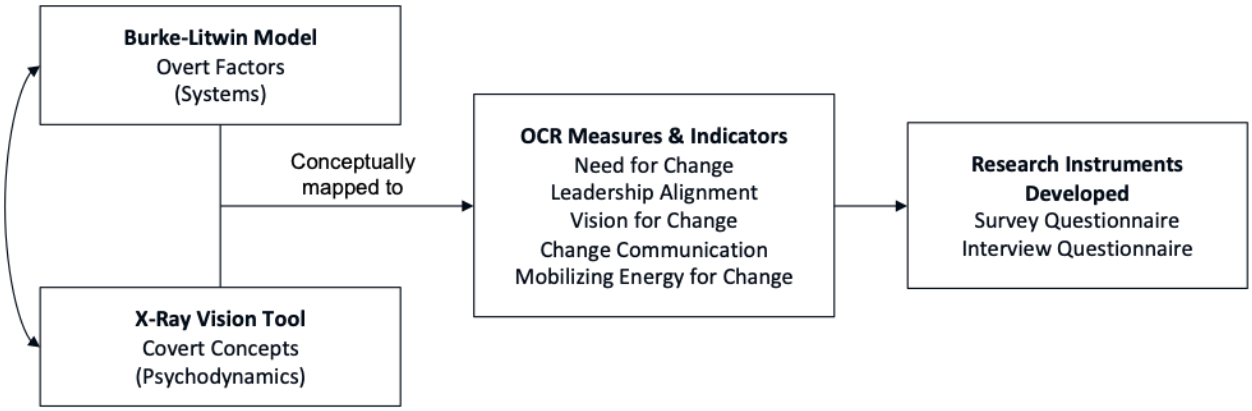


Table 3

Survey Development Using the Theoretical Framework

Change Readiness Measures & Key Indicators	Burke-Litwin Model (Overt Factors)	X-Ray Vision Tool (Covert Concepts)	Survey Items
Need for Change			
Employees believe that a need for change exists Employees perceive that the proposed change will benefit the organization and address the needs or gaps Employees believe that the change could be implemented Employees perceive that the proposed change will benefit them	*External Environment:* "any outside condition or situation that influences the performance of the organization" *Mission & Strategy:* "what the organization's (a) top management believes is and has declared is the organization's mission and strategy and (b) what employees believe is the central purpose of the organization" *Organization Culture:* "…'the way we do things around here'… the collection of overt and covert rules, values, and principles that are enduring and guide organizational behavior" *Individual Needs & Values:* "specific psychological factors that provide desire and worth for individual actions or thoughts"	*Boundary:* Boundaries can be viewed as a container that 'holds' the task (e.g., boundaries around time, task, territory, role, authority). If the container is inadequate, it will not support the task (Green & Molenkamp, 2005) *Survival task:* When the organization, instead of pursuing its mission, unconsciously prioritizes its own survival when encountered with challenges or obstacles (Green & Molenkamp, 2005; Hayden & Molenkamp, 2004) *Phenomenal primary task:* The task that can be inferred from members' behaviors and the extent to which such behaviors align with the stated mission of the organization (Lawrence, 1977; Roberts, 1994)	**Item No. 3.** [Yes/No] Do you believe the changes underway are clearly needed at [Insert Organization's Name]? If 'Yes,' go to item # 3A. If 'No,' go to item # 3B 3A. [Multiple Choice] Choose the options(s) below that best describe why you believe the changes underway are clearly needed at [Insert Organization's Name]. Select all that apply. a. Changes underway are long overdue since [Insert organization's reason(s) for change] b. This is the right time to implement these changes c. I believe the changes underway align well with [Insert Organization's Name]'s values d. I believe the changes underway are essential to improve the overall performance of our organization e. Other _____

Change Readiness Measures & Key Indicators	Burke-Litwin Model (Overt Factors)	X-Ray Vision Tool (Covert Concepts)	Survey Items
		Existential primary task: The task that members believe they are carrying out and the extent to which this aligns with the stated mission of the organization (Lawrence, 1977; Roberts, 1994) *Basic assumption:* When an organization manages anxiety by behaving as if a specific assumption is reality in order to protect itself from anxiety (Bion, 1961)	3B. [Multiple Choice] Choose the options(s) below that best describe why you believe change is NOT needed at [Insert Organization's Name]. Select all that apply. a. I'm having a hard time understanding why the changes that are being made at our organization are necessary b. This is not the right time for these changes c. The changes underway does not align well with [Insert Organization's Name]'s values d I don't think the changes underway are essential to improve the overall performance of our organization e. Other _____ **Item Nos. 4 to 23** [Likert Scale] (Scale 1-5; 1-Strongly Disagree; 2-Disagree; 3-Unsure; 4-Agree; 5-Strongly Agree) Indicate the extent to which you agree or disagree with the following statements in relation to change at [Insert Organization's Name]? 4. I believe [Insert Organization's Name] has the capability to successfully implement these changes

Change Readiness Measures & Key Indicators	Burke-Litwin Model (Overt Factors)	X-Ray Vision Tool (Covert Concepts)	Survey Items
			5. I think the changes underway at [Insert Organization's Name] will be beneficial to me 6. I think the changes underway at [Insert Organization's Name] will be beneficial to my team 7. I fear I'll lose some of my status when these changes are implemented 8. These changes may disrupt my relationships in this company when they are implemented
Leadership Alignment Employees believe that leaders are committed to and fully support this change initiative Employees believe that leaders are serving as role models for all organizational members on these changes Employees believe that there is alignment in the leadership function on this change initiative	*Leadership:* "executives providing overall organizational direction and serving as behavioral role models for all employees" *Management Practices:* "what managers do in the normal course of events to use the human and material resources at their disposal to carry out the organization's strategy"	*Authority & Power Relations:* *Authority:* The extent to which the leader or manager is authorized to make decisions and represent the group when communicating outside the group. (Green & Molenkamp, 2005) The extent to which members of the group trust and support one another (Green & Molenkamp, 2005) *Power:* The extent to which a leader has the ability to influence or affect others in the organization (Obholzer, 1994)	9. Our senior leaders are committed to make this change initiative work 10. Our leaders are "walking the talk" on these changes 11. I believe my immediate manager supports these changes

Change Readiness Measures & Key Indicators	Burke-Litwin Model (Overt Factors)	X-Ray Vision Tool (Covert Concepts)	Survey Items
Vision for Change			
Employees believe that they have clarity on the organization's vision for change Employees believe that they have clarity on direction of the initiative	*Mission & Strategy:* "what the organization's (a) top management believes is and has declared is the organization's mission and strategy and (b) what employees believe is the central purpose of the organization"	*Role Clarity:* The extent to which each group/member has clarity on their roles and responsibilities; how groups/members see their roles and what unspoken expectations might others hold for those groups/members (Green & Molenkamp, 2005)	12. I clearly understand the leadership's vision for change 13. I clearly understand the next steps for the organization on this initiative 14. I know what is expected of me for implementing these changes
Change Communication			
Employees believe that the communication on change is timely, periodic, and consistent with what they hear from informal sources Employees believe that communication on change is credible and transparent	*Structure:* "arrangement of functions and people into specific areas and levels of responsibility, decision making authority, communication, and relationships to assure effective implementation of the organization's mission and strategy"	*Intergroup boundary permeability:* The extent to which individual groups'/ subgroups' boundaries are rigid or open to one another; the frequency and ease of communication between groups/ subgroups. (Alderfer, 1987; McCollom, 1995) *Psychological boundaries:* "Us vs. them" or insider/ outsider status within and between groups (Green & Molenkamp, 2005)	15. I believe the formal communication on these changes is in alignment with what I've heard from other informal sources 16. I believe I know where we are in the change process 17. I don't think leaders are holding back any change-related information

Change Readiness Measures & Key Indicators	Burke-Litwin Model (Overt Factors)	X-Ray Vision Tool (Covert Concepts)	Survey Items
Mobilizing Energy for Change			
Employees believe the organization's change history is an indicator of success/failure of the current change initiative Employees believe they have the skills and abilities to implement the change initiative Employees believe they have more agency in change process Employees trust leaders to have their back Employees feel motivated to implement the change	*Task Requirements: Individual Skills and Abilities* "required behavior for task effectiveness, including specific skills and knowledge required of people to accomplish work for which they have been assigned and for which they feel directly responsible" *Motivation:* "aroused behavior tendencies to move towards goals, take needed action, and persist until satisfaction is attained" *Systems:* "standardized policies and mechanisms that facilitate work, primarily manifested in the organization's reward systems, management information systems (MIS), and in such control systems as performance appraisal, goal and budget development, and human resource allocation" *Management Practices:* "what managers do in the normal course of events to use the human and material resources at their disposal to carry out the organization's strategy"	*Off Task/Task Behaviors:* The time spent by the group in pursuing the task versus the time spent in avoiding the task and engaging in off task behaviors (Bion, 1961) *Splitting:* The ways in which leaders influence their teams' tendencies to idealize or denigrate other groups, their reactions to "us vs. them" in groups (Alderfer, 1987; Wells, 1995; Alderfer & Smith, 1982) *Projective processes:* The type of hopes, ideas, unconscious feelings, frustrations, etc. that the members have about the manager, and the extent to which a manager is unconsciously pulled to fulfill group members' unstated expectations (Wells, 1995)	18. I'm comforted knowing that past change initiatives at [Insert Organization's Name] have been quite successful 19. I have the skills required to do what will be expected of me as a result of these changes 20. I feel I will be heard when I voice any concerns regarding this initiative 21. I trust my manager to be able to help resolve any disagreements that may arise as we implement these changes 22. I trust my manager to have my back with these changes 23. I believe there will be rewards for me for seeing these changes through

Change Readiness Measures & Key Indicators	Burke-Litwin Model (Overt Factors)	X-Ray Vision Tool (Covert Concepts)	Survey Items
	Work Unit Climate: "the collective current impressions, expectations, and feelings that members of local work units have that, in turn, affect their relations with their boss, with one another, and with other units"		

Notes. Definitions provided for overt factors are from Burke & Litwin (1992). The mapping of covert concepts to overt factors and descriptions provided for covert concepts are adapted from Table 2 of Noumair et al. (2017).

Additionally, one survey item (no. 25) was developed as an open-ended question that allowed participants to provide any additional insights or comments on the change. Finally, participants' demographic information, including age, gender, total years of work experience, years of experience in the current organization, and management level in the current organization, was collected. The survey questionnaire in its entirety is presented in Appendix A, and the 25 images used in survey item nos. 1 and 24 are presented in Appendix B.

It is important to note that a key goal of this survey was to incorporate items that could assess overt group processes and potentially surface covert and unconscious processes. For example, the items assessing affective responses and seeking open-ended, reflective responses were developed to help shine a light on the prevalence of any implicit or unconscious dynamics. While these responses by themselves might be insufficient to adequately diagnose the extent to which these covert group processes might impact change readiness, these could be vital in indicating the prevalence of such dynamics and informing an in-depth qualitative examination of these processes.

Interview Questionnaire

The interviews were semi-structured to provide structure and consistency across interviews and to enable participants to delve deeply into their experiences and share information while accommodating new questions or insights that might emerge from the conversation (Myers, 2009). Similar to the survey items, the main interview questions were developed to assess participants' affective response to change and their perceptions pertaining to the five key change readiness measures highlighted in the change literature. For instance, while a survey item asked the participants to rate their answers to the question "I believe my organization has the capability to successfully implement these changes" on a 5-point Likert scale with options

ranging from “strongly agree” to “strongly disagree,” the one-on-one interviews provided an opportunity for the researcher to collect extensive and more nuanced data and contextual information on the same topic. Further, as this study used a *convergent* design, the interview questions were developed before the study. Interview questions are available in Appendix C. A comparative overview of the measures, items pertaining to each measure, and the number of items assessed by the survey and interview questionnaires are provided in Table 4.

Table 4

Comparative Summary of Survey and Interview Questionnaires

Measure	Survey Items		Interview Questions	
	Item Nos.	No. of Items	Question Nos.	No. of Questions
Affective Responses to Change	1, 2 (scale), 24	3	1, 14	2
Need for Change	3 to 8	6	2, 3, 9, 10	4
Leadership Alignment	9, 10, 11	3	5, 11	2
Vision for Change	12, 13, 14	3	4, 7	2
Change Communication	15, 16, 17	3	6	1
Mobilizing Energy for Change	18 to 23	6	8, 12, 13	3
Open-ended (any additional comments)	25	1	15	1
		25		**15**

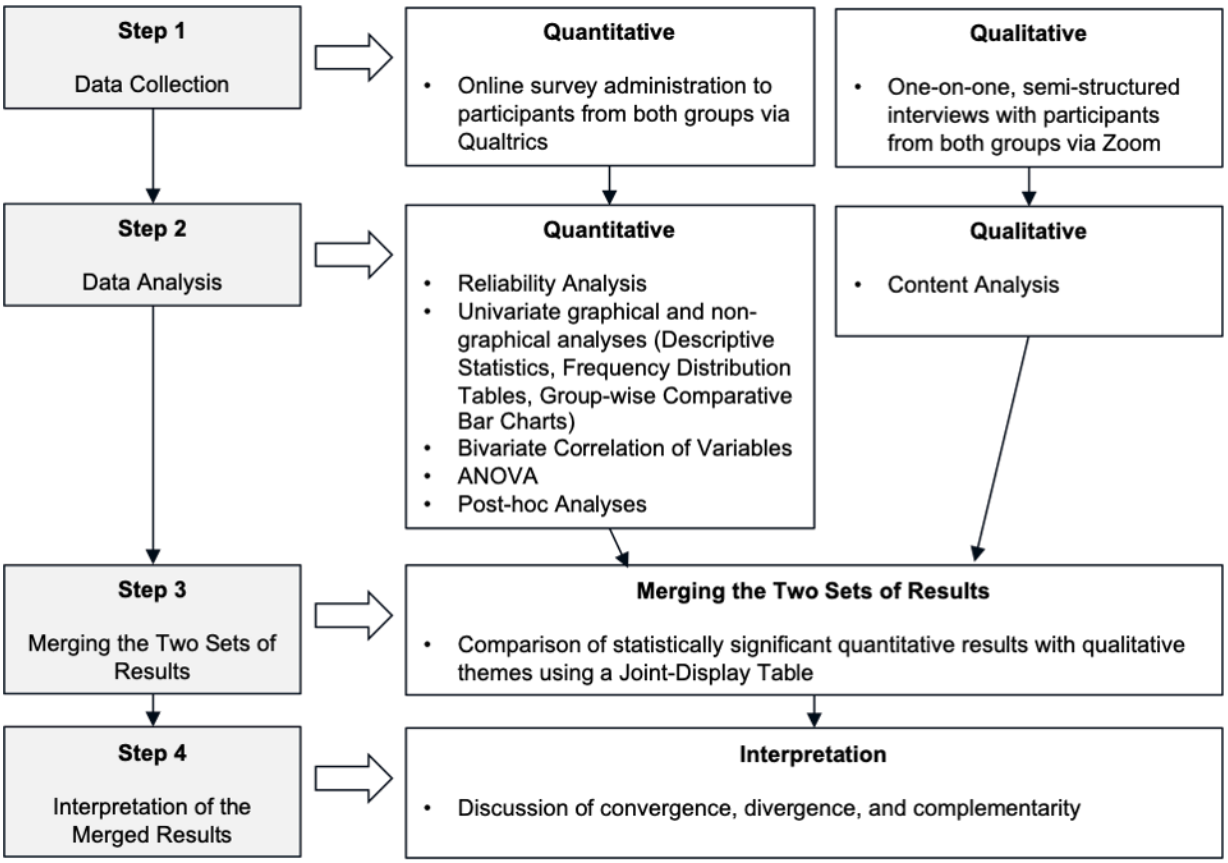
Procedure

This research used the four-step procedure recommended by Creswell & Plano Clark (2018) for implementing a convergent mixed-methods design as a guide in collecting, analyzing, and interpreting data. Accordingly, as the first step, both quantitative and qualitative data were collected concurrently but separately. That is, the collection of data from the survey and interviews occurred roughly around the same timeframe, but one did not depend on the other. As the second step, both sets of data were analyzed separately and independently from each other. The third step involved comparing, contrasting, and synthesizing results to identify the patterns,

emerging themes, and prevalence of overt and covert processes in each group. The fourth and final step included the interpretation of data and identifying ways in which the two sets of results diverged or converged, and the extent to which the combined findings contributed to achieving a more detailed understanding of the research problem. For an illustration of the procedure and the quantitative, qualitative, and mixed analysis methods used in this research, see Figure 5.

Figure 5

Flowchart of Convergent Mixed-Methods Procedure Used in this Research



Accordingly, this research focused on collecting data via surveys (i.e., Study 1) and semi-structured interviews (i.e., Study 2) to address the four research questions informing this thesis. Data collection and analysis pertaining to Study 1 and Study 2 are discussed in the following

paragraphs. A summary of the four research questions and associated studies are provided in Table 5 below.

Table 5

Summary of the Four Research Questions and Associated Study

Research Question	Associated Study
RQ1. How do overt and covert group processes influence OCR?	Study 1 and Study 2
RQ2. How do quantitative results from survey responses help examine the role of group processes influencing OCR?	Study 1 – Administration of an online survey questionnaire via Qualtrics
RQ3. How do qualitative results from interviews and open-ended survey responses help examine the role of group processes influencing OCR?	Study 2 – One-on-one, semi-structured interviews conducted via Zoom (data analysis included open-ended survey responses from Study 1)
RQ4. How might a mixed methods approach contribute to a more comprehensive and nuanced understanding of the role of group processes in developing OCR?	Study 1 and Study 2

Data Collection

Study 1. The study commenced with an email communication to all participants in both Groups A and B, inviting them to participate in research examining group processes influencing organizational readiness for change. Participants were informed that the goal of this study was to learn more about their perceptions of the changes currently underway in their organization. Participants were also informed that the survey would take about 20 to 30 minutes to complete and that their participation in the study was entirely voluntary, with the option to withdraw from the study at any point. Further, they were assured that their survey responses would be strictly

confidential and that any data gathered from them would be de-identified. The email communication template is presented in Appendix D. The survey was administered online via Qualtrics, and the participants had to provide informed consent before taking the survey. A total of 62 participants, 43 (81%) from Group A and 19 (46%) from Group B, participated in the survey. One out of 43 participants in Group A partially completed the survey. As this constituted a mere 2% of the survey responses, we can safely conclude that this was unlikely to reduce statistical power or introduce significant bias. The rest of the 42 participants in Group A and all 19 participants in Group B fully completed the survey. Participant demographics from both groups are presented in Table 6 below.

Table 6

Survey Participant Characteristics

Characteristic	Group A		Group B	
	n	*%*	*n*	*%*
Gender				
Male	25	60	9	47
Female	17	40	8	42
Other	0	0	1	5
Prefer not to say	0	0	1	5
Age				
20-29 years	6	14	4	21
30-39 years	30	72	7	37
40-49 years	6	14	3	16
Above 49 years	0	0	4	21
Prefer not to say	0	0	1	5
Total years of work experience				
1-5 years	12	29	5	26
6-10 years	23	55	3	16
More than 10 years	6	14	10	53
Prefer not to say	1	2	1	5
Years in Current Organization				
Less than 1 year	27	64	4	21
1-5 years	14	33	7	37
More than 5 years	1	2	7	37
Prefer not to say	0	0	1	5

Management Level				
Individual contributor	34	81	14	74
Manager	7	17	4	21
Senior leadership	1	2	1	5

Notes. Percentages may not total 100% due to rounding.

