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**MEASUREMENT OF PERCEIVED ORGANIZATIONAL
READINESS FOR CHANGE AND EMPLOYEES' ATTITUDES
TOWARD CHANGE IN THE PUBLIC SECTOR**

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**A thesis submitted to The Faculty of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of
Ph.D. in Management**

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Ottawa, Ontario**

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Abstract

This dissertation was undertaken to develop and validate a conceptual model linking perceived organizational readiness for change (PORC), employees' attitudes toward change, individual dispositions, and job type. To test the model, it was necessary to develop measures of PORC and attitudes toward change. This was done using the Act Frequency Approach. The measures and the model were tested using an online survey administered in four government departments (N = 583).

Two measures of attitudes towards change were identified in this thesis: commitment (spreading the change and implementing it personally) and resistance (voicing concerns about the change). While the measures of commitment were reliable and valid, the measure of resistance was not as conceptualized in the literature. While the data suggest that commitment and resistance may be two poles of the same attitude continuum, findings in this area were inconclusive.

Two reliable and valid measures of PORC were also developed. Perceived organizational readiness for change consists of three subscales: commitment of senior management to the change, competence of the change agents, and support of the immediate manager. Perceived organizational unreadiness for change consists of three subscales: poor communication, adverse impact of the change on work, and lack of employee involvement in the change process. The data support the idea that these measures form a continuum.

Analysis of the model determined the following. PORC and individual dispositions predicted employees' commitment to change. Individual dispositions were more important predictors of commitment than PORC. Individual dispositions were the only predictors of resistance to change. Personality was a better predictor of attitudes toward change for non-managers than for managers. PORC partially mediated the relationship between individual dispositions and commitment to change, but not between job type and attitudes toward change.

Findings of this research contribute to the change management literature and provide advice to public service organizations with respect to managing change. They also fill a void in the literature with respect to the measurement of PORC and attitudes toward change.

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List of Abbreviations

AFA	– act frequency approach
DV	– dependent variable
IV	– independent variable
LOC	– locus of control
MV	– moderating/mediating variable
NA	– negative affectivity
PA	– positive affectivity
PORC	– perceived organizational readiness for change
POS	– perceived organizational support
POURC	– perceived organizational unreadiness for change

Chapter 1: Introduction

Change has become an unquestionable part of our lives. As stated by Hans Gutsch, Senior VP, HR of Compaq Computer Corporation (1995), "...the pace of change is increasing, and it is unlikely to slow in our lifetime. Many factors combine to ensure that we will all face significant change at a rate faster than ever before" (p.xi). Peter Drucker (1999, p. 73) in his turn, declared that "everybody has accepted by now that change is unavoidable" and "change is the norm."

Change is not, however, being implemented flawlessly, notwithstanding the fact that many accept its unavoidability. The biggest hurdle to successful corporate change is often thought to be employees' resistance to change. This perception has some basis in reality. Maurer (1996a; 1996b), for example, summarized the findings of a number of studies in this area which showed that from one third to two thirds of all major corporate changes fail. Furthermore, he noted that resistance might be a seldom recognized but critically important contributor to the failure. Machiavelli (1950, p.21) in the 16th century made a similar observation:

There is nothing more difficult to carry out, no more doubtful of success, nor more dangerous to handle, than to initiate a new order of things. For the reformer has enemies in all those who profit by the old order, and only lukewarm defenders in all those who would profit by the new order...

Since the 1940s, when Kurt Lewin (1951) formulated the concept of resistance to change, the theme of resistance has dominated corporate discourse and the business and academic literature. It also recurs in most recent publications. However, the perspective on resistance to change has gone full circle: from a systemic phenomenon found anywhere

in organizational systems (Lewin), to one where employees were blamed for acting in a counter-productive manner (Dent & Goldberg, 1999a), to a rehabilitated view of resistance as a natural and fully reasonable reaction to change (e.g., Ashkenas, 1999; Kurtz & Duncan, 1998; Lewis, 1999; McDonald, 1998; Morrow, 1999, Puccinelli, 1998), and back to the view of resistance as a function of organizational actions and the ways in which change is implemented (Armenakis, Harris & Mossholder, 1993; Jansen, 2000; Kotter, 1995).