Study 2. Email communication to all participants in the interview sample in both Groups A and B included an invite to participate in the one-on-one interviews to enable a better and more detailed understanding of their perceptions of the changes that are currently underway. Participants were informed that one-on-one interviews would be conducted virtually on Zoom at a mutually convenient time and would be approximately 45 to 60 minutes in duration. They were informed that their participation in the study was entirely voluntary, with the option to withdraw from the study at any point. Further, they were assured that their interview conversations would be strictly confidential and that any data gathered from them would be de-identified and used only in an aggregated form. Participants had to provide informed consent before participating in the interview. Interview responses were transcribed and were only recorded with the consent of the participants. The email communication template is presented in Appendix D. A total of 31 participants, 23 (92%) participants from Group A and 8 (40%) participants from Group B, participated in the interviews. Participant demographics from both groups are presented in Table 7 below.

Table 7

Interview Participant Characteristics

Characteristic	Group A		Group B	
	n	%	*n*	%
Management Level				
Individual contributor	18	78	6	75
Manager	4	17	1	12
Senior leadership	1	4	1	12

Notes. Percentages may not total 100% due to rounding.

Additionally, in Group A, 7 (30%) participants identified as new hires with less than one year in the current organization, and 9 (39%) participants identified as being hired from a larger organization with better change management expertise. With regards to Group B, 5 (63%) participants stated that they had been with the organization for more than one change initiative in the past, and 3 (38%) participants identified as part-time employees.

Contracting. It is important to note here that the course of organizational change, a key focus area of this research, evokes as well as heightens anxiety (Krantz, 2006; Obholzer, 2021). We observed this in our conversations with leaders from multiple organizations when we approached them for participation in the pilot study. While many of them were excited to be able to have access to data about group processes that influence change readiness, they were hesitant to participate in the research process as data was collected from intact groups in this research compared to participation across the organization(s). Further, many were worried about how research findings would be disseminated. Given the nature of the data collected in this study, four key measures were taken to alleviate the anxiety of research participants. First, no personally identifying information (e.g., name, address, phone, or any other unique identifier) was collected in the survey to maintain the confidentiality and anonymity of the participants. Second, survey and interview results are reported in aggregate. Any quotations included in the presentation of results are anonymous and only included to present evidence and emphasize key themes and ideas. An overview of the results will also be shared with the participating organizations' leaders, and the same level of anonymity and confidentiality will be maintained while doing so. Third, all participants were provided with contact details of both the researcher and the Institutional Review Board so they could reach out with any questions or concerns.

Lastly, participation in the survey and interviews was voluntary, and participants were informed that they had the option to refuse to participate or withdraw from participation at any time.

Data Analysis

As this research used a convergent mixed methods design, both sets of data were first analyzed separately and independently from each other. Then, the next step involved comparing, contrasting, and synthesizing quantitative and qualitative results to identify the patterns, emerging themes, and prevalence of covert processes. The final step included the interpretation of data and identifying ways in which the two sets of results diverged, converged, or related to each other and the extent to which the combined findings contributed to an enhanced understanding of the research problem.

Quantitative Analysis. As this research was an exploratory study that focused on a comprehensive investigation of the role of overt and covert group processes in developing OCR, traditional quantitative and statistical methods aimed at confirming or rejecting hypotheses were not applicable to this study. Instead, this research employed a two-step approach to examine quantitative data. First, exploratory data analysis methods such as reliability analysis and univariate exploratory non-graphical and graphical analyses were conducted to analyze the quantitative data, to "see" the data in detail, and, as Tukey (1977) recommended, to engage in "detective work" to uncover patterns in data using counted, numeric, and graphical analysis of data. Specifically, this study used reliability analysis to test the internal consistency of the survey instrument, descriptive statistics such as measures of central tendency (mean) to examine the location of distribution, measures of variability (standard deviation) to examine the spread of the distribution, frequency tables to examine the frequency of the distribution, and graphical

analyses (stacked bar chart, pie chart, and group-wise comparative bar charts) to identify trends and variations and for comparing multiple categories within and between the two groups.

Second, inferential analyses such as bivariate correlation analysis and analysis of variance (ANOVA) were conducted to examine the relationship between the variables in this study and to compare means to identify whether statistically significant differences existed between groups, respectively. Additionally, post-hoc analyses were conducted where necessary. Furthermore, as this research used a multiple-case design, within-group analyses were conducted first, followed by between-group analyses. IBM SPSS v.30 was used for quantitative analysis.

Qualitative Analysis. Qualitative data was categorized and analyzed using content analysis techniques. Content analysis is "a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use" (Krippendorff, 2004, p. 18). Content analysis was appropriate for this research for several reasons. First, content analysis is context-sensitive, allowing researchers to extract meaningful, significant, and informed context from the data collected (e.g., Krippendorff, 2004; Mayring, 2000). This was especially useful in this research, where understanding the context – nature of change, need, history of change in the organization, etc. – was valuable in examining individual and group beliefs, attitudes, and behavior towards change. Given that change and change readiness have strong theoretical frameworks, deductive analysis was used for this research. NVivo 12 was used in qualitative data analysis, such as establishing coding schemes and categorizing data based on affect (positive, negative) and the five key measures of change readiness (need for change, leadership alignment, vision for change, change communication, and mobilizing energy for change) and related indicators highlighted by current change literature. Additionally, as the purpose of this research was to potentially uncover covert group processes, *in vivo* coding was

used to help surface additional themes as they emerge. Further, this research used tabulation and word frequency counts to identify emerging patterns. As the data was solely analyzed by the researcher, several measures were taken to ensure trustworthiness in the analyses as recommended by pertinent literature (e.g., Ahmed, 2024; Hadi & Closs, 2016). Accordingly, this research ensured trustworthiness by: i) ensuring the credibility of findings by triangulation of qualitative and quantitative data to cross-verify findings, ii) facilitating transferability of findings by providing detailed information on context, sampling process, and participant selection criteria, iii) strengthening dependability by detailing the research procedures and decisions made during the research, and iv) enhancing confirmability of the findings by engaging in peer debriefing (e.g., discussing and seeking feedback from research advisor and committee members) to review interpretations and findings.

Mixed Analysis. Mixed analysis was conducted to aid merging and cross-tabulation of statistically significant quantitative results and qualitative theme. Specifically, a joint-display table and narrative discussion were used to integrate quantitative and qualitative results and address the question of the extent to which the integrated data converged, diverged, or enhanced the understanding of the research problem. Within-group and between-group comparisons were conducted to facilitate an in-depth examination of results and gain further insights into the role of overt and covert group processes in developing OCR.

The next chapter summarizes the results of the quantitative, qualitative, and mixed analyses.

Chapter 4: Results

This chapter is structured by the methodological research questions (*RQ2, RQ3, and RQ4*), with findings pertaining to each research question presented in order. As a reminder, the research questions informing this thesis are:

RQ1. How do overt and covert group processes influence OCR?

RQ2. How do quantitative results from survey responses help examine the role of group processes influencing OCR?

RQ3. How do qualitative results from interview findings and survey responses help examine the role of group processes influencing OCR?

RQ4. How might a mixed-methods approach contribute to a more comprehensive and nuanced understanding of the role of group processes in developing OCR?

Accordingly, this chapter first summarizes quantitative findings from survey responses (Study 1) from 62 participants (43 from Group A and 19 from Group B) regarding their perceptions of the changes currently underway in their organizations. Second, qualitative results from open-ended survey responses (Study 1) and qualitative findings from in-depth semi-structured interview conversations (Study 2) with 31 participants (23 from Group A and eight from Group B) are described. Finally, this chapter presents mixed-methods findings pertaining to the ways in which the two sets of results diverged, converged, or were expanded upon using a joint-display table and narrative discussion.

For all three sets of findings, quantitative, qualitative, and mixed, the results pertaining to the two affect measures (positive affect and negative affect) were presented first, followed by findings corresponding to the five change readiness measures (need for change, leadership

alignment, vision for change, change communication, and mobilizing energy for change). Finally, within-group results are summarized first, followed by between-group findings.

Quantitative Findings

Reliability Analysis

Reliability analysis was conducted to assess the internal consistency of the survey instrument. Cronbach's alpha was computed for the two affect measures (positive affect and negative affect) and the five change readiness measures (need for change, leadership alignment, vision for change, change communication, and mobilizing energy for change). Results confirmed that Cronbach's alpha of at least .70 was met within the survey instrument, inclusive of each measure (positive affect $\alpha = .96$; negative affect $\alpha = .79$; need for change $\alpha = .78$; leadership alignment $\alpha = .81$; vision for change $\alpha = .93$; change communication $\alpha = .83$; and mobilizing energy for change $\alpha = .91$) indicating that the survey instrument exhibits good internal consistency. Further analysis of item-total correlations revealed that item no. 7 had a low correlation with the total score ($r = .21$). Removing this item did somewhat improve the reliability of the need for change measure ($\alpha = .83$). However, after reviewing the item's content - *"I fear I'll lose some of my status when these changes are implemented,"* and its relevance in change literature (Oreg, 2006; Erwin & Garman, 2010; Chreim, 2006), it was determined to retain it within the scale due to its contribution to the overall measurement construct.

Within-Group Analyses - Group A

Table 8 presents the descriptive statistics and correlations between the two affect measures (positive affect, negative affect) and the five change readiness measures (need for change, leadership alignment, vision for change, change communication, and mobilizing energy for change) for Group A.

Table 8

Means, Standard Deviations, and Correlations Among Variables for Group A

Variable	*n*	*M*	*SD*	1	2	3	4	5	6	7
1. Positive Affect	43	4.19	0.87	--						
2. Negative Affect	43	1.50	0.54	-.46**	--					
3. Need for Change	42	4.31	0.66	.71**	-.28	--				
4. Leadership Alignment	42	4.23	0.80	.54**	-.44	.67**	--			
5. Vision for Change	42	4.09	0.88	.51**	-.08	.63**	.89**	--		
6. Change Communication	42	3.78	0.77	.51**	-.08	.53**	.77**	.85**	--	
7. Mobilizing Energy for Change	42	4.02	0.81	.56**	-.15	.59**	.82**	.89**	.83**	--

Notes. * Indicates $p < 0.05$; ** Indicates $p < .01$. M and SD are used to represent mean and standard deviation, respectively.

It is to be noted that the means across all measures were quite similar except for the mean of negative affect, which was 1.5 out of 5, indicating that, overall, Group A had a positive outlook towards the changes underway in their organization. Also, the low standard deviation for negative affect, 0.54 out of 1, suggested a similarity of responses within the group.

One-way analysis of variance (ANOVA) conducted to determine if there were significant within-group differences in means for positive affect, negative affect, and the five OCR measures based on demographic variables such as years of experience in current organization and management level did not yield any significant results.

Bivariate correlation analysis conducted to examine the relationship between the two affect measures and the five change readiness measures (refer to Table 8 above) highlighted positive and significant correlations between positive affect and all five change readiness measures. Specifically, i) there was a positive and significant correlation between positive affect and need for change, $r(42) = .71$, $p < .01$; ii) there was a positive and significant correlation between positive affect and leadership alignment, $r(42) = .54$, $p < .01$; iii) there was a positive

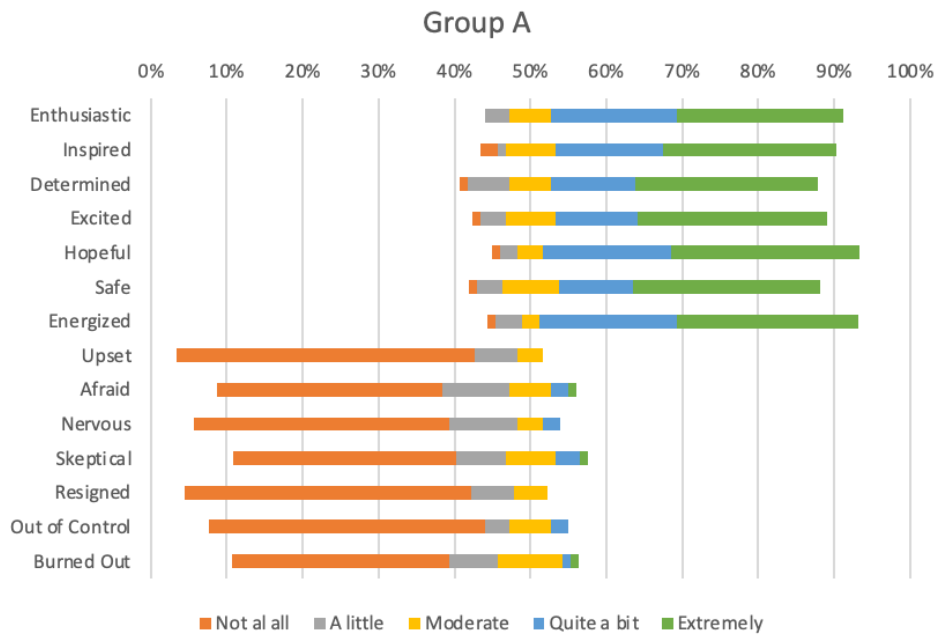
and significant correlation between positive affect and vision for change, $r(42) = .51$, $p < .01$; iv) there was a positive and significant correlation between positive affect and change communication, $r(42) = .51$, $p < .01$; and v) there was a positive and significant correlation between positive affect and mobilizing energy for change, $r(42) = .56$, $p < .01$. These results suggest that when members perceive high levels of need for change, leadership alignment, clarity on the vision for change, effectiveness of change communication, and energy to engage in change efforts, they would be significantly more likely to experience positive feelings and emotions. Negative affect was not significantly correlated with any of the five change readiness measures.

The following paragraphs delve deeper into key findings pertaining to affect and each of the five change readiness measures.

Affect. As a reminder, two survey items (nos. 1 and 24) and an affect scale (no. 3) were developed to assess participants' affective responses to changes (refer to Table 4). As item nos. 1 and 24 were formulated to be open-ended questions, these are discussed in the qualitative findings section. Figure 6 below provides a summary of participant responses to the affect scale that aimed to understand the extent to which the participants experienced various feelings and emotions pertaining to change.

Figure 6

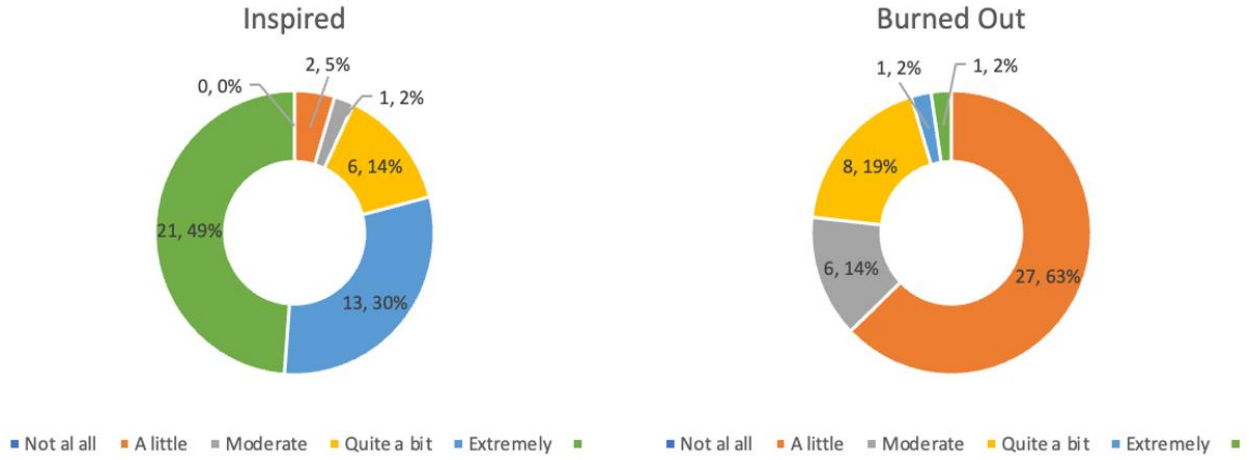
Affect Response Summary – Group A



Out of the 14 feelings and emotions listed in the survey, participants rated the feelings of being hopeful and energized by change most favorably. 22 out of 43 (51%) participants reported that they were feeling extremely hopeful (5 out of 5 on the scale), and 15 out of 43 (35%) participants stated that they were feeling quite a bit hopeful about the changes (4 out of 5 on the scale). 21 out of 43 (49%) participants reported that they were feeling extremely energized (5 out of 5 on the scale), and 16 out of 43 (37%) participants stated that they were feeling quite a bit energized by the changes (4 out of 5 on the scale). Additionally, participants rated upset and resigned as the least felt emotions about the change, with 35 out of 43 (81%) participants reporting not at all feeling upset (1 out of 5 on the scale) and 34 out of 43 (79%) participants reporting not feeling resigned to change (1 out of 5 on the scale). The most variation in participant responses was on the feelings of being inspired and burned out, which could likely indicate ambivalence towards change. The dispersion of ratings for participant responses on the feelings of being inspired and burned out is depicted in Figure 7 below.

Figure 7

Dispersion of Ratings for Inspired and Burned Out - Group A



In sum, data from the scale examining affective responses to change indicated that the participants, that is, the members of Group A, felt mostly hopeful of the change outcomes and energized to see the changes through, and yet, varied individually on how inspired they were by the change with some members feeling more burned out than the others.

Need for Change. Forty-one out of forty-two (98%) participants believed that the changes underway were clearly needed at their organization. 32 (76%) participants believed that these changes were essential to improve the overall performance of the organization, 25 (60%) participants believed that the changes aligned well with the organization's values, 22 (52%) participants felt that this was the right time to implement these changes, and four (10%) participants agreed that the changes underway were long overdue. Further, 37 (88%) participants believed that their organization had the capability to successfully implement these changes.

Moreover, when asked whether the changes were beneficial to them and their team, 36 (86%) participants agreed or strongly agreed that the changes were individually beneficial to them, one (2%) participant strongly disagreed, and five (12%) participants were unsure.

Similarly, 37 (88%) participants agreed or strongly agreed that the changes were beneficial to their team, one (2%) participant strongly disagreed, and four (10%) participants were unsure.

Finally, only one (2%) participant reported a perceived loss of status if the changes were implemented. While 34 (81%) participants disagreed with having any such perceptions, seven (17%) participants were unsure. Similarly, only one (2%) participant believed that their social relationships in the organization would be disrupted if the changes were implemented, 36 (86%) participants disagreed with this statement, and five (12%) participants were unsure of the impact of the changes on their social relationships in the organization.

In sum, 98% of members of Group A agreed on the need for change at an organizational level, albeit for different reasons, 88% of members believed that their organization had the capability to successfully implement these changes, and more than 80% of members agreed that the changes were both personally beneficial to them as well as beneficial to their teams. More than 10% of members were unsure whether the changes posed a threat to their status or social relationships within the organization.

Leadership Alignment. 37 (88%) participants believed that their leaders were committed to making the change work and felt that their leaders were role modeling change-related behaviors. Also, 36 (86%) participants believed that their immediate managers fully supported these changes.

Vision for Change. When asked whether the participants believed they had clarity on the organization's vision for change, 34 (81%) participants agreed or strongly agreed with the statement, six (14%) participants were unsure, and two (5%) participants believed they had no clarity on the vision for change.

Additionally, more than 75% of the participants agreed that they had clarity on the organization's next steps, with 10 (24%) participants reporting that they were either unsure or unclear about the next steps at the organizational level. Furthermore, 34 (81%) participants were clear about what was expected of them, individually, for implementing change.

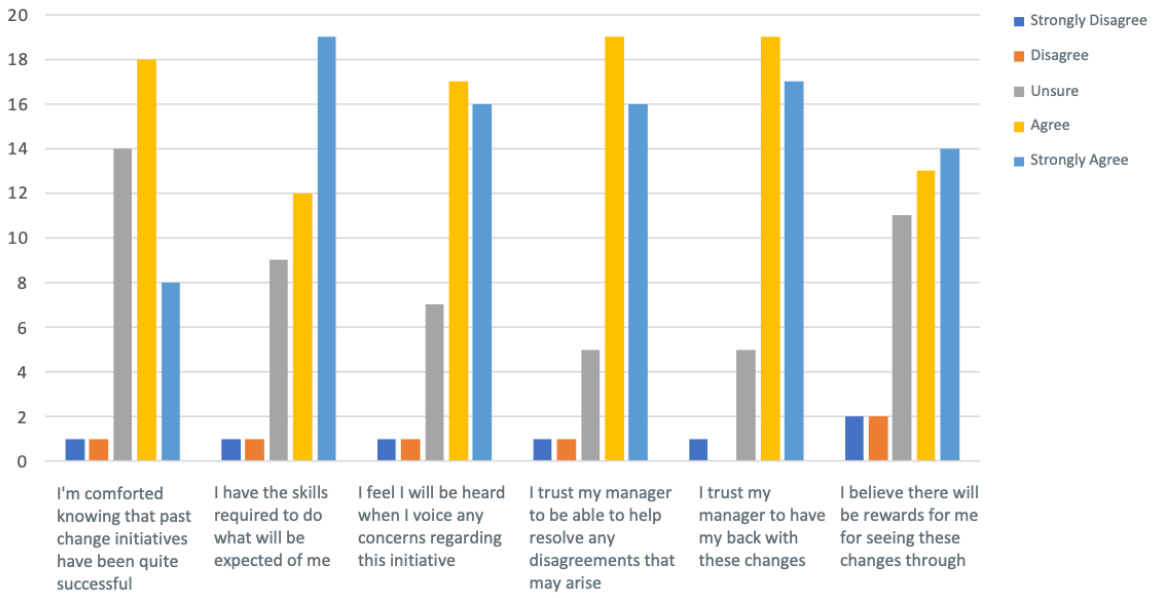
Change Communication. Participants' responses varied when asked whether they believed that change-related communication was disseminated in an open, timely, and transparent manner. 29 (69%) participants believed that the formal communication on change aligned with what they heard from informal sources, whereas 12 (29%) participants were unsure, and one (2%) participant disagreed with this statement.

When asked about whether they knew where they were in the change process, 23 (55%) participants agreed, 16 (38%) were unsure, and three (7%) disagreed. Furthermore, 28 (67%) participants believed that leaders were not holding back any change-related information, whereas 11 (26%) participants were unsure of the same, and the remaining three (7%) participants disagreed with this statement.

Mobilizing Energy for Change. Participants' responses to the six items pertaining to this measure are summarized in Figure 8 below.

Figure 8

Mobilizing Energy for Change Response Summary – Group A



In sum, more than 80% of members of Group A reported that they trusted their managers to have their backs and to help resolve any disagreements that may arise while implementing the changes. Additionally, more than 70% of members believed that they had agency in the change process as well as the skills required to do what is expected of them. However, more than 33% of members were unsure of whether the organization had been able to successfully implement changes in the past. Furthermore, over one-fourth of the members were unsure whether their efforts toward implementing the changes would be rewarded.

Within-Group Analyses - Group B

Table 9 summarizes the descriptive statistics and correlations between the two affect measures and five change readiness measures for Group A.

Table 9

Means, Standard Deviations, and Correlations Among Variables for Group B

Variable	*n*	*M*	*SD*	1	2	3	4	5	6	7
1. Positive Affect	19	2.70	1.13	--						
2. Negative Affect	19	2.45	0.66	-.47*	--					
3. Need for Change	19	3.87	0.56	.52*	-.07	--				
4. Leadership Alignment	19	3.60	0.81	.54*	-.37	.22	--			
5. Vision for Change	19	2.88	1.10	.54*	-.41	.26	.84**	--		
6. Change Communication	19	3.00	0.94	.44	-.36	.27	.74**	.77**	--	
7. Mobilizing Energy for Change	19	3.72	0.62	.39	-.26	.47*	.57*	.41	.69**	--

Notes. * Indicates $p < 0.05$; ** Indicates $p < .01$. M and SD are used to represent mean and standard deviation, respectively.

One-way analysis of variance (ANOVA) was conducted to determine if there were significant within-group differences in means for positive affect, negative affect, and the five OCR measures based on demographic variables such as years of experience in current organization and management level. Post hoc comparisons using the Bonferroni method were then conducted to determine which groups were significantly different from each other. The results are presented in the following paragraphs.

First, a one-way ANOVA conducted to analyze within-group variance by years of experience in the current organization revealed a significant difference in positive affect between participants' years of experience in the current organization, $F(2, 16) = 4.08$, $p = .037$, $\eta^2 = .34$. Specifically, positive affect was significantly higher in participants with less than one year of experience in the current organization ($M = 3.93$, $SD = 0.62$) than in those with more than five years of experience in the current organization ($M = 2.32$, $SD = 1.07$), $p = .047$, $\eta^2 = .34$.

Second, a one-way ANOVA conducted to analyze within-group variance by management level revealed a significant difference in mobilizing energy for change between management levels, $F(2, 16) = 8.04$, $p = .004$, $\eta^2 = .50$. Post hoc tests were not performed as one group (senior leadership) had fewer than two cases (n = 1). Instead, planned comparisons were conducted.

Planned contrasts revealed that mobilizing energy for change was significantly higher in participants in the individual contributor level (M = 3.98, SD = 0.37) compared to those in the manager level (M = 3.00, SD = 0.76), $t(16) = 3.67$, p =.002, r =.68. Due to the small sample size of Group B (n = 19), testing for interaction effects was not conducted as the sample size was likely insufficient to uncover meaningful interaction effects.

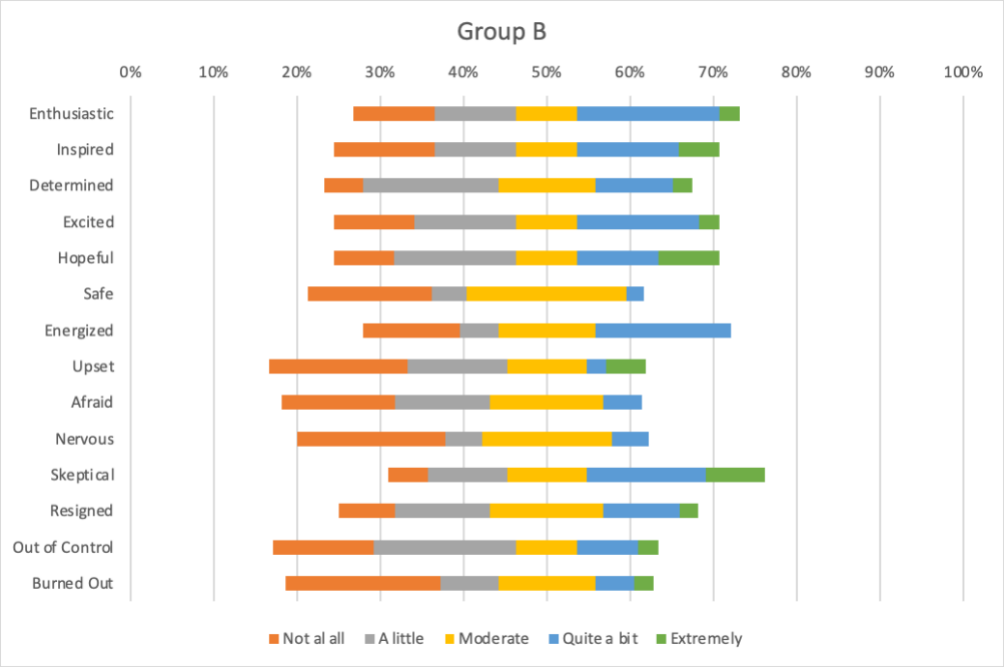
Bivariate correlation analysis conducted to examine the relationship between the five change readiness variables and two affect variables (see Table 9 above) highlighted a positive and significant correlation between positive affect and need for change, $r(19) = .52$, $p < .05$, indicating that when members perceive a high level of need for change, they would be significantly more likely to experience positive emotions. Additionally, a positive and significant correlation was found between positive affect and leadership alignment, $r(19) = .54$, $p < .05$, indicating that member perception of a high level of leadership alignment would significantly more likely result in a corresponding increase in felt positive emotions. Finally, the analysis also highlighted a positive and significant correlation between positive affect and vision for change, $r(19) = .54$, $p < .05$, suggesting that when members perceive a high level of clarity on the organization's vision for change, they are significantly more likely to experience positive emotions. Positive affect was not significantly correlated with change communication and mobilizing energy for change. Also, similar to Group A, there was no significant correlation between negative affect and any of the change readiness measures.

The following paragraphs summarize key findings pertaining to affect and each of the five change readiness measures.

Affect. Figure 9 below provides a summary of participant responses pertaining to the affect scale developed to assess participants' affective responses to change.

Figure 9

Affect Response Summary – Group B

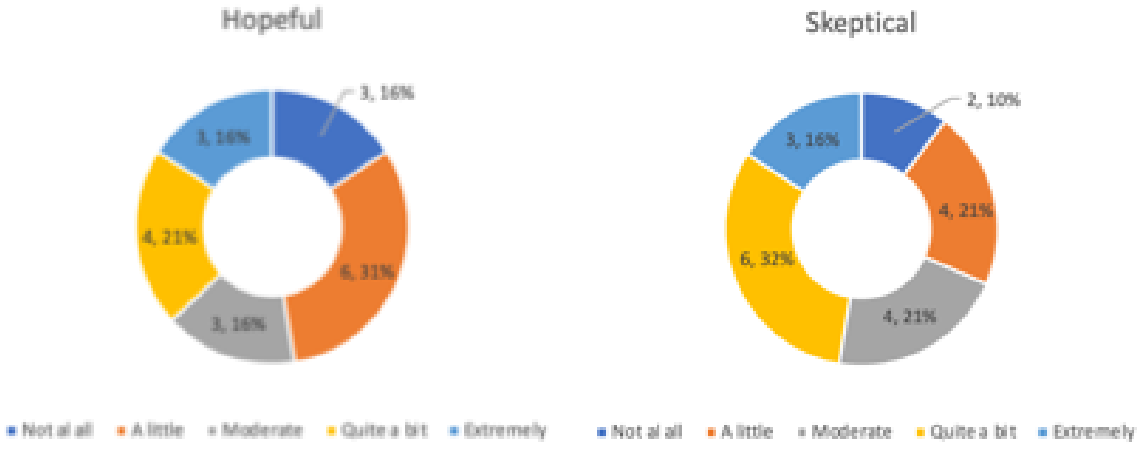


Out of the 14 feelings and emotions listed in the survey, participants rated the feeling of being enthusiastic about change most favorably. One participant (5%) stated that they were extremely enthusiastic, seven out of 19 (37%) participants reported that they felt quite enthusiastic, three out of 19 (16%) participants stated that they felt moderately enthusiastic, four out of 19 (21%) participants were a little enthusiastic, and four out of 19 (16%) participants reported that they were not at all enthusiastic about change. Additionally, participants rated safe as the least felt emotion about the change. With regards to change, seven out of 19 (37%) participants reported that they were not at all feeling safe, two out of 19 participants (11%) reported that they felt a little safe, nine out of 19 (47%) participants felt moderately safe, and one participant (5%) felt quite a bit safe. The most varied participant responses were regarding the feelings of being hopeful and skeptical about change, which could likely indicate ambivalence

towards change. The dispersion of ratings for participant responses on the feelings of hopeful and skeptical is illustrated in Figure 10 below.

Figure 10

Dispersion of Ratings for Hopeful and Skeptical – Group B



In sum, data from the affect scale examining affective responses to change indicate that the participants, that is, the members of Group B, felt mostly enthusiastic about change, and yet, varied individually in how hopeful they were about the changes, with some members feeling more skeptical about change than the others.

Need for Change. Eighteen out of nineteen (95%) participants reported that the changes underway were clearly needed at the organization. However, only 12 out of 19 (63%) believed that their organization had the capability to successfully implement these changes. 10 (53%) participants believed that these changes were essential to improve the overall performance of the organization, 10 (53%) participants believed that the changes aligned well with the organization's values, 10 (53%) participants felt that this was the right time to implement these changes, and three (16%) participants agreed that the changes underway were long overdue.

With regards to whether the participants thought the changes were beneficial to them, 12 (63%) participants agreed that the changes were individually beneficial to them, whereas 5

(26%) were unsure. Similarly, when asked whether the participants believed the changes were beneficial to their team, 13 (68%) participants agreed with the statement, whereas 5 (26%) participants were unsure.

Furthermore, none of the participants reported a perceived loss of status when the change was implemented, and only one (5%) participant believed that their social relationships in the organization could be disrupted if the change was implemented.

In sum, although 95% of the members of Group B agreed on the need for change at an organizational level, albeit for different reasons, only 63% of members believed that their organization had the capability to implement these changes successfully. Also, more than 60% of members agreed that the changes were both personally beneficial to them and to their teams. Finally, members perceived a very low threat to their status or social relationships within the organization on account of the changes.

Leadership Alignment. Twelve (63%) participants agreed that their leaders were committed to making the change work, whereas four (21%) participants were unsure, and three (16%) participants disagreed with the statement. Less than half (9; 47%) of the participants believed that their leaders were role modeling change-related behaviors, and more than one-third (7; 37%) of the participants disagreed with this statement. However, 15 (79%) participants believed their immediate managers fully supported these changes.

Vision for Change. Only 11 (58%) participants believed they had clarity on the organization's vision for change. More than 30% of the participants stated they had no clarity on the vision for change. Fewer participants (6; 32%) had clarity on the organization's next steps, with 13 (68%) participants reporting that they were either unsure or unclear about the next steps at the organizational level. Furthermore, only seven (37%) participants were clear about what

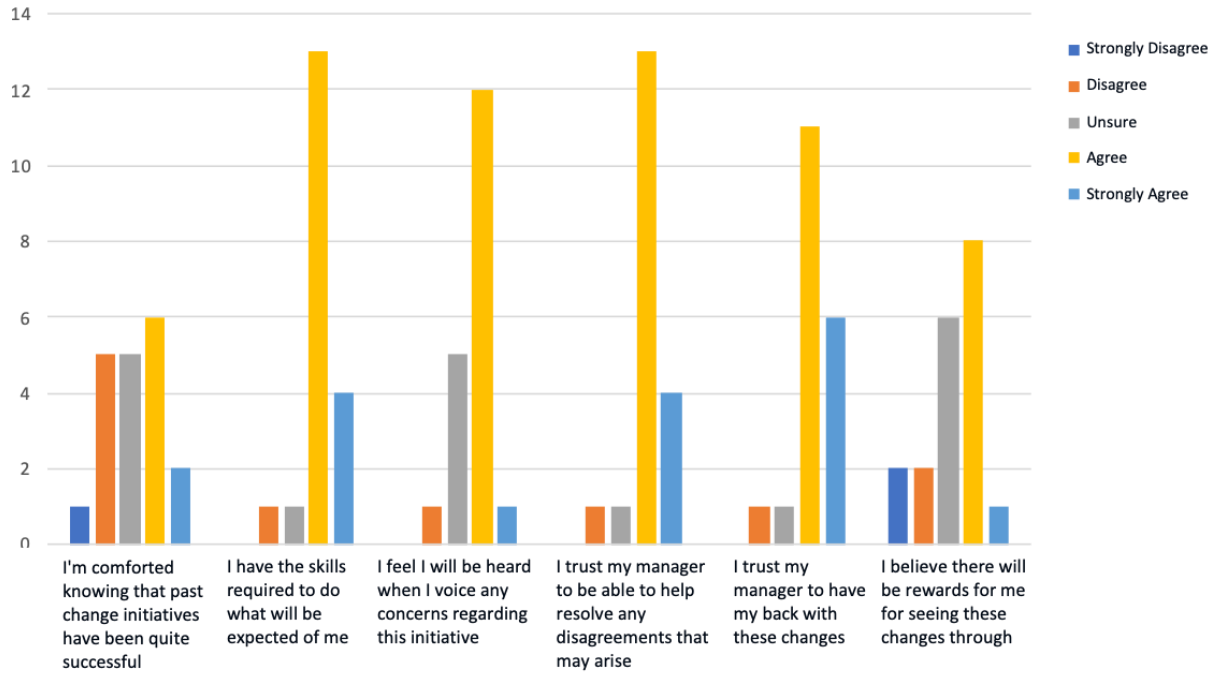
was expected of them, individually, for implementing change, while 12 (63%) were either unclear or unsure of expectations from them for implementing change.

Change Communication. With regards to whether the participants believed that the formal communication on change aligned with what they heard from informal sources, less than half (9; 47%) of the participants agreed with the statement, five (26%) participants were unsure, and five (26%) participants disagreed. When asked whether they knew where they were in the change process, more than 70% of participants were either unsure or unclear. Furthermore, only nine (47%) participants believed that the leaders were not holding back any change-related information, whereas six (32%) participants were unsure of the same, and the remaining four (21%) participants disagreed with this statement.

Mobilizing Energy for Change. Figure 11 below summarizes participants' responses to this measure.

Figure 11

Mobilizing Energy for Change Response Summary – Group B



In sum, more than 85% of the members of Group B reported that they trusted their managers to have their backs and to help resolve any disagreements that may arise while implementing the changes. Additionally, more than 85% of members believed that they had agency in the change process and the skills required to do what was expected of them. However, when asked when they felt comforted about the organization's change history, only eight (42%) members agreed, five (26%) members were unsure of whether the organization had been able to implement changes in the past successfully, and six (32%) members disagreed with this statement. Furthermore, less than half of the members believed their efforts toward implementing the changes would be rewarded.

Between-Group Analyses - Groups A and B

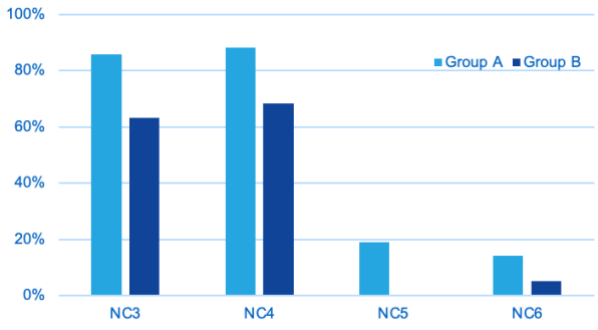
Affect. As this research emphasized the need to examine affective responses to change in developing OCR, a one-way analysis of variance (ANOVA) was conducted to determine if there were significant between-group differences in means based on affect. The means for positive affect for Groups A and B were 4.19 (SD = 0.87) and 2.69 (SD = 1.13), respectively. The means for negative affect for Groups A and B were 1.50 (SD = 0.54) and 2.45 (SD = 0.66), respectively. Results revealed that there was a significant difference between Groups A and B based on affect. Specifically, a significant difference was found in positive affect between Groups A and B, $F(1, 60) = 32.01$, $p < 0.001$, $\eta^2 = .35$. Additionally, a significant difference was found in negative affect between Groups A and B, $F(1, 60) = 35.59$, $p < 0.001$, $\eta^2 = .37$.