The most recent theoretical thinking in the area of resistance is based on the assumption that people might not be resisting the change per se, but rather the way it is implemented and managed (i.e., the organizational context). This perspective is supported by a growing literature (e.g., Jellison, 1993; Judson, 1991; Michael & Lawson, 2000). Kotter (1995) and Jansen (2000), for example, concluded that while some individuals might resist any type of change, organizational factors such as performance appraisals and compensation systems would be much more likely to cause their resistance to change. Dent and Goldberg (1999a) went so far as to note that researchers who persistently portray people as the major resisters to change use outdated mental models of the construct. At the basis of this thesis lies the proposition of Armenakis et al. (1993) and Eby, Adams, Russell, and Gaby (2000) that in order to reduce organizational members' resistance and increase their commitment to change, organizations themselves should first get ready for change. Armenakis et al. defined perceived organizational readiness for change as organizational members' perspectives on the capability of their organization to implement change successfully. This school of thought is based on the premise that

perceptions of organizational readiness for change are based on employees' experiences with organizational actions with respect to the change (i.e., the context within which the change is occurring). According to these authors, employees would consider the organization to be ready for change when they could give an affirmative answer to two questions: "Is there a need for change?" and "Is the organization capable of dealing with it?" The definition of the construct will be further elaborated in section 2.3.1 of the Literature Review chapter.

It should be noted that the focus of this dissertation is on transformational large-scale change as opposed to incremental fine-tuning. According to Dunphy and Stace (1993), transformational change involves radical shifts in ways of doing business within an organization or a part thereof which is undergoing change. Changes in key executives and managerial appointments, changes in workforce numbers, reformed goals and values, introduction of significantly new process technologies, major changes in structures, systems, and procedures, and revised interaction patterns are some of the initiatives pointed out by the authors that exemplify transformational change. The decision to limit the analysis to one type of change rather than two is based on the following rationale. First, many authors have shown that it is transformational change that brings about the biggest challenges to organizations in terms of acceptance and implementation (e.g., Eby et al, 2000; Kotter, 2002). Second, changes that have lately taken place in public sector organizations where this research was conducted, are transformational in nature.

1.1. Research objectives

The purpose of this dissertation was to develop and validate a conceptual framework that would link organizational members' attitudes toward transformational change (i.e., commitment, indifference, or resistance), organizational context (i.e., actions that organizations engage in to implement the change initiatives), and the extent to which employees believe the organization is ready for this change. At this point in time, there is no empirically validated model that relates specific organizational change efforts to organizational change members' resistance, commitment, or indifference to change. This study is intended to close this gap.

More specifically, this research seeks to:

- 1. Develop a conceptual model linking the organizational context of change, perceived organizational readiness for change, and employees' attitudes toward change.**

Armenakis et al. (1993) and Eby et al. (2000) posited that in times of large-scale transformational organizational change, employees observe and interpret organizational context, and on the basis of these interpretations, they shape their beliefs about an organization's ability to deal with the change. Furthermore, the authors went on to suggest that employees' perceptions of an organization's ability to implement change successfully (referred to in this thesis as perceived organizational readiness for change) determine their attitudes toward change. In addition, the literature reports evidence that employees' attitudes toward change may also be influenced by their individual dispositions (Ashford, 1988; Judge, Thoresen, Pucik & Welbourne, 1999; Lau & Woodman, 1995; Wanberg & Banas, 2000) and the position they hold in the organization

(Woodman, 1989). Since the change management literature has failed so far to develop and empirically test a complete conceptual model which would link organizational policies and practices and the resulting employees' attitudes toward change, the key objective of this research was to integrate all these perspectives into one conceptual model and empirically examine the nature of the relationship among all the phenomena. The model should help organizations better understand the mechanism that might shape employees' attitudes toward change. Moreover, the knowledge of the cause-effect relationships that this model offers may provide change agents with a powerful tool to proactively create a change-friendly organizational environment.

2. Develop and validate measures of public service employees' attitudes toward transformational organizational change.

At this point in time, the literature cannot offer organizations any reliable measure of employees' attitudes toward change. While the existing literature claims to have identified many overt and covert resistance behaviours which authors such as Abbasi and Hollman (1993), Guskin (1996), Hultman (1979), Jellison (1993), Kanter (1992), Matejka and Julian (1995), Morris (1992), and Recardo (1995) have reported that they have observed in organizations undergoing change, there is little empirical data to validate their claims. Furthermore, there is little information on types of behaviours that employees engage in when they support change or are indifferent to it. Recardo (1995) noted that the fact that there are no guidelines for distinguishing between resistance behaviours and those which, while less than supportive of change do not necessarily reflect resistance, may account for the difficulty in developing such a measure. One goal of this dissertation was to address

this deficiency in the existing research by developing and validating behaviourally-based measures of employees' attitudes toward change (conceptualized as ranging from commitment to resistance with indifference as a mid-point).