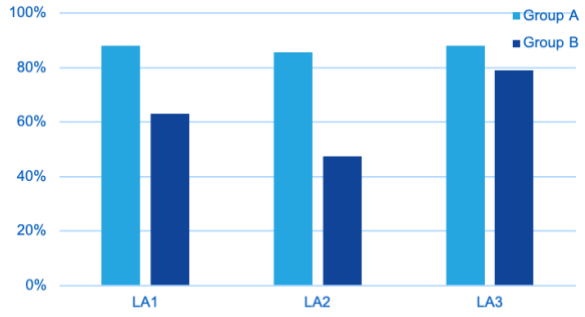
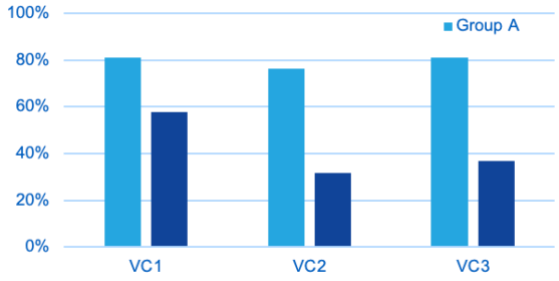
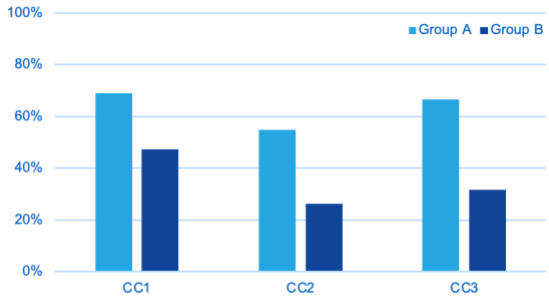
A one-way ANOVA conducted to determine if there were significant within-group differences in means for the five OCR measures between Groups A and B did not yield any significant results.

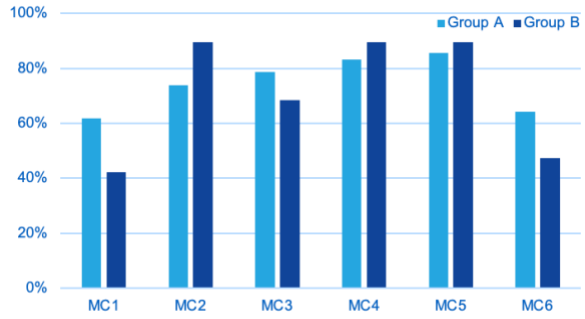
Table 10 offers a comparative summary of the findings of each of the five change readiness measures for Groups A and B.

Table 10

Comparative Summary of Findings of the Five Change Readiness Measures

Measure and Survey Items	Group A	Group B
Need for Change (NC)		
NC1 - I believe the changes underway are clearly needed at the organization	41 out of 42 (98%) participants agreed	18 out of 19 (95%) participants agreed
Reasons cited:		
1. Changes underway are long overdue	4 (10%) participants	3 (16%) participants
2. This is the right time to implement these changes	22 (52%) participants	10 (53%) participants
3. I believe the changes underway align well with the organization's values	25 (60%) participants	10 (53%) participants
4. I believe the changes underway are essential to improve the overall performance of our organization	32 (76%) participants	10 (53%) participants
NC2 - I believe the organization has the capability to successfully implement these changes	37 out of 42 (88%) participants agreed	Only 12 out of 19 (63%) participants agreed
NC3 - I think the changes underway will be beneficial to me NC4 - I think the changes underway will be beneficial to my team NC5 - I fear I'll lose some of my status when these changes are implemented NC6 - These changes may disrupt my relationships in this company when they are implemented	 Group-wise Comparison of Need for Change (Items 5 to 8)	

Measure and Survey Items	Group A	Group B
Leadership Alignment (LA) LA1 - Our leaders are committed to make this change initiative work LA2 - Our leaders are "walking the talk" on these changes LA3 - I believe my immediate manager supports these changes	 Group-wise Comparison of Leadership Alignment (Items 9 to 11)	
Vision for Change (VC) VC1 - I clearly understand the leadership's vision for change VC2 - I clearly understand the next steps for the organization on this initiative VC3 - I know what is expected of me for implementing these changes	 Group-wise Comparison of Vision for Change (Items 12 to 14)	
Change Communication (CC) CC1 - I believe the formal communication on these changes is in alignment with what I've heard from other informal sources CC2 - I believe I know where we are in the change process CC3 - I don't think leaders are holding back any change-related information	 Group-wise Comparison of Change Communication (Items 15 to 17)	

Measure and Survey Items	Group A	Group B
Mobilizing Energy for Change (MC) MC1 - I'm comforted knowing that past change initiatives at [Insert Organization's Name] have been quite successful MC2 - I have the skills required to do what will be expected of me as a result of these changes MC3 - I feel I will be heard when I voice any concerns regarding this initiative MC4 - I trust my manager to be able to help resolve any disagreements that may arise as we implement these changes MC5 - I trust my manager to have my back with these changes MC6 - I believe there will be rewards for me for seeing these changes through	 Group-wise Comparison of Mobilizing Energy for Change (Items 18 to 23)	

Qualitative Findings

This section summarizes and presents key themes that emerged from qualitative responses to open-ended survey questions in Study 1 and from in-depth interview conversations in Study 2. Similar to the presentation of quantitative findings, within-group themes are presented first, followed by between-group themes. Also, qualitative findings from Study 1 are discussed first, followed by those from Study 2.

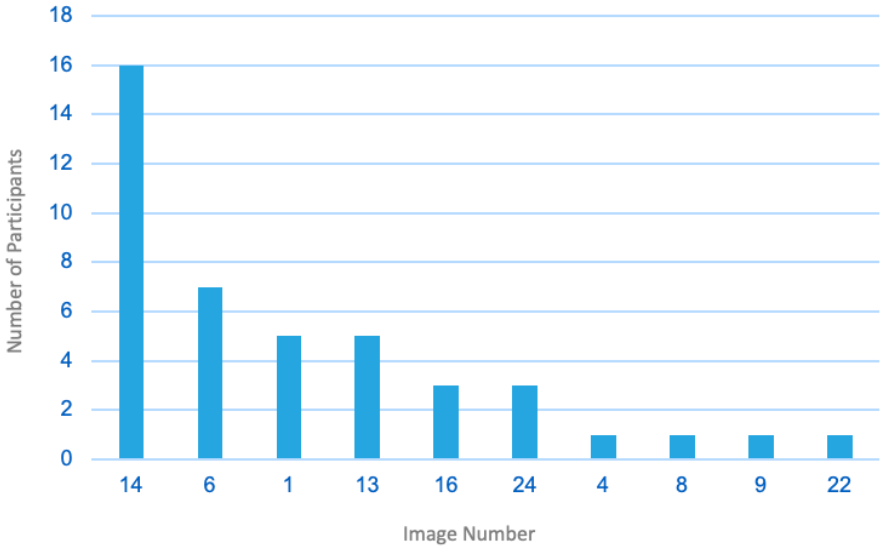
Within-Group Analyses - Group A

Affect (Study 1). Together, Figure 12 and Table 11 below provide a summary of responses to survey item no. 1, which asked participants to choose an image out of 25 images that best represent their affective responses to change. First, Figure 12 provides a summary of the images chosen by the participants, classified by the number of participants. Image numbers

pertain to the numbers assigned to each of the 25 images used in the survey instrument. All images are numbered and presented under Appendix B.

Figure 12

Images Chosen by Number of Participants for Survey Item No. 1 – Group A



Next, Table 11 maps the images to their narrative responses and presents representative quotes from the participants. Images chosen by three or more participants are presented.

Table 11

Images Mapped to Narrative Responses for Survey Item No.1 – Group A

Image	No. of participants	Representative Quotes
 Image No. 14	16	"a ray of hope for the upcoming change making way for new opportunities and learnings" "a sense of optimism and readiness for a flourishing future" "I feel like a bird flying over a dark ocean on a sunny day. The dark ocean symbolizes the challenges we face, while the bird flying toward the sun reflects the optimism and opportunities these changes bring for the future"

Image	No. of participants	Representative Quotes
 Image No. 6	7	"represents a sense of unlocking potential, access, and opportunity in the context of new digital services. The keys could indicate various tools, solutions, or pathways that are being made available through the digital transformation" "there is a solution to every problem or issue" "This image depicts unlocking new possibilities"
 Image No. 1	5	"This image represents the complexity of change management that requires precision and coordination" "teamwork and innovation" "It reflects bringing together many technologies to build a wholesome application" "If we do not have strong processes in place, and we are looking at these changes, it would only create complications and chaos"
 Image No. 13	5	"this captures the sense of opportunity, innovation, and transformation that the organization is embracing" "it encapsulates the dynamic, fast-paced, and visionary direction the organization is heading towards" "the sunlight entering the building symbolizes how new changes (the sunlight) illuminate and enhance the building (the company)"
 Image No. 16	3	"The image of various apples symbolizes diversity, growth, and inclusivity. The varieties represent innovative solutions tailored to meet diverse customer needs. Apples are often associated with health and nourishment, reflecting the positive and sustainable impact these changes aim to deliver." "depicts multiple digital services offerings by our organization"

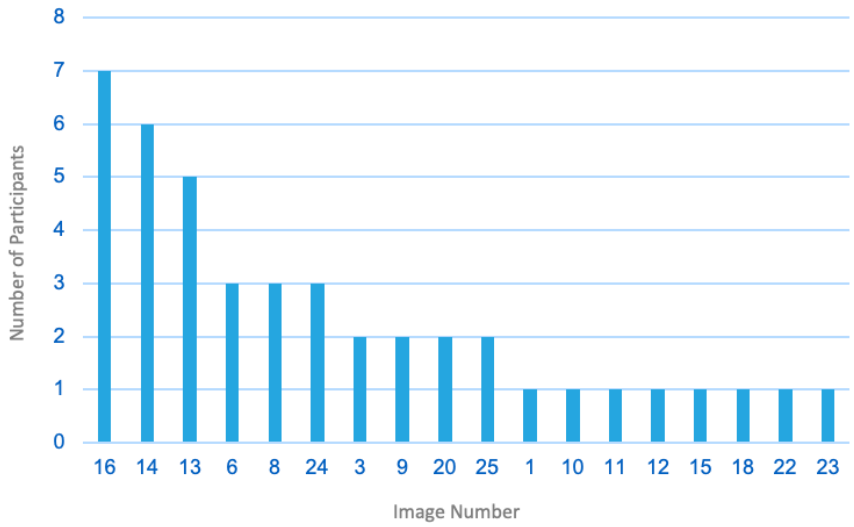
Image	No. of participants	Representative Quotes
 Image No. 24	3	"reminds me that there are no boundaries to what we can achieve when we dare to dream big" "innovation and data-driven approach" "it fuels my excitement for the journey ahead"

In sum, the responses from the survey participants (n = 43) as to how they felt about the changes indicated an overall positive outlook on the changes underway, although two out of 43 (5%) participants urged for having strong processes in place to implement these changes to "minimize complications and chaos."

When asked how the participants envisioned their organization twelve months after implementing these changes and to choose an image from the same set of 25 images (item no. 24), the total number of different images chosen by the participants for this item was higher compared to the total number of images chosen for item no. 1. Specifically, while the number of images chosen by the participants for item no. 1 was 10, they chose a total of 18 out of 24 pictures in response to item no. 24. Together, Figure 13 and Table 12 below summarize the images chosen by the participants and their responses to item no. 24. Figure 13 summarizes the images chosen by the participants in response to item no. 24, classified by the number of participants.

Figure 13

Images Chosen by Number of Participants for Survey Item No. 24 – Group A



Next, Table 12 maps the images to their narrative responses and presents representative quotes from the participants. Images chosen by three or more participants are presented.

Table 12

Images Mapped to Narrative Responses for Survey Item No. 24 – Group A

Image	No. of participants	Representative Quotes
 Image No. 16	7	"The image of apples alternating between green and red represents how I envision the organization after a year of implementing the new digital services. The green apples symbolize growth and new opportunities, while the red apples represent the challenges and milestones we've overcome. The alternating pattern reflects a balanced approach, where both successes and challenges contribute to our overall development and success." "Fruits indicate the positive results of the initiative taken. I am very hopeful that we will succeed" "this image represents the clearly defined objectives for this transformation"

Image	No. of participants	Representative Quotes
 Image No. 14	6	"As the bird flies high, I envision my organization reaching heights" "a new beginning with new digital services offerings for AI and healthcare" "A sunset brings a quiet sense of peace, allowing us to reflect and let go of the day"
 Image No. 13	5	"it fuels my excitement for the journey ahead" "I feel hopeful with the changes ahead" "this image represents new learnings and a new path with a clear vision"
 Image No. 6	3	"The image that I have chosen symbolizes access and control, It could represent that our organization has unlocked numerous opportunities with these new digital tools" "I feel like we now have the key to various new capabilities or avenues for success." "our organization now holds the key to unlocking efficiency, innovation, and customer satisfaction in a way it couldn't before"
 Image No. 8	3	"there is a lot to explore with these new changes" "time is of essence in implementing these changes" "this is the need of the hour but we do not have strong processes in place"

Image	No. of participants	Representative Quotes
 Image No. 24	3	"it shows the immense knowledge the individuals and organization would have acquired" "we will push the boundaries, find our footing, and see good results after these changes" "we are expanding our horizons and acquiring new clients in different industries"

In sum, responses from members of Group A suggest that, overall, they had a positive outlook on the outcome of the current changes. Several members indicated new capabilities, new opportunities, and individual and organizational growth as likely outcomes of change.

Affect (Study 2). With regards to affective response to change, in-depth interviews with 23 participants from Group A revealed the following themes presented in Figure 14 below. The themes are color-coded for better organization of ideas and visual representation. The items in green indicate an overall positive affect, and the ones in orange indicate negative affect.

Figure 14

Frequency of Themes from Participants' Affective Responses to Change – Group A

I'm hoping it will boost my career to the next level (n=7)

More opportunities to grow and learn – for us and the organization (n=6)

Positive (n=4)

Helpful; we can foresee what our clients want and deliver (n=4)

These changes are necessary but we don't have right people to implement these changes (n=4)

Hopeful (n=3)

Exciting (n=3)

Headed in the right direction (n=3)

If we don't have strong processes in place, it would only create chaos (n=2)

While most of the themes indicated above aligned with the affective responses to change from study 1, an additional theme emerged from the in-depth interviews. When asked how they felt about the changes, four out of 23 (17%) participants expressed concerns about the shortage of people with the right skills and capabilities required to implement the changes. Further, three of these participants also emphasized the need for the leaders to focus heavily on upskilling and cross-skilling current members to better equip themselves to implement the changes and hire new resources with the required skills and capabilities to do so.

Table 13 summarizes the interview findings pertaining to the five change readiness measures. Additionally, Table 13 offers representative quotes from the participants to facilitate a deeper understanding of participant responses.

Table 13

Interview Findings for the Five Change Readiness Measures – Group A

Measure and Questions	Findings	Representative Quotes
Need for Change		
Do you think the changes underway are clearly needed at [organization's name]? Why or why not?	23 out of 23 (100%) participants agreed Reasons cited for change - staying competitive in the market - providing clients with more efficient solutions - this is the right time to implement change	"It is the need of the hour. Latest technologies are all around us. So it is really needed at this point of time to remain competitive, and if we don't bring in these changes now, [organization's name] will be lagging behind the market."
What are your thoughts about the organization's capability to successfully implement these changes?	37 out of 42 (88%) participants believed that their organization had the capability to successfully implement these changes	
How might the changes underway at [organization's name] impact you?	The majority of the participants cited more venues to diversify and more opportunities to learn and grow	
How might changes underway at [organization's name] impact your team?	Several participants felt this was a win-win situation for both the team and the organization. The majority of the participants were optimistic about acquiring more clients and moving towards a better future	
Leadership Alignment		
Do you think the leadership "walks the talk" on these changes? Why or why not?	21 out of 23 (91%) participants agreed that their leadership was committed to the changes More than 70% of the participants felt that the leadership had a positive outlook on these changes	"Our leadership is very committed, and they are giving their 100% to implement the changes and to communicate it to the team. They are attending workshops and conferences where we can promote our

Measure and Questions	Findings	Representative Quotes
Is your manager supportive of these changes? Why or why not?	21 out of 23 (91%) participants believed that their immediate managers were supportive of these changes.	company. They are bringing in projects. They always speak on a very positive note, so that gives me some hope, like yeah, everything is going to be positive." "Yes, my manager is very supportive. He informs us of what is going on in the organization. And it's an open conversation. As I said earlier, we have a quarterly Town Hall meeting, and [department head's name] updates us on what's happening all the time."
Vision for Change		
Do you clearly understand the leadership's vision for change? Why or why not?	21 out of 23 (91%) participants believed that they clearly understood the leadership's vision for change. Participants often mentioned the quarterly town hall meetings and periodic team meetings as spaces where the leaders and managers regularly shared change updates. Few participants felt unsure of where they were headed next as an organization.	"They attend a lot of conferences about these changes. And we get to know about that in the town hall meetings. But what is next? Is it going to be fruitful? We don't know"
Do you clearly understand what is expected of you for implementing these changes? Why or why not?	More than 80% of participants believed they knew what was expected of them for implementing the changes. Participants attributed clarity on what's expected of them to clear communication of goals.	"Yes, we have quarterly goals set, and I review my goals with my supervisor. So, you know, we know what exactly we need to work on, at least for the next quarter."

Measure and Questions	Findings	Representative Quotes
Change Communication		
Does the formal communication on these changes align with what you have heard from other informal sources? Why or why not?	21 out of 23 (91%) participants agreed Several participants appreciated the consistency and transparency in sharing change-related information, both at the senior leadership level and at the management level. 5 out of 23 (22%) participants observed that their informal, social interactions with colleagues have decreased in the recent past and felt "somewhat restricted" due to remote/ hybrid work	"Yeah, it's mostly consistent with what I hear from my colleagues. Nothing to hide here." "Informal conversations are very limited now, because of the hybrid and remote work. So that is a bummer."
Mobilizing Energy for Change		
Do you think you have the skills required to do what will be expected of you as a result of these changes? Why or why not?	The majority of the participants (15, 65%) agreed. Most participants felt that they needed some kind of upskilling. Some resorted to utilizing training resources offered by the organization, whereas others felt motivated to do it all on their own.	"You know, I'm big into AI, I feel like I need to keep updated on what's going on. I am already taking personal initiative to learn new skills. I feel positive, you know, and I feel confident."
Do you trust your manager to have your back during these changes? Why or why not?	More than 80% of the participants responded that they trust their manager.	
Do you think you will be heard when you voice any concern regarding this initiative? Why or why not?	18 out of 23 (78%) participants agreed	"We can always voice our concerns. Our leadership team is very approachable, so if I have any concerns, I can talk to my manager, or I can talk to my senior leaders... If there is a genuine concern, I know it will definitely be addressed."

Furthermore, as the interviews were semi-structured, the conversations paved the way for additional themes to emerge. The following paragraphs summarize the additional themes that surfaced during the interview conversations.

Although the majority of the participants (15, 65%) believed that they had the skills to do what was expected of them for implementing the changes, the need to upskill to be able to achieve their change goals was a pervasive theme in more than 75% of the conversations. Similarly, more than one-third of the participants expressed the need to hire more talent with the right skills to meet change-related work demands. Additionally, five (22%) participants reported feeling overwhelmed and burned out with the increased workload due to change. The following quote from a participant nicely sums up the above:

> We only have limited people here and we have to get involved in a lot more than we can actually spend time on. We are getting a bit overloaded. I think that should be addressed. You know, we have to cross-train and upskill our people. We also need to increase our headcount and bring in more people who know how to do things to meet customer deadlines. We are already burned out with balancing our day-to-day deliverables with bringing in changes. My manager and I…we are in the same boat. We are a bit resistant together, but we know it is inevitable.

Subgroup Dynamics. Seven (30%) participants who self-identified as working in the organization for less than a year consistently referred to a group of employees as "old" employees, both when the conversations focused on required skills and capabilities and in relation to resistance to getting onboard with change efforts. Follow-up discussions shone a light on the likely prevalence of a covert "Us vs. Them" subgroup dynamic. The following representative quotes illuminate the nature of this subgroup dynamic:

> Some old employees aren't allowing us to make these changes. They don't listen to us. They don't like the changes we propose. They get offended when we talk about bringing in new customers. They don't meet with the management to review their targets. So they are not happy with us when we introduce these things.

> Usually, when you bring in any changes to the organization, the old folks get affected. Either they are resistant to the new changes, or they don't like the new recruits. So we need to be careful with these changes. The older employees think we are taking over the entire organization from them.

Finally, more than 35% of the participants self-identified as coming from a larger, well-established organization in the same industry with extensive experience in change management. Several of them expressed concerns about feeling constrained by the current organization in terms of a lack of clear policies and processes in place to aid the implementation of the changes. One participant commented:

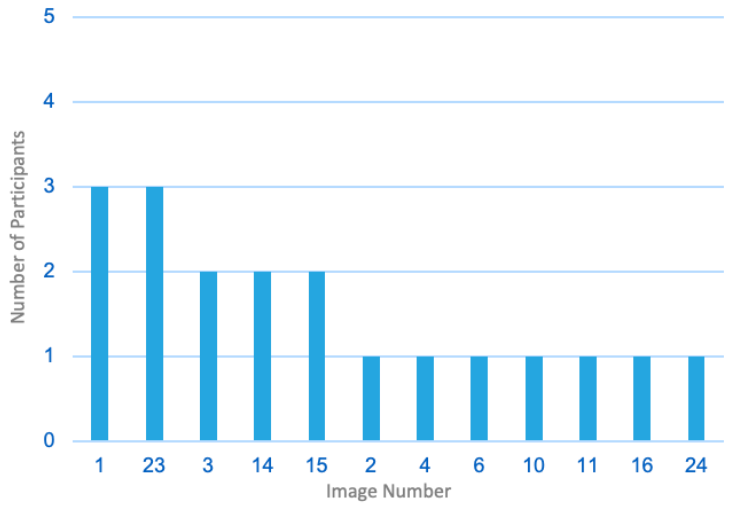
> These changes will not impact me as much. As I said earlier, we are pretty much used to these types of changes. But with the lack of proper change management here, we are becoming complacent. It's basically like being raised in a zoo. You know, it's like, I used to roam outside freely, and suddenly, we are brought back into the Zoo.

Within-Group Analyses - Group B

Affect (Study 1). Together, Figure 15 and Table 14 below provide a summary of the images chosen by the participants and their narrative responses to survey item no. 1. First, Figure 15 summarizes the images chosen by the participants classified by the number of participants.

Figure 15

Images Chosen by Number of Participants for Survey Item No. 1 – Group B



Next, Table 14 maps the images to their narrative responses and presents representative quotes from the participants. Images chosen by two or more participants are presented.

Table 14

Images Mapped to Narrative Responses for Survey Item No. 1 – Group B

Image	No. of participants	Representative Quotes
 Image No. 1	3	"I selected the gears picture because working with AI policy-level decisions is connected to so many different parts of our institution. There are issues about usage, accessibility, legal, privacy, technical, etc. If one of the gears slows down or doesn't move forward, then it slows all the work down. It can be hard to untangle, find compromises, and keep progress" "I feel there is a lot of focus on the tools themselves, and their function, and less on the ethical implications of using them or the wider impacts"
 Image No. 23	3	"Technological change like AI is kind of like a spiral. We are moving into someplace we haven't been, but it's also circular: a lot of the same themes are repeated with technological changes like with computers, television, radio, etc." "In this image, I see a well-worn path as well as a slippery slope! In terms of AI, I view it as a logical extension of different technological advancements and a field that is already well-established (well-worn path). However, I don't believe that most of my peers view generative AI tools with appropriate caution and understanding of their political, social, and environmental implications (slippery slope)"

 Image No. 3	2	"Because it suggests the idea that we are jerry-rigging solutions to tech that are not nearly as glamorous as they might seem" "Elements of play and exploration but also precarity"
 Image No. 14	2	"I think AI is providing a lot more opportunities for advancement in my team, both externally to our audience (teachers and students) and internally within our team. We're able to recommend more AI-powered tools for faculty to improve their teaching" "The image says positive future possibilities. Whether sunrise or sunset, the bird is flying towards better things"
 Image No. 15	2	"AI disruption has been a hurricane of change: It suddenly appeared very quickly, it's taken everyone by storm (so to speak), and all we can do is react. It barrelled straight towards higher ed, and there was no way that higher ed could get out of the way" "I hope AI can help us solve the climate change crisis"

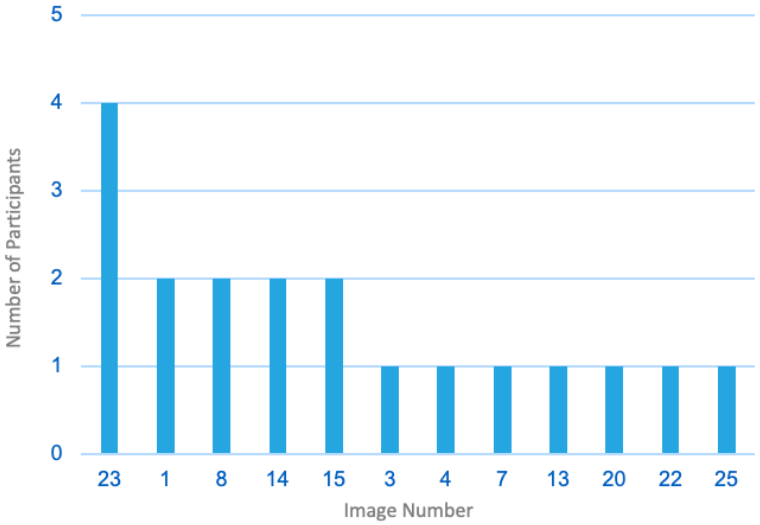
In sum, the responses from the survey participants to how they felt about the changes indicated some caution about the nature of change, skepticism about the perceived lack of awareness of the ethical, legal, and social implications of the changes underway, and some excitement about new opportunities for growth, with a few participants expressing that they were resigned to change as these changes seemed to be inevitable.

Figure 16 and Table 15 below provide a summary of the images chosen by the participants and their responses to survey item no. 24, which asked the participants to envision the organization twelve months after the changes were implemented. Figure 16 provides a

summary of the images chosen by the participants in response to item no. 24, classified by the number of participants.

Figure 16

Images Chosen by Number of participants for Survey Item No. 24 – Group B



Next, Table 15 maps the images to their narrative responses and presents representative quotes from the participants. Images chosen by two or more participants are presented.

Table 15

Images Mapped to Narrative Responses for Survey Item No. 24 – Group B

Image	No. of participants	Representative Quotes
 Image No. 23	4	"We'll keep moving into a different future but there will always be new things. It'll be a new version of this or some other technological thing to respond to and the pattern will continue" "I chose the same image as I did when I began because I don't believe that the slope will become any less slippery" "I think that AI's power will fade and start to look less innovative and cutting-edge. So will it be back to the beginning: Using the stairs instead of the elevator?"

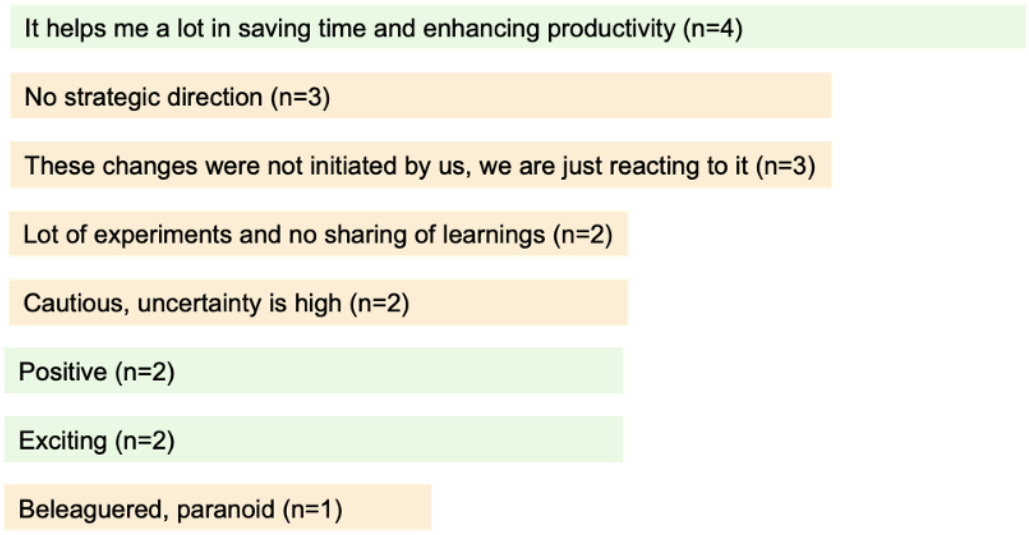
Image	No. of participants	Representative Quotes
 Image No. 1	2	"Still complex but plans are in place and underway" "AI is not developed enough yet to replace humans"
 Image No. 8	2	"Time is passing but not a lot has changed" "We just have to wait for the future to happen"
 Image No. 14	2	"I believe that once these changes are implemented and widely understood, it will feel like the beginning of a new era, particularly in the field of education. The opportunities that AI will bring to this domain have the potential to revolutionize teaching and learning in transformative ways" "I'm feeling quite positive about the changes…I can foresee the future of these changes will also be mainly positive"
 Image No. 15	2	"I feel like 1 year in AI has turned into a hurricane. Pretty directionless but also gaining momentum" "We create a lot of programming and resources on our own but there is no real direction from leadership on what exactly they are wanting from it. So we just kind of do our own thing hoping it is correct"

In sum, responses from members of Group B suggest that a majority of the members did not foresee much progress towards change goals. While a few members indicated new capabilities and new opportunities as likely outcomes of change, few others felt that the efforts to keep up with new technological advancements would be ongoing.

Affect (Study 2). With regards to affective response to change, in-depth interviews with eight participants from Group B revealed the following themes presented in Figure 17 below. The themes are color-coded for better organization of ideas and visual representation. The items in green indicate an overall positive affect, and the ones in orange indicate negative affect.

Figure 17

Frequency of Themes from Participants' Affective Responses to Change – Group B



While some of the themes indicated above aligned with the affective responses to change from Study 1, additional themes emerged from the interviews. Four (50%) participants noted that change helped in saving time and increasing individual productivity. However, more than 25% of participants felt frustrated with the lack of clear strategic direction from leadership and the organization's inadequacy in learning from past mistakes. One participant exclaimed:

> It is a mixed, yet negative-leaning feeling certainly. I have been attending quite a lot of events/conferences over the last few years and felt a sense of criticality and urgency when it comes to thinking, implementing, and addressing various issues around AI in education settings from everyone I met and talked to. However, I don't see [organization's name] taking the matter as seriously as it deserves.

Table 16 below captures the interview findings pertaining to the five change readiness measures and presents representative quotes from participants.

Table 16

Interview Findings for the Five Change Readiness Measures – Group B

Measure and Questions	Findings	Representative Quotes
Need for Change		
Do you think the changes underway are clearly needed at [organization's name]? Why or why not?	7 out of 8 (88%) participants agreed Reasons cited - more efficient ways of working - helping students build AI-related knowledge - staying current with the latest tools and technologies. However, 5 out of 8 (63%) participants felt that although the changes were needed, there was no urgency to implement these changes. 3 participants were unsure.	"It's not as critical, you know, because, like, without those AI tools, we won't shut down, you know. So, to that extent, these AI tools are not as critical. But is it critical to assist, you know, to help our students succeed in the future." "I'm not so sure about urgency in terms of, like, the [organization] needs to do this to be able to continue to do work, but I feel like it's impossible not to have some sort of stance on it and to react to it whether we want it or not. Students are using it. Faculty are using it. Staff are using it. Everybody's using it."
What are your thoughts about the organization's capability to successfully implement these changes?	Only 3 out of 8 (38%) participants agreed. 5 out of 8 (63%) participants cited the organization's change outcomes in the past as a key reason for being skeptical about the success of these changes. 6 out of 8 (75%) participants asserted that their department had the required skills and abilities to do so.	
How might the changes underway at [organization's name] impact you? How might changes underway at [organization's name] impact your team?	The majority of the participants stated that the changes helped with saving time and increasing productivity Most participants mentioned learning opportunities to stay updated with new technologies as the biggest draw	"I'm not so sure about [organization's name], but I think our department is best fit to handle this responsibility"

Measure and Questions	Findings	Representative Quotes
Leadership Alignment		
Do you think the leadership "walks the talk" on these changes? Why or why not?	Only 4 out of 8 (50%) participants agreed Participants felt that the leadership was trying to appear as if they were engaged and working towards these changes without actually doing so. One-fourth of the participants felt that there was no alignment within leadership on these changes.	"They want to give incoming students the idea that they will be somehow trained in using these tools enough to stay competitive in the job market post-degree. So I think, you know, they're doing that just fine."
Is your manager supportive of these changes? Why or why not?	6 out of 8 (75%) participants agreed that their managers were supportive of the changes	"I think that they're working to meet their goal, which is, I think, to look like they're engaged, and to maintain the appearance of relevance. Sorry for being cynical about it." "The folks that I report to directly are always supportive. They are realistic while we are discussing changes, but they're very supportive of trying something new, developing new ideas, and how we can get the [change] information out."
Vision for Change		
Do you clearly understand the leadership's vision for change? Why or why not?	6 out of 8 (63%) participants were unsure	"They came out with a kind of lengthy guidelines document. It's pretty. I don't know what to call it. It wasn't really a policy. It was kind of more suggestive."
Do you clearly understand what is expected of you for implementing these changes? Why or why not?	4 out of 8 (50%) participants were unsure of what was expected of them for implementing the changes. The	"It feels like we are expected to create a lot of programming but are

Measure and Questions	Findings	Representative Quotes
	remaining 4 (50%) participants felt that they were clear about change-related expectations from them.	never really told where the leadership stands or what they want to gain as an organization from doing it."
Change Communication		
Does the formal communication on these changes align with what you have heard from other informal sources? Why or why not?	5 out of 8 (63%) participants agreed 2 (25%) participants stated that they had not received any formal communication on change. Both were part-time employees.	"I think that there is alignment, but the alignment is in a lack of alignment. I don't think it's a matter of like, oh, the leadership is out of sync with the general population. But the general population is not in sync with each other as well."
Mobilizing Energy for Change		
Do you think you have the skills required to do what will be expected of you as a result of these changes? Why or why not?	5 out of 8 (63%) participants agreed Most participants also acknowledged that they might need to upskill, but they were not too concerned about it 3 (38%) participants felt frustrated that their time and efforts would only be wasted in implementing changes because they felt that the leadership was just "reinventing the wheel over and over again."	"Yeah, I don't really have any concern around the [department's name] team needing to upskill. They do need to upskill, but they're all very interested in doing that, so they will, of their own volition. keep up to date."
Do you trust your manager to have your back during these changes? Why or why not?	7 out of 8 (88%) participants agreed	
Do you think you will be heard when you voice any concern regarding this initiative? Why or why not?	7 out of 8 (88%) agreed Several participants cited the monthly departmental meetings and 1:1s with their managers as spaces where they were invited to share their concerns.	

Similar to Group A, the follow-up questions during the interview conversations helped to uncover additional themes. The following paragraphs summarize the themes from such conversations.

The majority of the participants (5, 63%) felt that they could not trust the organization to successfully implement the changes, given the organization's change history. A participant looked visibly frustrated, placed their palm on their forehead, exhaled deeply, and stated, "I think the issue is with trust, you know because this is not the first time they are trying to do something like that. These initiatives don't go anywhere, you know. It's like old wine in a new bottle." Half of the participants were unhappy that the organization did not provide many training or upskilling opportunities." Three (38%) participants argued that it was not about the resources offered by the organization but rather the organization's culture that was a potential challenge that could derail any change efforts. Representative quotes from the participants shared below shine light on their perceptions of the work culture at their organization:

> It's less about resources and more about getting through the [organization's name] red tape. To use any of these tools is a lot of work. And so a lot of our people's time is spent on getting the security checks and legal compliance stuff, you know, to use one tool. That's 3 months of work. So that's probably our limiting factor right now, not training or money.

> I think it's the culture, I feel like there's a silo, you know. And that culture is very strong here. The [other department in the same organization] is a huge roadblock for us. And their processes, it takes such a lot of time for approvals. It's not favorable for quick decision-making.

Two out of eight (25%) participants perceived the increased workload on account of change as a potential barrier to implementing change. One participant explained, "The workload has increased considerably, and I have no way of knowing if I'm even being paid market rate for my job. That's the tension that I'm always holding." Finally, two (25%) participants were concerned about the leadership and the department's silence regarding the likely ethical and legal

implications of implementing AI-based initiatives. One participant observed, “We're presenting the ethical and environmental issues and then kind of stopping there and leaving it up to each individual person to balance and weigh. There are possibilities, and there’s also the potential downside.” Another participant offered a word of caution: “AI becomes an echo chamber if you do not know how to use it correctly because, like whatever you put in it, it's just more like confirmation bias. That's how it feeds you because, at the end, it still feeds on your data.”

Subgroup Dynamics. Most (7, 88%) of the participants believed they would be heard when they voiced any concerns about the changes. However, further exploration of this topic revealed that more than 50% of participants believed that although they were able to voice their concerns, they were quite certain that their concerns would not be addressed. Reasons provided include the perceived inability of their managers to address their concerns due to organizational factors such as work culture and red tape, and the participants’ experiences of their concerns not being addressed in the past. A participant stated, “We have the opportunities to raise a concern, but it will never be addressed. Many issues I’ve been raising over the years have never been addressed. So I don't see the need to raise my concern anymore, and I feel like it doesn't go anywhere. I’ve kind of become more reserved.”

Additionally, three out of eight (38%) participants expressed their disappointment in change-related communication not reaching part-time employees as regularly as full-time employees, although part-time employees were also expected to contribute to implementing new AI-related offerings. Conversations with two participants at the management level and two individual contributors (one was a full-time employee, and the other, a part-time employee) confirmed that change efforts required from members were differentiated based on their roles in the department rather than based on their status as a full-time or part-time employee. These

discussions shed light on the likely prevalence of covert subgroup dynamics pertaining to psychological boundaries (Us vs them) and the permeability of boundaries. For example, when asked about whether the participants felt they had clarity on the vision for change and what was expected of them for implementing the changes, three participants exclaimed:

> I'm not sure. We have our department meetings. I think it's every month, but part-time people only have to be there every other month. And usually, that's where policies are announced and new ideas are discussed.
>
> Honestly, I don't, and that's part of the reason I had some trouble filling out the survey as well. I wasn't entirely sure what I was answering about. And you know, I am in a part-time position.
>
> I am a part-time employee at the organization, so I don't really receive any formal communication about any training or AI offerings.

Between-Groups Analyses - Groups A and B

Affect

Figure 18 captures the words most frequently used by participants in Group A to describe their affective responses to change and uses a word cloud for visualization of data. The word list was corrected to minimize the impact of a participant contributing too many words to the word cloud by filtering for repetitive words from each participant and removing stop words. The word cloud was generated using a Word Cloud Generator. Word size correlates with the frequency of mention.