3. Develop and validate measures of perceived organizational readiness for change and perceived organizational unreadiness for change.

Perceived organizational readiness for change is a fairly new concept. The idea of an organization's perceived capacity to successfully make changes was first mentioned by Armenakis et al. (1993) in the early 1990s. Eby et al. (2000) renamed the construct perceived organizational readiness for change and elaborated upon it. As theorized by Armenakis et al. and Eby et al., organizations are as ready for change as their members perceive them to be. While Eby et al. believed this construct might be intuitively appealing, the fact that it has not yet been operationalized limits its practical applicability. Although the literature has identified a number of contextual and situational factors that may affect the implementation of change (e.g., Brown & Duguid, 1991; Kilmann, Saxton & Serpa, 1985; Kondra & Hinings, 1998; Miles & Snow, 1996; Oliver, 1992; Wruck, 2000) and organizational readiness for change (e.g., Eby et al., 2000; Szamosi, 1999, Trahan & Burke, 1996), the research in this area has largely neglected the employees' perspective on the effectiveness and desirability of organizational actions with respect to change. As Eby et al. pointed out, members' perceptions of an organization's readiness for change are based on their interpretation of organizational context. The above discussion indicates that there is a need to identify organizational actions which are crucial in shaping employees' beliefs about an organization's readiness for change. A key contribution of this study, therefore, is

the development of two behaviourally-based measures of perceived organizational readiness for change that represent organizational actions that 1) are positively associated with employees' beliefs that the organization is able to implement change successfully and 2) are negatively associated with employees' beliefs that the organization is able to implement change successfully. The second measure will hereafter be referred to as "perceived organizational unreadiness for change". The measures can be applied in both research and organizational settings.

4. To empirically validate the conceptual model linking the organizational context of change, perceived organizational readiness/unreadiness for change and employees' attitudes toward change.

Public sector organizations in Canada (including the participating organizations) are currently undergoing many transformational changes. The underlying purpose of this research was to provide public sector organizations with a tool to gauge their perceived readiness/unreadiness for change and identify areas for improvement. The developed model has to be validated in public sector organizations which are undergoing transformational change. Based on the findings, adjustments might be made as necessary to the initial conceptual model (Figure 1 in Chapter 2).

1.2. Contents of the dissertation

This dissertation is divided into thirteen chapters. The research objectives were introduced in Chapter 1. This will be followed by a literature review in Chapter 2 which will be divided into seven major sections addressing the following issues: the framework underlying the current research, the construct of resistance to change, perceived

organizational readiness for change, possible antecedents of perceived organizational readiness for change, individual dispositional variables that may affect the attitudes of organizational members toward change, as well as the relationship between individual dispositions, job type and attitudes toward change. This chapter will end with a critique of the reviewed literature. The research questions to be addressed in the dissertation will be provided in Chapter 3. The methods to be followed in the dissertation and data analysis techniques employed will be covered in Chapter 4. Chapter 5 will describe the samples used in this research. Chapters 6 and 7 will describe the development of measures of perceived organizational readiness/unreadiness for change and employees' attitudes toward change and their validation. Chapter 8 will examine to what extent attitudes toward change and perceived organizational readiness/unreadiness for change can be conceptualized as continua as opposed to dichotomies. The relationships between the constructs of employees' attitudes toward change and perceived organizational readiness/unreadiness for change will be presented in Chapter 9. Chapters 10 and 11 will explore the impact of job type (10) and personality dispositions (11) on employees' attitudes toward change and their perceptions of organizational readiness/unreadiness for change. Chapter 12 will explore the relationships among the variables in the conceptual model linking perceived organizational readiness/unreadiness for change and employees' attitudes toward change. This chapter will empirically test the moderation and mediation effects among the variables and the relative importance of perceived organizational readiness/unreadiness for change and personality dispositions in predicting employees' attitudes toward change. Finally, the thesis will conclude with Chapter 13 which will include an overview of how well the research objectives have been met and research

questions answered. All the research findings will be incorporated into the initial conceptual model, and the resulting models will also be presented in this chapter. This chapter will end with a discussion of the contribution of this research, its limitations, and suggestions for further research.

Chapter 2: Literature Review

This chapter will review the literature associated with major concepts, theories, models and ideas which are relevant to the topic of this dissertation.