Figure 18

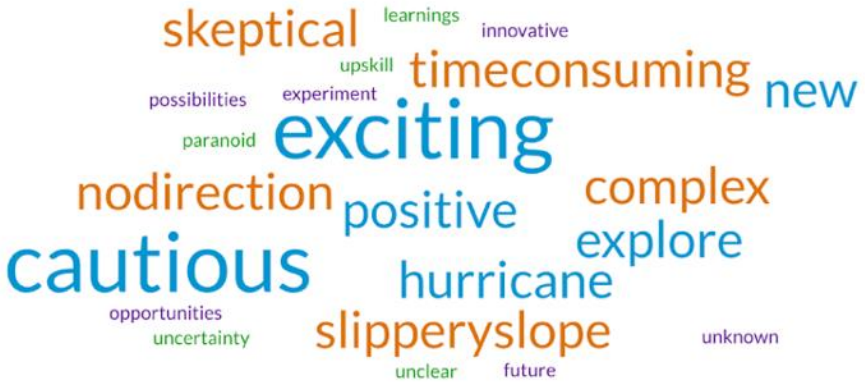
Word Cloud for Affective Responses to Change - Group A

DePaolo & Wilkinson (2014) argue that visual representations such as a word cloud can not only provide an assessment picture of individual concepts but also help identify themes and specific patterns of words and lend a "big picture" view of interrelationships between concepts. Thus, the visualization above not only represents individual perceptions and affective responses to change but also helps examine the group's affect and attitudes toward change. An examination of the frequencies in the word cloud indicates that the most used words to describe change by Group A include "hopeful," "opportunities," "growth," "innovation," "learnings," "positive," and "exciting." In contrast, participants also used words such as "chaos," "complex," "challenges," and "time-consuming," but sparingly.

Figure 19 captures the words most frequently used by participants in Group B in response to their perceptions and affective responses to change as a word cloud for data visualization.

Figure 19

Word Cloud for Affective Responses to Change - Group B



An examination of the frequencies in the word cloud indicates that the most used words to describe change by Group B include "exciting," "cautious," "positive," "skeptical," "time-consuming," "no direction," "explore," and "complex." Additionally, participants used metaphors such as "slippery slope" and "hurricane" to describe their perceptions of change. Furthermore, both groups also varied in their responses to questions pertaining to the perceived need for change, leadership alignment, and clarity on vision for change. The main differences between both groups pertaining to these three measures of change readiness are discussed below.

Need for Change

Although there seemed to be a general consensus among both groups about the need for change, all participants from Group A felt that change was the need of the hour. In contrast, the majority of participants from Group B did not perceive any urgency for change. Further, 75% of participants from Group B felt that their organization did not have the necessary capability to implement these changes, although their department had the capability to do so. Finally, while participants from Group A did not express any concerns about their organization's change history, 6 out of 8 (75%) participants from Group B cited the organization's change history as a key reason for being skeptical about the success of these changes.

Leadership Alignment

Both groups varied in their responses to interview questions pertaining to leadership alignment. More than 90% of participants in Group A believed their leaders were truly committed to these changes. In contrast, less than 50% of participants from Group B believed that their leadership was "walking the talk" on the changes.

Vision for Change

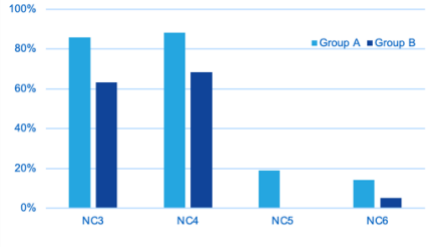
More than 90% of participants from Group A believed they had a clear understanding of leadership's vision for change. In contrast, more than 80% of participants from Group B were either unsure or unaware of any formal communication from the leadership on change. Additionally, several members from Group B shared that they had heard about the change via department-wide communication or from their managers and peers during department meetings.

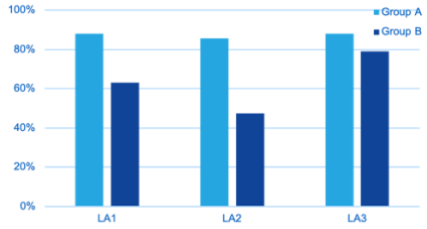
Mixed-Method Findings

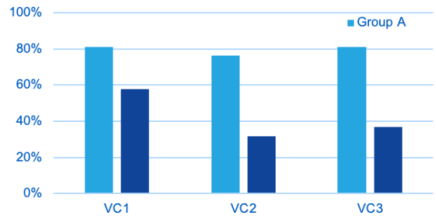
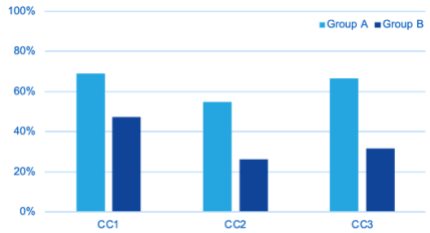
As this dissertation used a convergent mixed-methods multiple-case design, mixed analysis is conducted by first merging the two sets of results by comparing statistically significant quantitative results with qualitative themes using a Joint-Display Table. Then, the merged results are interpreted for convergence, divergence, and complementarity. Within-group analyses are presented first, followed by between-group analyses. Further, select qualitative quotes are included in the integrated analysis. Table 17 provides a joint display of the results from both quantitative and qualitative analyses. The metainferences column presents conclusions from examining both quantitative and qualitative data. Accordingly, the quantitative and qualitative data converged when they aligned with one another, diverged when there was a lack of alignment, and were expanded when, together, they offered a detailed and more nuanced understanding of both sets of results.

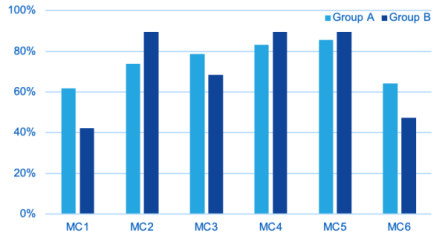
Table 17

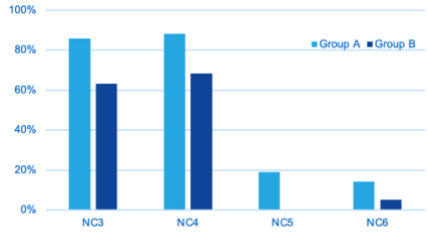
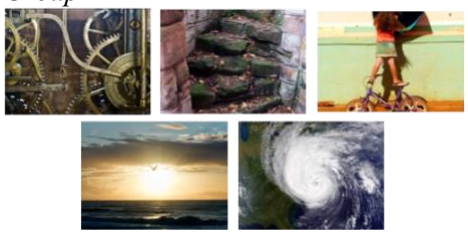
Joint Display of Results

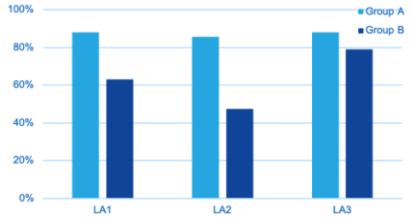
Quantitative Findings	Qualitative Findings	Metainferences
A. Within-Group: Group A **Affect and OCR Measures** **1. Affect and Need for Change** A positive and significant correlation was found between positive affect and need for change, $r(42) = .71$, $p < .01$ 41 (98%) participants believed that the changes underway were clearly needed at their organization 37 (88%) participants believed their organization had the capability to successfully implement the changes More than 85% participants agreed or strongly agreed that the changes were beneficial to them and their team Only one (2%) participant reported a perceived loss of status if the changes were implemented Only one (2%) participant believed that their social relationships in the organization would be disrupted if the changes were implemented. **Table 10** *Comparative Summary (Need for Change)*  	23 (100%) participants agreed that the changes underway were clearly needed at their organization 37 (88%) participants believed that their organization had the capability to successfully implement these changes The majority of the participants were optimistic about acquiring more clients and moving towards a better future Several participants felt this was a win-win situation for both the team and the organization **Table 11** *Images Mapped to Narrative Responses for Survey Item No.1 – Group A*  "a ray of hope for the upcoming change making way for new opportunities and learnings" "a sense of optimism and readiness for a flourishing future" "it fuels my excitement for the journey ahead" "Fruits indicate the positive results of the initiative taken. I am very hopeful that we will succeed"	**Convergence.** A comparison of quantitative and qualitative results on positive affect and need for change confirmed the convergence of quantitative and qualitative findings. **Expansion.** Interview findings further expanded on the relationship between affect and need for change in the current organization, indicated that the members felt the changes were a win-win situation, and shone light on reasons why they thought these changes were beneficial for them.

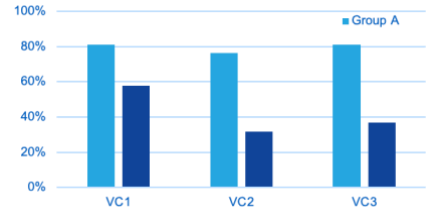
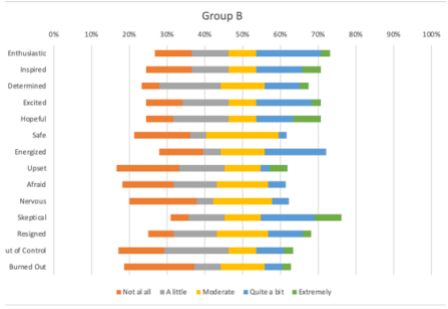
Quantitative Findings	Qualitative Findings	Metainferences
2. Affect and Leadership Alignment		
A positive and significant correlation was found between positive affect and leadership alignment, $r(42) = .54$, $p < .01$ 37 (88%) participants agreed that their leaders were committed to making the change work 37 (88%) participants felt that their leaders were "walking the talk" on the changes. 36 (86%) participants believed that their immediate managers fully supported these changes. **Table 10** *Comparative Summary (Leadership Alignment)*  	21 (91%) participants agreed that their leadership was committed to the changes. More than 70% of the participants felt that the leadership had a positive outlook on these changes. 21 (91%) participants believed that their immediate managers were supportive of these changes. "Our leadership is very committed, and they are giving their 100% to implement the changes and to communicate it to the team. They are attending workshops and conferences where we can promote our company. They are bringing in projects. They always speak on a very positive note, so that gives me some hope, like yeah, everything is going to be positive." "My direct manager is very committed to these changes. He always brings in new thoughts on how to approach the customers and how to bring in new changes to the company."	**Convergence.** A comparison of quantitative and qualitative results on positive affect and leadership alignment confirmed the convergence of quantitative and qualitative findings.
3. Affect and Vision for Change		
A positive and significant correlation was found between positive affect and vision for change, $r(42) = .51$, $p < .01$ 34 (81%) participants agreed or strongly agreed that they had clarity on the organization's vision for change More than 75% of the participants agreed that they had clarity on the organization's next steps 34 (81%) participants were clear about what was expected of them, individually, for implementing change	21 (91%) participants believed that they clearly understood the leadership's vision for change. More than 80% of participants believed they knew what was expected of them for implementing the changes Participants attributed clarity on what's expected of them to clear communication of goals "this image represents new learnings and a new path with a clear vision"	**Convergence.** A comparison of quantitative and qualitative results on positive affect and vision for change confirmed the convergence of quantitative and qualitative findings.

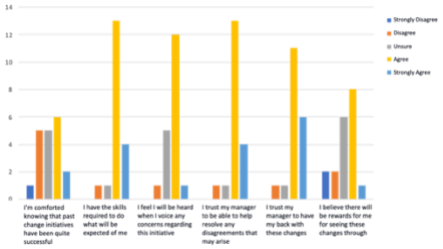
Quantitative Findings	Qualitative Findings	Metainferences
Table 10 *Comparative Summary (Vision for Change)* 	"we are expanding our horizons and acquiring new clients in different industries" "Yes, we have quarterly goals set, and I review my goals with my supervisor. So, you know, we know what exactly we need to work on, at least for the next quarter." "The image of various apples symbolizes diversity, growth, and inclusivity. The varieties represent innovative solutions tailored to meet diverse customer needs. Apples are often associated with health and nourishment, reflecting the positive and sustainable impact these changes aim to deliver."	
4. Affect and Change Communication A positive and significant correlation was found between positive affect and change communication, $r(42) = .51$, $p < .01$ 29 (69%) participants believed that the formal communication on change aligned with what they heard from informal sources The majority of the participants agreed they knew where they were in the change process 28 (67%) participants believed that leaders were not holding back any change-related information **Table 10** *Comparative Summary (Change Communication)* 	21 (91%) participants agreed that the formal communication on change aligns with what they have heard from other informal sources Several participants appreciated the consistency and transparency in sharing change-related information, both at the senior leadership level and at the management level 5 (22%) participants observed that their informal, social interactions with colleagues have decreased in the recent past and felt "somewhat restricted" due to remote/ hybrid work "Yeah, it's mostly consistent with what I hear from my colleagues. Nothing to hide here."	**Convergence.** A comparison of quantitative and qualitative results on positive affect and change communication confirmed the convergence of quantitative and qualitative findings.

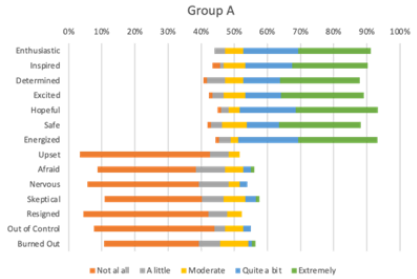
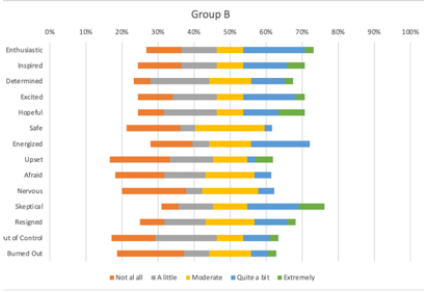
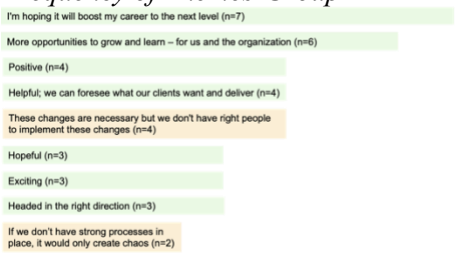
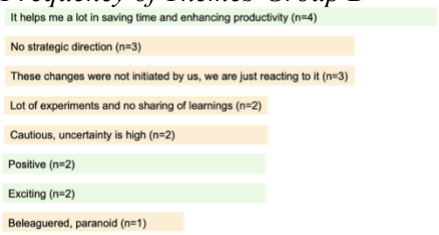
Quantitative Findings	Qualitative Findings	Metainferences
5. Affect and Mobilizing Energy for Change		
A positive and significant correlation was found between positive affect and mobilizing energy for change, $r(42) = .56$, $p < .01$ More than 80% of members reported that they trusted their managers to have their backs during the changes More than 70% of members believed that they had agency in the change process as well as the skills required to do what is expected of them More than 33% of members were unsure of whether the organization had been able to successfully implement changes in the past **Table 10** *Comparative Summary (Mobilizing Energy for Change)*  	15 (65%) participants believed they had the skills required to do what was expected of them as a result of these changes Most participants felt that they needed some kind of upskilling. Some resorted to utilizing training resources offered by the organization, whereas others felt motivated to do it all on their own More than 80% of the participants responded that they trust their manager 18 (78%) participants agreed that they would be heard when they voiced any concern regarding change "You know, I'm big into AI, I feel like I need to keep updated on what's going on. I am already taking personal initiative to learn new skills. I feel positive, you know, and I feel confident." "we will push the boundaries, find our footing, and see good results after these changes" "We can always voice our concerns. Our leadership team is very approachable, so if I have any concerns, I can talk to my manager, or I can talk to my senior leaders... If there is a genuine concern, I know it will definitely be addressed."	**Convergence.** A comparison of quantitative and qualitative results on positive affect and mobilizing energy for change confirmed the convergence of quantitative and qualitative findings.

Quantitative Findings	Qualitative Findings	Metainferences
B. Within-Group: Group B **Affect and OCR Measures** **1. Affect and Need for Change** A positive and significant correlation was found between positive affect and need for change, $r(19) = .52$, $p < .05$ 18 (95%) participants believed that the changes underway were clearly needed at the organization However, only 12 (63%) believed that their organization has the capability to implement these changes 12 (63%) participants agreed that the changes were individually beneficial to them 13 (68%) participants believed that the changes were beneficial to their team None of the participants reported a perceived loss of status when change was implemented Only one (5%) participant believed that their social relationships in the organization could be disrupted if change was implemented **Table 10** *Comparative Summary (Need for Change)*  	7 (88%) participants agreed that these changes were clearly needed However, 5 (63%) participants felt that although the changes were needed, there was no urgency to implement these changes The majority of the participants stated that the changes helped with saving time and increasing productivity Most participants mentioned learning opportunities to stay updated with new technologies as the biggest draw **Table 14** *Images Mapped to Narrative Responses for Survey Item No.1 – Group B*  "I think AI is providing a lot more opportunities for advancement in my team, both externally to our audience (teachers and students) and internally within our team. We're able to recommend more AI-powered tools for faculty to improve their teaching" "The image says positive future possibilities. Whether sunrise or sunset, the bird is flying towards better things" "It's not as critical, you know, because, like, without those AI tools, we won't shut down, you know. So, to that extent, these AI tools are not as critical. But is it critical to assist, you know, to help our students succeed in the future."	**Convergence.** A comparison of quantitative and qualitative results on positive affect and need for change confirmed the convergence of quantitative and qualitative findings. **Expansion.** Interview findings further expanded on the relationship between affect and need for change, and indicated that the members feel the changes were beneficial to them as these helped them save time and increase productivity at work, and provided them with learning opportunities. Additionally, interview findings uncovered that, although most of the members agreed on the need for change, they felt there was no urgency to implement these changes.

Quantitative Findings	Qualitative Findings	Metainferences
2. Affect and Leadership Alignment		
A positive and significant correlation was found between positive affect and leadership alignment, $r(19) = .54$, $p < .05$ Only 9 (47%) participants believed that their leaders were role modeling change-related behaviors 15 (79%) participants believed their immediate managers fully supported these changes. **Table 10** *Comparative Summary (Leadership Alignment)*  	Only 4 (50%) participants agreed that the leadership was role modeling change-related behaviors Participants felt that the leadership was trying to appear as if they were engaged and working towards these changes without actually doing so One-fourth of the participants felt that there was no alignment within leadership on these changes 6 (75%) participants believed their managers were supportive of changes "I think that they're working to meet their goal, which is, I think, to look like they're engaged, and to maintain the appearance of relevance. Sorry for being cynical about it." "The folks that I report to directly are always supportive. They are realistic while we are discussing changes, but they're very supportive of trying something new, developing new ideas, and how we can get the [change] information out."	**Convergence.** A comparison of quantitative and qualitative results on positive affect and leadership alignment confirmed the convergence of quantitative and qualitative findings.
3. Affect and Vision for Change		
A positive and significant correlation was found between positive affect and vision for change, $r(19) = .54$, $p < .05$ More than 30% of the participants had no clarity on the vision for change. 12 (63%) were either unclear or unsure of expectations from them **Table 10** *Comparative Summary (Vision for Change)*	6 (63%) participants were unsure of the organization's vision for change 4 (50%) participants were unsure of what was expected of them for implementing the changes "They came out with a kind of lengthy guidelines document. It's pretty. I don't know what to call it. It wasn't really a policy. It was kind of more suggestive." "It feels like we are expected to create a lot of programming but are never really told where the leadership stands	**Convergence.** A comparison of quantitative and qualitative results on positive affect and vision for change confirmed the convergence of quantitative and qualitative findings.

Quantitative Findings	Qualitative Findings	Metainferences
	or what they want to gain as an organization from doing it."	
4. Affect and Years of Experience in Current Organization A one-way ANOVA revealed a significant difference in positive affect between participants' years of experience in the current organization, $F(2, 16) = 4.08$, $p = .037$, $\eta^2 = .34$ Specifically, post hoc analyses revealed that positive affect was significantly higher in participants with less than one year of experience in the current organization ($M = 3.93$, $SD = 0.62$) than in those with more than five years of experience in the current organization ($M = 2.32$, $SD = 1.07$), $p = .047$, $\eta^2 = .34$ **Figure 9** *Affect Response Summary-Group B* 	5 (63%) participants cited the organization's change outcomes in the past as a key reason for being skeptical about the success of these changes 3 (38%) participants felt frustrated that their time and efforts would only be wasted in doing what was required for implementing changes because of the organization's change history "I feel like, I mean, over the last several years, you know, I have seen quite a few initiatives trying to fix issues that didn't go anywhere. So, in the end, I feel like it's a big waste of time and effort. I'm not gonna engage in this initiative anymore." "I think the issue is with trust, you know because this is not the 1st time they are trying to do something like that. These initiatives that didn't go anywhere, you know. It's like old wine in a new bottle."	**Convergence.** Comparison of quantitative and qualitative results on positive affect based on years of experience confirmed the convergence of quantitative and qualitative findings. **Expansion.** Interview findings further expanded on the relationship between affect and years of experience in the current organization. Members who had been in the organization for several years expressed distrust, frustration, and skepticism about the organization's capability to successfully implement these changes based on how it had managed change in the past.

Quantitative Findings	Qualitative Findings	Metainferences
5. Mobilizing Energy for Change and Management Level A one-way ANOVA revealed a significant difference in mobilizing energy for change between management levels in the current organization, $F(2, 16) = 8.04$, $p = .004$, $\eta^2 = .50$ Planned contrasts revealed that mobilizing energy for change was significantly higher in participants in the individual contributor level ($M = 3.98$, $SD = 0.37$) compared to those in the manager level ($M = 3.00$, $SD = 0.76$), $t(16) = 3.67$, $p = .002$, $r = .68$ **Figure 11** *Mobilizing Energy for Change Response Summary- Group B* 	7 (88%) participants believed they could trust their manager to have their back on the changes. 7 (88%) participants believed they would be heard when they voiced any concerns about the changes. 2 (25%) participants who self-identified as part of the management team expressed doubts about the leadership's ability to successfully manage changes. "I'm not convinced that they will be successful this time, you know. Even though we have new people, the unclear direction is still there. The culture of not willing to collaborate with each other, the silos are still there. I have doubts. So I'm kind of reserved when I get engaged. Because I'm like, okay, is it going to be another failure. Why would I continue to waste my time when I already know what you are trying to do wouldn't go anywhere?"	**Convergence.** A comparison of quantitative and qualitative results on mobilizing energy for change by the management level confirmed the convergence of quantitative and qualitative findings. **Expansion.** Interview findings further expanded on the relationship between mobilizing energy for change and the management level. Management perceptions about leadership's intention to follow through seemed likely to impact change efforts negatively. Members' trust in their immediate managers to have their back during the changes seemed likely to impact change efforts positively.

Quantitative Findings	Qualitative Findings	Metainferences
C. Between-Group: Groups A & B		
Affect		
A one-way ANOVA revealed that there was a significant difference between groups A and B based on affect. A significant difference was found in positive affect between Groups A and B, $F(1, 60) = 32.01$, $p < 0.001$, $\eta^2 = .35$. A significant difference was found in negative affect between groups A and B, $F(1, 60) = 35.59$, $p < 0.001$, $\eta^2 = .37$ **Figure 6** *Affect Response Summary-Group A*  **Figure 9** *Affect Response Summary-Group B*  	Affect - Group A: **Figure 14** *Frequency of Themes-Group A*  **Figure 18** *Word Cloud-Group A*  Affect - Group B: **Figure 17** *Frequency of Themes-Group B*  **Figure 19** *Word Cloud-Group B*  	**Convergence.** Comparison of quantitative and qualitative results on affect in Groups A and B confirmed the convergence of quantitative and qualitative findings on the difference in affect between groups. **Expansion.** Interview findings further identified the prevalence of covert subgroup dynamics, additional themes, and potential sources of resistance that seemed likely to influence affect in both groups.

The next chapter presents an interpretation of the research findings, explores implications to theory and practice, discusses limitations, and explores avenues for future research

Chapter 5: Discussion

First, this chapter presents a brief research overview and an interpretation of the key research findings using systems psychodynamics as the conceptual frame. Second, it offers an interpretation of the research findings using the systems psychodynamics frame and the theoretical framework proposed in this research. Third, this chapter discusses implications for theory, research, and practice. Lastly, it concludes with a summary of limitations and potential avenues for future research.

Overview

The two main goals of this research were to examine the role of overt and covert group processes in developing OCR and to explore the use of mixed methods design as a potential research method to collect, categorize, and analyze data. The following research questions *(RQ)* guided this research.

RQ1. How do overt and covert group processes influence OCR?

RQ2. How do quantitative results from survey responses help examine the role of group processes influencing OCR?

RQ3. How do qualitative results from interviews and open-ended survey responses help examine the role of group processes influencing OCR?

RQ4. How might a mixed methods approach contribute to a more comprehensive and nuanced understanding of the role of group processes in developing OCR?

Specifically, this research emphasized the need to examine the affective aspects of change, a factor often overlooked by change researchers and practitioners alike when assessing OCR. Hence, this research used systems psychodynamics as the conceptual lens to enable both the examination of the system, i.e., the structural aspects of the organizational change, such as

organizational design, change strategy, change-related policies, processes, roles, etc., as well as the psychoanalytic perspectives within that system, such as individual experiences, conscious and unconscious group processes pertaining to change. Furthermore, this research presented a comprehensive examination of change readiness literature and offered an evidence-based theoretical framework for assessing change readiness by mapping the change readiness measures informed by change literature to the overt factors outlined in the Burke-Litwin model (Burke & Litwin, 1992) and the covert concepts highlighted by the X-ray vision tool (Noumair et al., 2017). A convergent mixed-method multiple-case design was used to aid this examination to leverage the strengths of quantitative and qualitative methods and enable a mixed analysis of results and cross-case comparisons to generate insights that could help gain an in-depth understanding of the research topic.

Interpretation of Findings Using the Systems Psychodynamics Frame

Within-Group Findings

Within-group analyses for Group A revealed that all five change readiness measures were positively associated with high levels of positive affect in Group A. Interview findings converged with the survey results and highlighted several ways in which members' perceptions of each of these change readiness measures contributed to positive affect. Additionally, interview findings expanded on the relationship between need for change and positive affect and elucidated several ways in which members felt the changes were beneficial to them.

Within-group analyses for Group B revealed several key findings. Results indicated that need for change, leadership alignment, and vision for change were positively associated with high levels of positive affect in Group B. Interview findings converged with survey results for all three change readiness measures and further expanded on the relationship between need for

change and positive affect. Specifically, interview findings highlighted the members' perceived lack of urgency in implementing changes although several members felt the need for change. Additionally, results revealed that members with fewer years of experience in the organization demonstrated a more positive outlook towards change than those with more years in the organization.

Interview findings further expanded on the relationship between affect and years of experience in the current organization and highlighted the distrust, skepticism, and frustration of the members who have been in the organization for several years about the organization's capability to successfully implement changes based on how it has managed change in the past. Literature shows that past change successes contribute to both increased capacity for change and a positive outlook toward change (e.g., Heckmann et al., 2016; Suddaby & Foster, 2017; Stouten et al., 2018; Bordia et al., 2011; Oreg & Berson, 2019; Burke, 2021). That the majority of the members (5, 63%) felt that they could not trust the organization to implement the changes successfully, given the organization's change history, has important implications for change readiness.

Finally, there was a significant difference in mobilizing energy for change based on the management level. Specifically, individual contributors felt more motivated to implement the change and more trustful of their managers to have their back on changes compared to members in manager roles. Interview findings further expanded on these results. At the management level, managers' perceptions about leadership's intention to follow through seemed likely to impact their change efforts negatively. At the individual contributor's level, members' trust in their immediate managers to have their back during the changes seemed likely to impact their change efforts positively.

Between-Group Findings

The research findings revealed significant differences between groups based on affect. At a group level, members of Group A felt mostly hopeful of the change outcomes and energized to see the changes through, yet varied individually in how inspired they were by the change, with some members feeling more burned out than others. A qualitative analysis of their interview conversations indicated that although several members felt inspired by the potential learning and growth opportunities presented by change, many expressed their concerns about the lack of strong change processes in place and the shortage of people with the right skills and capabilities required to implement the changes that resulted in increasing their workload - aspects that could likely offer an explanation for the variation in their individual feelings of being inspired and burned out.

With regards to Group B, survey findings indicated that while some members of Group B felt quite enthusiastic about change, more than 30% of the participants felt unsafe with the changes underway. Also, the most varied responses from participants were about their feelings of being hopeful and skeptical about change. Interview findings shone a light on the likely causes for members feeling cautious and skeptical about the changes and offered reasons such as lack of strategic direction provided by the leadership and the organization's inadequacy in implementing changes in the past that could likely explain members' ambivalence towards change and resistance to engage in change efforts.

Furthermore, both groups also varied in their responses to interview questions pertaining to the change readiness measures of need for change, leadership alignment, and vision for change. An interpretation of these findings through the conceptual lens of systems psychodynamics and the theoretical framework proposed by this research (i.e., conceptually

mapping the five change readiness measures informed by change literature to overt factors outlined in the Burke Litwin Model and covert concepts highlighted in the X-ray vision tool) is presented in the following paragraphs.

Systems Perspective

A systems perspective and the transformational factors (mission & strategy, leadership, and culture) in the Burke-Litwin model (Burke & Litwin, 1992) are pertinent for looking at the overt or social structural concepts of OCR examined in this study. Burke and Noumair (2015) describe mission & strategy as "what the employees believe is the central purpose of the organization and how that organization intends to achieve that purpose over an extended time" (p. 150). In the context of OCR, this closely aligns with the change readiness measures of need for change and vision for change. Although there seemed to be a general consensus among both groups about the need for change, both groups varied in their perceived urgency for change. All members from Group A felt that change was the need of the hour, whereas the majority of participants from Group B did not perceive any urgency for change. Furthermore, 75% of participants from Group B felt that their organization did not have the necessary capability to implement these changes, although they felt that their department had the capability to do so. Additionally, more than 90% of participants from Group A believed they had a clear understanding of leadership's vision for change, whereas the majority of participants from Group B were unsure.

Change research asserts that members' perception of the organization's ability to successfully manage change (Rafferty & Restubog, 2017; Hiatt, 2006), efficacy (Bandura 1982, 1986), and belief that they have clarity on the organization's vision for change (Stouten et al., 2018; Albrecht & Roughsedge, 2023) are all factors that influence OCR. The members' lack of

confidence in the organization's ability to see the changes through and lack of clarity on the leadership's vision for change in Group B offers a plausible explanation for ambivalence about change. Importantly, these findings have implications for members' affect and engagement in change efforts in this organization. Further investigation into these findings through comparison across different workgroups/departments within the organization may provide valuable insights into whether these findings are prevalent at the intergroup and organizational levels.

The leadership factor in the model pertains to "executive behavior that provides direction and encourages others to take needed action" (Burke & Noumair, 2015, p. 150). In the context of change readiness, this aligns with the measure of leadership alignment. Literature asserts the importance of members' perceived support and trust in management (Rousseau & Tijoriwala, 1999; Stouten et al., 2018; Rousseau & ten Have, 2022) in influencing change readiness. Both Groups A and B varied in their interview responses on leadership alignment. While more than 90% of participants in Group A believed that their leaders were truly committed to change, only 50% of participants from Group B believed that their leadership was committed to making the change work. Additionally, both groups varied in their beliefs about their leaders' role-modeling of change-related behaviors. While more than 85% of the members of Group A felt that their leaders were "walking the talk" on the changes, several members of Group B felt that the leadership was trying to appear as if they were engaged and working towards these changes without actually doing so. This merits further examination. However, both quantitative and qualitative results indicated that most members of both groups trust their managers to support the changes and to have their backs during changes. Thus, although Group B members seem uncertain about their leadership's commitment to change, most members from both groups trust their immediate managers with change.

Finally, the culture factor in the model explores "... 'the way we do things around here' ... the collection of overt and covert rules, values, and principles that guide organizational behavior and that have been strongly influenced by history, custom, and practice" (Burke & Noumair, 2015, p. 151). Interview conversations with Group B highlighted the role of organizational culture in developing change readiness. More than one-third of the members in Group B argued that it was not about the resources offered by the organization but rather the organization's culture that was a potential challenge that could derail their change efforts. Members' beliefs that prevalent red tape, silos, and unreasonable delays in decision-making were major roadblocks to the successful implementation of change seemed to likely dampen their outlook for change and potentially decrease change efforts.

Psychodynamic Perspective

A psychodynamic perspective and the covert and unconscious dynamics discussed in the X-ray vision tool (Noumair et al., 2017) offer a comprehensive lens for looking beneath the surface of the social structural factors of OCR examined in this study. Further, the X-ray vision tool is organized by levels (intrapersonal, interpersonal, group-as-a-whole, intergroup, and interorganizational), thus enabling a multi-level analysis of covert and unconscious group processes in the organization.

A qualitative analysis of member responses and the metaphors offered by members of both groups provided more insights. With regards to Group A, while several members envisioned change as a "ray of hope," "reaching new heights," and "need of the hour," thus conveying optimism towards change, one member's comparison of their experience of the change processes in the organization to being "used to roam outside freely, and suddenly... brought back into the Zoo," elucidates the less discussed operational constraints in the system.

With regards to Group B, members compared the change to the "beginning of a new era," a "bird flying towards better things," a "hurricane," and "a well-worn path as well as a slippery slope." Some predicted that nothing much would change over the years. Members' descriptions of their feelings about change as a hurricane that "barreled straight towards higher ed, and there was no way that higher ed could get out of the way," was "pretty directionless but also gaining momentum," and an "echo chamber that feeds on our data" seem to indicate caution, fear of the unknown, and a perceived loss of control. Such fear regarding what the change may bring and a perceived lack of control of the process of change may likely result in resistance to change (Lawlor & Sher, 2023), albeit at an unconscious level.

Additionally, interview findings further identified the prevalence of covert subgroup dynamics in each group. In-depth conversations with members of each group highlighted the prevalence of a covert, "Us vs. Them" subgroup dynamic in both groups. For example, in Group A, this covert subgroup dynamic presented as "old folks vs. new folks." One-third of the participants who self-identified as new hires and worked in the organization for less than a year consistently referred to the "old folks" when the conversations focused on the lack of required skills and capabilities and about resistance to getting on board with change efforts. They described the older employees as resistant to new changes and disliking new recruits. Further, a "new" member stated that the older employees thought the new hires were "taking over the entire organization from them."

Another example of a subgroup dynamic in Group A was that several members had joined the organization from a larger, well-established organization in the same industry with extensive experience in change management. Over 35% of the participants self-identified as being recruited from this organization. A few members expressed concerns about feeling

constrained by the current organization in terms of a lack of clear policies and processes in place to aid the implementation of the changes. One member referred to their experience in the current organization as being "brought back into the Zoo."

In Group B, the "Us vs. Them" subgroup dynamics was prevalent as "full-time vs. part-time employees." Noumair et al. (2017) point out that a covert dynamic often occurring beneath the surface of the culture factor in the Burke-Litwin model pertains to *Boundary*. Boundaries can be viewed as a container that 'holds' the task. If the container is inadequate, it will not support the task (Green & Molenkamp, 2005). While the prevalence of *psychological boundaries* likely indicates "us vs. them" or insider/ outsider status within and between groups (Green & Molenkamp, 2005), *intergroup boundary permeability* pertains to the extent to which individual groups'/ subgroups' boundaries are rigid or open to one another; the frequency and ease of communication between groups/ subgroups. (Alderfer, 1987; McCollom, 1995).

In Group B, three (38%) participants, all part-time employees, expressed disappointment in not receiving change-related communication and training opportunities as regularly as full-time employees. That the part-time employees were also expected to contribute to implementing new AI-related offerings and that the change efforts required from employees were differentiated only based on their roles in the department, not on their status as full-time or part-time employees, has important implications for developing change readiness in Group B.

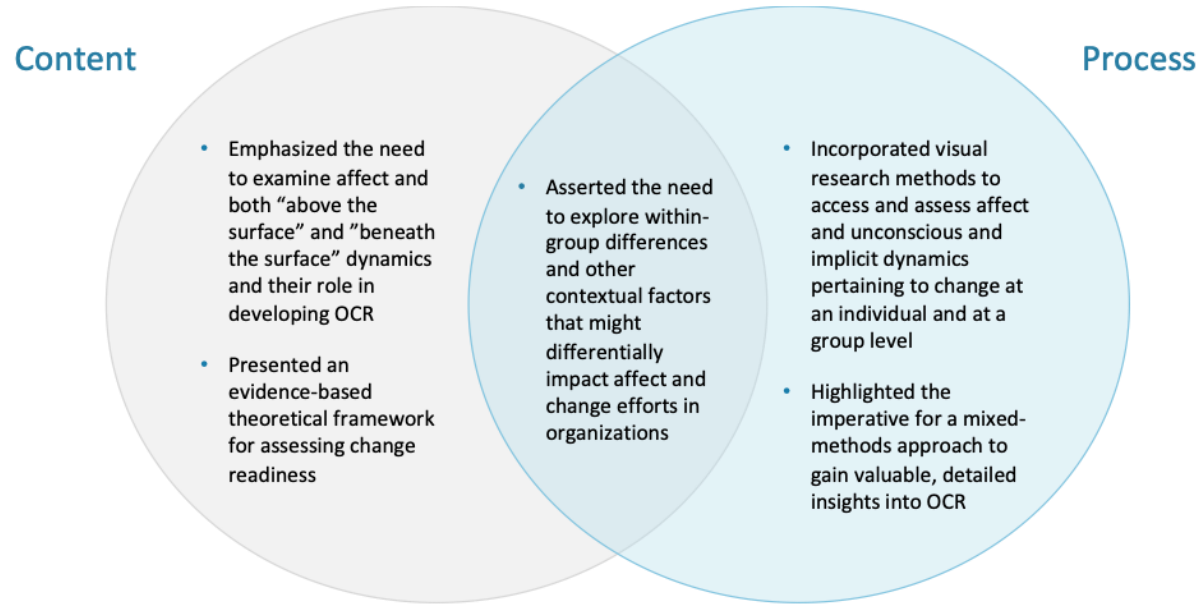
Further investigation into the nature of these covert and unconscious dynamics and examination of the prevalence of these dynamics across other workgroups/departments may provide more valuable insights into whether these findings are prevalent at the intergroup and organizational levels. Additionally, such an examination may yield rich, contextual information

to help identify sources of resistance and potential defense mechanisms at play that could impede building change readiness.

In sum, the research findings emphasize: i) the need for examining affect and the prevalence of overt and covert group processes within and between groups in organizations, and their likely influence in developing OCR; and ii) the imperative for using a mixed-methods approach to gain an in-depth understanding of this topic – the two main goals of this research. Figure 20 below illustrates the contribution of this research to both the content and process of change research.

Figure 20

Contribution to the Content and Process of Change Research



Implications for Theory and Research

This research contributes to the existing change research and extends the work on OCR in several ways. First, this research emphasizes the need to examine the affective aspects of change. Current change literature indicates an overemphasis on the rational side of change, with several readiness assessments focusing mainly on assessing rational and social structural aspects of

OCR. However, a change recipient's attitude towards change is also influenced by affective components, i.e., the individual's feelings about change (e.g., anxiety, fear, enthusiasm, anger) (Marshak, 2006; Krantz, 2006; Obholzer, 2021). This research emphasizes that, although often overlooked, understanding the affective aspects of change is essential to uncover implicit and unconscious processes that impact change readiness. To the researcher's knowledge, prevalent change readiness assessments do not directly examine affective responses to change. This research aims to bridge that gap and contribute to integrating the examination of affect in change readiness assessments while offering a conceptual lens and a theoretical framework to facilitate this examination.