The literature review will start with an overview of the theoretical framework underlying this research. The resulting model which is presented first, both guides and constrains the literature review. It should be noted, however, that the order in which the research was done differs from the way it is presented (i.e., the literature review led to the model rather than the other way round). The literature reviewed in this chapter serves to explain and justify the research framework and situate the research questions (found in Chapter 3) within the existing body of research. The review will then go on to examine the construct of resistance to change and perceived organizational readiness for change. The link between perceived organizational readiness for change and employees' attitudes toward change (i.e., resistance, indifference, or commitment) will then be articulated. The fourth part of the chapter will examine a number of possible organizational antecedents of perceived organizational readiness for change. Included in this section is a discussion of how organizational factors have been linked to employees' perceptions of organizational readiness for change. The research has also suggested that employees' personality as well as the type of job they hold may influence their perceptions of organizational readiness for change. The literature linking individual dispositions to be examined in this thesis (locus of control, affectivity and tolerance for ambiguity) to perceived organizational readiness and attitudes toward change is presented in part five of this chapter while the

research pertaining to job type and employees' perspective on organizational change is given in part six. A critique of the reviewed literature will follow in part seven. A summary of the main constructs used in this thesis will conclude the chapter.

2.1. Framework underlying the current research

At the core of the dissertation lies a conceptual model of perceived organizational readiness for change and the resulting employees' attitudes toward change. The development of this model was the first step of the research. The model was created by reviewing a wide range of literature from several fields. The model is shown in Figure 1 and is explained in this section.

There are three main constructs in the model: attitudes toward change, perceived organizational readiness for change, and organizational context. Details on each are given below.

Employees' attitudes toward change (the outcome in our model) is conceptualized as ranging from commitment to resistance with indifference to change events in the middle of the continuum. This is consistent with the theoretical propositions of Coetsee (1999) and Judson (1991).

PORC has been defined by Eby et al. (2000) as the degree to which organizational members perceive that the organization is ready to implement change successfully. These

authors conceptualized the construct as a continuum ranging from high readiness (employees' belief that the organization is capable of implementing change successfully) to low readiness (employees' belief that the organization is not capable of implementing change successfully) with moderate readiness as the midpoint.

Organizational context has been conceptualized as organizational policies and practices as well as actions that organizations and their managers undertake to implement the change initiatives. Among the suggested elements of the organizational context are leadership (e.g., Burke, 2002; Kotter, 2002), communication (e.g., Kotter & Schlesinger, 1979; Quirke, 1996), supportive climate (e.g., Butler, 2001; Scott & Jaffe, 1995), employee empowerment (e.g., Wetlaufer, 1999), employee participation (e.g., Chawla & Kelloway, 2004; Conner, 1992; Smith, 1996b), and such organizational systems as staffing, rewards, performance management, and training (e.g., Armenakis, Harris, & Field, 1999; Conner, 1998).

The model in Figure 1 also shows the hypothesized relationships among these three major constructs. Path α represents the link between PORC and attitudes toward change. Such a path reflects the belief that people's attitudes toward change may depend on the extent to which they perceive the organization itself to be ready for change (Armenakis et al., 1993; Eby et al., 2000).

Several possible antecedents of perceived organizational readiness for change have been identified in the change management literature. It has been suggested that the perceived quality and intensity of organizational actions undertaken by its management (e.g., communication, leadership, empowerment, participation, creation of supportive climate, design of organizational systems) may affect people's feelings about organizational readiness for change (e.g., Burke, 2002; Conner, 1992; Galbraith, 2000; Judson, 1991; Quirke, 1996; Trahan & Burke, 1996; Wetlaufer, 1999). Path *b* on the model represents this link between organizational context and PORC. It should be noted that path *b* is shown by a dotted line. This reflects the fact that the organizational actions that employees perceive to be the most important in terms of PORC will be determined in the course of this research.

The literature also suggests two possible moderators of these relationships: job type and individual dispositions. Job type in this research was operationalized into two categories: managers and non-managers. The literature (e.g., Conner, 1998; Strebel, 1996) suggests that job type may influence one's interpretation of organizational change efforts in two ways:

- It may affect employees' attitudes toward change (path *c*) or
- It may influence how people perceive the organizational context and the conclusions they draw with respect to PORC (path *d*).

Individual dispositions in this research were conceptualized as consisting of locus of control, negative and positive affectivity, and tolerance for ambiguity. The literature has linked all four of these dispositions with PORC and employees' attitudes toward change (e.g., Ashford, 1988; Judge et al., 1999, Wanberg & Banas, 2000). Path *e* reflects the idea that individual dispositions may affect attitudes toward change, while path *f* postulates that they affect PORC.