Furthermore, this research draws upon visual research methods to access and assess affect and unconscious and implicit dynamics pertaining to change. Visual methods, such as the use of images or drawings, are especially effective in generating emotional data, both at an individual level and at a group level (Vince, 2020; Vince & Broussine, 1996). To the best of the researcher's knowledge, this research is one of the first to assess affective responses through visual images in the context of change. Findings from this research demonstrated the merit of using visual research methods by revealing key differences in groups based on affect and identifying associations between affect and various change readiness measures.

Second, this research distinguishes between overt and covert group dynamics and examines the role of group processes, both overt and covert, in developing OCR. Although several researchers argue that understanding prevalent dynamics in groups and teams - both those that are explicit and easily observable (i.e., overt) and those that are implicit and not readily observable (i.e., covert) are critical to successfully navigating organizational change (Schein, 2015; Noumair, 2013; Marshak, 2006; Burke & Noumair, 2015), the bulk of the

research focuses on the overt group processes (Gilson et al., 2015; Stouten et al., 2018). Empirical research on investigating the role of covert group processes in developing OCR is limited. This research aims to address this gap in the literature by taking an evidence-based approach to empirically examine the role of overt and covert group processes in developing OCR.

Third, this research offers a theoretical framework that examines the role of group processes in change readiness in a more detailed and nuanced way than has been discussed in past research. Specifically, the framework: i) uses a systems psychodynamics approach that enables both the examination of the structural aspects of the organizational change as well as the psychoanalytic perspectives within that system, such as individual experiences and conscious and unconscious group processes pertaining to change; and ii) conceptually maps the change readiness measures informed by current change literature to the overt, above the surface factors outlined in the Burke-Litwin model (Burke & Litwin, 1992) and the covert, beneath the surface concepts in the X-ray vision tool (Noumair et al., 2017), thus extending, and contributing to the existing research on change and change readiness.

Finally, this research explores the use of a mixed-methods approach to collect, categorize, and analyze data when using systems psychodynamics as the conceptual frame. Studies applying systems psychodynamics as the conceptual lens have predominantly utilized qualitative methods (e.g., interviews and focus groups). While qualitative methods aid an in-depth understanding of how people perceive and deal with change, quantitative methods can be an efficient means to collect change-related data from a larger population in relatively shorter time frames and allow the generalization of results. A mixed analysis of the quantitative and qualitative results in this research not only highlighted convergence or divergence in findings

from both methods but also expanded on the findings to gain a detailed and more nuanced understanding of the role of group processes in developing change readiness.

Implications for Practice

Findings from this research offer a number of practical suggestions for change leaders, change practitioners, organization development professionals, management consultants, human resources professionals, managers, and anyone charged with leading and managing change in their organizations. Although current change literature is replete with prescriptive change models, empirical evidence indicates that the success rate of organizational change continues to be low (Burke, 2021; Jarrel, 2017).

The findings of this research underscore the need for change practitioners and consultants to not only assess the rational aspects of change but also examine employees' felt emotions towards change and explore the prevalence of any covert group process that are not readily observable, yet quite impactful, in facilitating or impeding change efforts. Specifically, this research emphasizes the need to integrate an examination of affective responses to change in change readiness evaluation efforts. This research offers a theoretical framework and incorporates three ways to assess affect – by using visual images, through an affect scale, and via interviews to enable such an examination.

Further, although the groups participating in this research were in their initial stages of the change process, research findings indicate that there were significant associations between affect and all change readiness measures. Thus, while taking a proactive approach in diagnosing the felt emotions of employees regarding change at the very beginning of the change process (e.g., when making the business case for change) could help develop change readiness from the early stages of change, practitioners and consultants might also benefit from assessing affect at

other stages of the change process (e.g., when change is communicated formally, when taking the first steps towards implementing change, after implementing change). Also, assessing affect could be valuable in change contexts that largely heighten anxiety and fear, such as mergers and acquisitions, change in organizational design, rapidly shifting market dynamics, etc., to better understand the emotional landscape of the organization and its impact on change efforts.

Additionally, research findings make the case for using both quantitative and qualitative data to examine overt and covert group processes. This research used a convergent mixed methods approach, a pragmatic way for practitioners to collect both sets of data simultaneously but separately in a short duration of time. Mixed-methods findings from this research expanded on several key findings from each set of results to provide a more detailed explanation of between and within-group findings and contributed to an overall understanding of the topic.

Finally, the multiple-case design used in this research elucidated the importance of considering contextual factors in developing OCR. Within-group analyses highlighted several contextual factors, such as industry, competition, organizational culture, organizational change history, availability of resources, etc., that impacted both affect and change readiness measures in each group. For example, Group A is a department in an IT organization that specializes in digital transformation services. Several members of Group A considered the introduction of new digital service/ AI-based offerings as the need of the hour and viewed this change as an opportunity for career growth and the organization's growth. Group B is a department in higher education. Although many members of Group B were excited about introducing new AI-based offerings, the majority of participants from Group B did not perceive any urgency for change.

Additionally, the perceived need to adopt and integrate AI in today's workplaces was high in Group A as members thought integrating AI at work was essential to remain competitive

in the market and acquire new clients. However, Group B's goals aligned more with providing higher education than becoming a market leader in technology. These contextual differences contributed to how each group's members rated the perceived need for change. This example demonstrates the need to examine contextual factors, both within the organization and in the external environment, and their potential impact on developing OCR.

Limitations and Future Research

Although a convergent mixed methods approach has several strengths, as discussed in the earlier paragraphs, a challenge in using this approach pertains to merging two datasets of potentially different types of data (numerical and text) and interpreting their results in a meaningful way (Creswell & Plano Clark, 2018). This research aimed to overcome this limitation by designing parallel data collection questions in both the survey and interviews. For example, while a survey item asked the participants to rate their answers to the question "Our leaders are walking the talk on these changes" on a 5-point Likert scale with options ranging from "strongly agree" to "strongly disagree," the one-on-one interviews provided an opportunity for the researcher to collect extensive and more nuanced data and contextual information on the same topic by asking the question "Do you think the leadership walks the talk on these changes? Why or Why not?" By asking parallel questions, this research ensured that the same change readiness dimensions and concepts were addressed in both qualitative and quantitative data collection so responses could be readily compared or merged.

Participants for this research were recruited using the nonprobability sampling approach, which may limit the ability to generalize this research (Saumure & Given, 2008). However, participants were recruited using purposive sampling and carefully recruited based on the criteria that they were working in the same department in an organization undergoing planned change.

These departments can be considered representative of subgroups in organizations undergoing change. Additionally, this research used a multiple case study design that helped increase the credibility and reliability of research through triangulation by comparing data from multiple sources, thus enhancing the generalizability of findings.

Both quantitative questions, such as Likert-type questions, and qualitative questions, such as visual images and open-ended questions, were used to collect, categorize, and analyze data. Thus, the validity and reliability requirements for a purely quantitative or qualitative study might not fully apply here. A reliability analysis of the survey instrument confirmed that it demonstrated good internal consistency. Additionally, guidelines provided by Peat et al. (2002) were used to boost the internal validity of this study. The survey questionnaire administered to the participants of this study was exactly the same way it was administered in the pilot study. The time taken to complete the pilot survey was recorded and found to be reasonable. The researcher reviewed whether the survey included items assessing affect and the five change readiness dimensions examined in this study, whether all questions were answered, and whether the responses to the open-ended follow-up questions corresponded to the main question. The survey instrument was reviewed by four subject-matter experts in change management and group processes to boost content validity.

While this research offers an evidence-based approach to examining the role of group processes in examining change readiness and makes meaningful contribution to change research by emphasizing the need to examine affect, overt and covert group dynamics in developing OCR, the author hopes that this work inspires future research in this area, both in concept validation and theory development. For example, this research identified possible interaction effects, especially with regards to years of experience in the organization and management level.

As this research focused on intact groups, the sample size did not allow for the examination of interaction effects. Future studies exploring the use of this framework at an organizational level and across organizations could broaden theory development and testing and expand the understanding of the variables examined in this research to change and change readiness literature. Further, future research might seek to develop and validate a change readiness assessment or model that incorporates affect measures. Additionally, this field of research could benefit from conducting longitudinal studies that examine relationships among variables influencing change and change readiness over a sustained period of time. Moreover, as workplaces are becoming increasingly remote and hybrid, change and change readiness research could greatly benefit from examining the role of overt and covert group processes in developing change readiness and managing change in virtual/ hybrid workplaces.

Conclusion

The two primary goals of this research were to examine the role of overt and covert group processes in developing change readiness in organizations and to explore the use of mixed methods to collect, categorize, and analyze data when using systems psychodynamics as the conceptual frame. A comprehensive literature review highlighted five OCR measures: i) need for change, ii) leadership alignment, iii) vision for change, iv) change communication, and v) mobilizing energy for change and identified related indicators for each measure. A theoretical framework was developed by conceptually mapping the five OCR measures to the overt, structural aspects of change outlined in the Burke-Litwin Model (Burke & Litwin, 1992) and the covert and unconscious group processes informed by the X-ray Vision tool (Noumair et al., 2017). In particular, this research emphasized the importance of examining affective responses to change and the prevalence of overt and covert group processes, as well as the need to consider

within-group differences such as contextual factors (e.g., organizational culture, change history, industry) and demographic variables (e.g., employees' years in the current organization, management level) that could differentially impact affect and change efforts in organizations.

The research findings indicated significant differences between groups based on affect. Furthermore, within-group analyses for Group A revealed that all five OCR measures were positively associated with positive affect in Group A. Within-group analyses for Group B indicated that need for change, leadership alignment, and vision for change were positively associated with positive affect in Group B. Additionally, within-group analyses for Group B revealed a significant difference in positive affect based on years of experience in the current organization, with members with less than one year of experience in the current organization having a more positive outlook on change compared to members who had been with the organization for more than five years. Also, mobilizing energy for change significantly differed by management level for Group B. Specifically, mobilizing energy for change was significantly higher in participants at the individual contributor level than those at the manager level. Finally, while a comparison of quantitative and qualitative results on affect confirmed the convergence of both sets of findings on differences in affect between groups, interview findings further identified covert subgroup dynamics, and additional sources of resistance that seemed to likely influence affect in each group. In sum, the research findings emphasized the need for examining affect and prevalence of overt and covert group processes in developing OCR and the importance of considering within-group differences, such as contextual factors and employee demographics. Additionally, findings demonstrated the imperative for using a mixed-methods approach to gain a nuanced and in-depth understanding of this topic.

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Appendix A

Survey Questionnaire

EXAMINING GROUP PROCESSES INFLUENCING ORGANIZATIONAL READINESS FOR CHANGE – SURVEY INSTRUMENT©

1. **[Multiple-Choice]** Take a moment to think about the changes that are currently underway at [Insert Organization's Name]. Choose 1 image from the images provided below that best captures how you feel about these changes. *(Participants will choose from a set of 25 images included in the survey.)*
    1. Image #1
    2. …
    3. …

    [Sub-Item - Open-ended] Why did you choose this image? Be as specific as possible and provide examples wherever necessary.

2. **[Likert Scale]** Still thinking about the changes that are currently underway at [Insert Organization's Name], indicate the extent to which you feel this way about these changes.

	Not at all	**A little**	**Moderately**	**Quite a bit**	**Extremely**
	1	2	3	4	5
a. Enthusiastic					
b. Upset					
c. Inspired					
d. Afraid					
e. Determined					
f. Nervous					
g. Excited					
h. Hopeful					
i. Skeptical					
j. Resigned					
k. Safe					
l. Out of Control					
m. Energized					
n. Burned out					

    [Sub-Item: Open-ended] If you would like to elaborate on any of the above responses, please be as specific as possible and provide examples wherever necessary.

3. **[Yes/No]** Do you believe the changes underway are clearly needed at [Insert Organization's Name]?

    If 'Yes,' go to item # 3A. If 'No,' go to item # 3B

    3A. [Multiple Choice] Choose the options(s) below that best describe why you believe the changes underway are clearly needed at [Insert Organization's Name]. Select all that apply.
    a. Changes underway are long overdue since [Insert organization's reason(s) for change]
    b. This is the right time to implement these changes
    c. I believe the changes underway align well with [Insert Organization's Name]'s values
    d. I believe the changes underway are essential to improve the overall performance of our organization
    e. Other _____

    [Sub-Item: Open-ended] (Optional) If you would like to elaborate on any of the above responses, please be as specific as possible and provide examples wherever necessary.

    3B. [Multiple Choice] Choose the options(s) below that best describe why you believe change is NOT needed at [Insert Organization's Name]. Select all that apply.
    a. I'm having a hard time understanding why the changes that are being made at our organization are necessary
    b. This is not the right time for these changes
    c. The changes underway does not align well with [Insert Organization's Name]'s values

d. I don't think the changes underway are essential to improve the overall performance of our organization
e. Other _____

[Sub-Item: Open-ended] (Optional) If you would like to elaborate on any of the above responses, please be as specific as possible and provide examples wherever necessary.

[Likert Scale] Indicate the extent to which you agree or disagree with the following statements in relation to change at [Insert Organization's Name]? *(#4 to #19)*

Strongly Disagree	**Disagree**	**Unsure**	**Agree**	**Strongly Agree**
1	2	3	4	5

4. I believe [Insert Organization's Name] has the capability to successfully implement these changes
5. I think the changes underway at [Insert Organization's Name] will be beneficial to me
6. I think the changes underway at [Insert Organization's Name] will be beneficial to my team
7. I fear I'll lose some of my status when these changes are implemented
8. These changes may disrupt my relationships in this company when they are implemented
9. Our leaders are committed to make this change initiative work
10. Our leaders are "walking the talk" on these changes
11. I believe my immediate manager supports these changes
12. I clearly understand the leadership's vision for change
13. I clearly understand the next steps for the organization on this initiative
14. I know what is expected of me for implementing these changes
15. I believe the formal communication on these changes is in alignment with what I've heard from other informal sources
16. I believe I know where we are in the change process
17. I don't think leaders are holding back any change-related information
18. I'm comforted knowing that past change initiatives at [Insert Organization's Name] have been quite successful
19. I have the skills required to do what will be expected of me as a result of these changes
20. I feel I will be heard when I voice any concerns regarding this initiative
21. I trust my manager to be able to help resolve any disagreements that may arise as we implement these changes
22. I trust my manager to have my back with these changes
23. I believe there will be rewards for me for seeing these changes through
24. Now, imagine that it's been almost a year since this change has been implemented at [Insert Organization's Name]. Choose 1 image from the images provided below that best captures how you envision [Insert Organization's Name] after implementing these changes. *(Participants will choose 1 image from the set of 20-25 images included in the survey)*
    1. Image #1
    2. …

    [Sub-Item - Open-ended] Why did you choose this image? Be as specific as possible and provide examples wherever necessary.
25. **[Open-ended]** Is there anything else you'd like to tell us about the changes currently underway at [Insert Organization's Name]?

[Optional Demographics Section] The following questions are for research purposes only and will allow us to compare anonymous responses across groups.

1. Which of the following best describes your age group?
a. 18-19 years
b. 20-29 years
c. 30-39 years
d. 40-49 years
e. 50-59 years
f. 60 years or older
g. Prefer not to say

2. Which of the following best describes your gender identity?
a. Male
b. Female
c. Non-Binary
d. Other: _____
e. Prefer not to say

3. How many years of work experience do you have?
a. Less than one year
b. 1-5 years
c. 6-10 years
d. 11-15 years
f. 16-20 years
g. More than 20 years
h. Prefer not to say

4. How many years of experience do you have in the current organization?
a. Less than one year
b. 1-5 years
c. 6-10 years
d. 11-15 years
f. 16-20 years
g. More than 20 years
h. Prefer not to say

5. Which of the following best describes your level of management in the current organization?
a. Individual Contributor (no direct reports)
b. Supervisor or Team Lead or Manager or Senior Manager
c. Director or Senior Director or Department Head
d. Other: _____
e. Prefer not to say

Appendix B

Images used for Survey Items 1 and 24.


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Appendix C

Interview Questionnaire

EXAMINING GROUP PROCESSES INFLUENCING ORGANIZATIONAL READINESS FOR CHANGE – INTERVIEW QUESTIONS
1. Take a moment to think about the changes that are currently underway at [Insert Organization's Name]. How do you feel about these changes?
2. Do you think the changes underway clearly needed at [Insert Organization's Name]? Why or why not?
3. What are your thoughts about the organization's capability to successfully implement these changes?
4. Do you clearly understand the leadership's vision for change? Why or why not?
5. Do you think the leadership "walks the talk" on these changes? Why or why not?
6. Does the formal communication on these changes align with what you have heard from other informal sources? Why or why not?
7. Do you clearly understand what is expected of you for implementing these changes? Why or why not?
8. Do you think you have the skills required to do what will be expected of you as a result of these changes? Why or Why not?
9. How might the changes underway at [Insert Organization's Name] impact you?
10. How might changes underway at [Insert Organization's Name] impact your team?
11. Is your manager supportive of these changes? Why or why not?
12. Do you trust your manager to have your back during these changes? Why or why not?
13. Do you think you will be heard when you voice any concern regarding this initiative? Why or why not?
14. How might the organization look like in one year after implementing these changes?
15. Is there anything else you'd like to tell us about the changes currently underway at [Insert Organization's Name]?

Appendix D

Participant Email Communication Template

a) Survey Participant

Email Subject: Invitation to Participate in a Research Study Examining Group Processes Influencing Organizational Readiness for Change

You are invited to participate in our survey "Examining Group Processes Influencing Organizational Readiness for Change." Our goal is to learn more about your perceptions of the changes currently underway in your department/ organization. It will take around 20-30 minutes of your time to complete this survey.

Your participation in this study is entirely voluntary. There are no foreseeable risks associated with this study. You can withdraw from the survey at any point. It is very important for us to hear your thoughts and learn your opinions. Your survey responses will be strictly confidential, and no data from this research will be gathered that could personally identify you.

This research is conducted by Ramya Kumar under the advisement of Dr. Debra Noumair at Teachers College, Columbia University. If you have any questions at any time about the survey or the procedures, please feel free to contact me at rk3054@tc.columbia.edu. Thank you very much -- your time and inputs are invaluable to us.

b) Survey and Interview Participant

Email Subject: Invitation to Participate in a Research Study Examining Group Processes Influencing Organizational Readiness for Change

You are invited to participate in our online survey "Examining Group Processes Influencing Organizational Readiness for Change." Our goal is to learn more about your perceptions of the changes currently underway in your department/ organization. It will take around 20-30 minutes of your time to complete this survey.

Additionally, we would like to invite you to participate in a one-on-one interview so we can get a better and detailed understanding of your perceptions about the changes that are currently underway. If this is something of interest to you and fits with your current availability, we would like to schedule an interview with you via Zoom. The interview will take around 45-60 minutes of your time. Please respond to this email to indicate your interest and I will follow-up with scheduling details.

Your participation in this study is entirely voluntary. There are no foreseeable risks associated with this study. You can withdraw from the survey and interview at any point. It is very important for us to hear your thoughts and learn your opinions. Your survey and interview responses will be strictly confidential. Data from this research will be de-identified, stored, and used only in an aggregated form.

This research is conducted by Ramya Kumar under the advisement of Dr. Debra Noumair at Teachers College, Columbia University. If you have any questions at any time about the study or the procedures, please feel free to contact me at rk3054@tc.columbia.edu. Thank you very much for your consideration -- your time and inputs are invaluable to us.