Finally, work by Holland (1985) suggests an association between job type and certain personality dispositions. This is shown on the model as path *g*.

Figure 1. Integrated conceptual model of perceived organizational readiness for change (PORC) and employees' attitudes toward change.

All the constructs of this model and the relationships among them (e.g., job type/individual dispositions moderating the relationship between PORC and attitudes toward change and PORC mediating the relationship between job type/individual dispositions and attitudes toward change) will be introduced in greater detail in the following sections of this literature review.

2.2. Overview of attitudes toward organizational change

In this research, attitudes toward change are conceptualized as commitment, indifference, and resistance. To review how these attitudes are reflected in the literature, this section is divided into four parts. In part one, the framework that situates the three attitudes on a continuum will be introduced. This will be followed by a description of how attitudes are conceptualized in this research. Circumstances surrounding commitment and indifference to change have been explored very little, although many authors in the area of change management have written about resistance. The construct of resistance to change will be reviewed in part three. The section will conclude with a summary of literature review pertaining to attitudes toward change.

2.2.1. Resistance and commitment to change - two poles on a continuum

When organizations embark on change initiatives, there has been a tendency to believe that these initiatives result in either acceptance of or resistance to the change on the part of organizational members. In other words, resistance and acceptance have traditionally been viewed as opposite and mutually exclusive attitudes. Recently, however, a number of authors (e.g., Coetsee, 1999; Johnson, 1992; Judson, 1991) have hypothesized that they

might be two poles on the same attitude continuum. This theory remains, however, to be empirically tested. One of the main contributions of this research is an empirical examination of this issue.

Both Judson (1991) and Coetsee (1999) have proposed scales which describe attitudes toward change. The two end points on Judson's scale have been labeled active resistance and acceptance whereas the end points on Coetsee's scale are labeled active resistance and commitment. Coetsee has defined the commitment stage as the most powerful phase of acceptance characterized by "the willingness of employees to use and direct their energy and loyalty for the benefit of the organization to such an extent that a strong emotional link and attachment is created to the organization, its values, and purposes or goals" (p.219).

Both authors have also theorized that there are several intermediary attitudinal stages between the two poles of their continuums though the labels they have given these stages are somewhat different. Judson (1991) labeled his stages acceptance, indifference, passive resistance and active resistance whereas Coetsee (1999) referred to his stages as commitment, involvement, support for change, indifference, passive resistance, active resistance, and aggressive resistance. Both propositions are shown in Figure 2.

These scales seem to represent a more realistic view of attitudes toward change than the dichotomous "commitment/acceptance - resistance" perspective (i.e., the opposite of

committed is not committed and the opposite of resistant is not resistant or in other words, you are either committed or you resist). According to this school of thought, people in organizations do not fall into two big camps - resisters and acceptors. Rather they may hold varied attitudes towards change. Pritchett (1996) has hypothesized that only some 20% of the people may be “change-friendly”, possibly 30% may be resisters, but 50% may assume a neutral position that Smith (1996b, p.48) would characterize as being “anxious and reluctant about what lies ahead.”

The research design of this study proposes that attitudes toward change may be shaped by employees’ perceptions of organizational readiness for change that is operationalized as employees’ interpretation of organizational behaviours. Furthermore, PORC has been conceptualized by Eby et al. (2000) as a continuum ranging from low to high readiness.

Figure 2. Coetsee's (1999) and Judson's (1991) continuums describing employees' attitude toward change.

Consequently, viewing resistance and commitment to change as two poles on the same continuum implies that the same organizational behaviours can foster or hinder either of these attitudes depending on the quality and intensity of these behaviours. There is, however, no evidence in the literature that Judson (1991) and Coetsee (1999) have derived measures to identify the degree of commitment or resistance or empirically tested their models. As such, at this time these scales are more theoretical than practical.

2.2.2. Conceptualization of attitudes toward change in this research

As shown in Figure 1, the theoretical framework grounding this thesis uses a three-point continuum to describe attitudes toward change. This continuum is theorized on the basis of Coetsee's (1999) and Judson's (1991) frameworks (see Figure 2). Although the stages in the two models have different labels,

- Both authors incorporated indifference toward change as the mid-point of the attitude continuum,
- Both authors distinguished between passive and active resistance,
- Both authors defined passive resistance as negative attitudes, voicing opposing views, and regressive behaviours, and
- Both authors viewed such activities as voicing strong opposing views, working to rule, slowing activities down, protests, and withdrawal as active resistance.

Despite these similarities there are some key differences in the way these two authors viewed resistance. In Judson's (1991) model, active resistance also involved committing errors, spoilage, and deliberate sabotage. Coetsee (1999) had one additional type of resistance in his model (i.e., "aggressive resistance") which included such extreme behaviours as spreading destructive rumours, overt blocking, violent strikes and boycotts, direct subversion and sabotage, destruction, terrorism, and killing. In this thesis, the negative pole of the attitude continuum was labeled "resistance". There are two reasons behind this decision. First, the cultural context where the present research was carried out (i.e., public sector organizations in Canada) means that the occurrence of the most extreme manifestations of aggressive resistance may not be very likely. Second, neither of the frameworks discussed provided strong empirical support for the inclusion of certain behaviours in the categories of passive resistance or active resistance. In fact, conceptually many behaviours could be in both groups. To resolve this dilemma, both categories were collapsed into one conceptual category labeled resistance to change.

Coetsee's (1999) and Judson's (1991) frameworks also differ significantly from each other with respect to their view on the positive pole of the attitude continuum. In Judson's model, the positive attitude toward change was conceptualized as "acceptance." The author's definition of this attitude was, however, quite broad and included enthusiasm, cooperation, cooperation under pressure from management, and acceptance. Coetsee, on the other hand, explicitly distinguished between several gradations of Judson's "acceptance." He claimed that the weakest and least proactive form of acceptance is

“support for the proposed change” while “involvement” is a stronger form and is characterized by cooperation and participation in the change initiatives. According to Coetsee, the most powerful form of change acceptance is “commitment” which he defined as “the willingness of employees to use and direct their energy and loyalty for the benefit of the organization to such an extent that a strong emotional link and attachment is created to the organization, its values, and purposes or goals” (p.219). For the purpose of the present conceptual model, Coetsee’s definition of commitment was chosen as the opposite pole of resistance to change as it seemed to clearly represent the highest degree of acceptance of change.

Ultimately, in the present conceptual model, resistance and commitment are conceptualized as end points of the same continuum with indifference as the midpoint of the scale. The scale used in this study is shown in Figure 3 below. While the other transitional phases between resistance and indifference on the one hand, and indifference and commitment on the other hand are theoretically interesting, they are difficult to differentiate and operationalize empirically. Therefore, it was decided within the context of this exploratory study to focus on three points only.

Figure 3. The scale of attitudes toward change.

2.2.3. Overview of the construct of resistance to change

Resistance to organizational change is a multifaceted and controversial phenomenon which is somewhat difficult to identify and even more difficult to operationalize and measure. This section will define the construct of resistance and outline the old view of resistance (i.e., most resistance stems from the individual, it is a negative force and needs to be overcome) as well as how resistance is currently viewed (i.e., the emphasis is on organizational rather than individual sources of resistance, and resistance is a rational and useful force). Then the literature on the manifestations of and reasons for resistance to change in organizations will be reviewed.

2.2.3.1. What is resistance to change

What is resistance? The view of this construct in the literature is diverse and multifaceted. Ansoff (1988, p.207) defined resistance as a “multifaceted phenomenon, which introduces unanticipated delays, costs and instabilities into the process of a strategic change.” Zaltman and Duncan (1977) defined resistance as any conduct that serves to maintain the status quo in the face of pressures to alter it. Based on such definitions, Wadell and Sohal (1998) concluded that resistance most commonly is associated with negative employee attitudes or with counter-productive behaviours. As opposed to the condemning tone of writers in the 1970s and 80s, Basler (1994) introduced a facet of resistance which took the side of those who seemingly resisted change. He extended the discussion beyond the effects of resistance and its impact on the bottom-line results of the organization to the reasons behind this phenomenon. Basler believed that resistance might

be the way people protect themselves from the uncomfortable, painful, or embarrassing feelings that often accompany change. This view of resistance is consistent with Merron (1993) who defined the construct of resistance as the expression of differing views, wants, needs, desires and feelings which may persist if not allowed to be expressed.

There is a growing body of change management literature that extends Basler's (1994) proposition even further. These researchers view resistance to change from a different perspective. Rather than focusing on individuals and their resisting behaviours, authors such as Conner (1998), Judson (1991), Krantz (1999) and Smith (1996b) have identified organizational factors such as job definitions, compensation and information systems, career paths, budgeting and planning, communication practices as well as an unsupportive climate as the major sources of resistance. Following this reasoning, the term "employee resistance" in its traditional sense and definition can be therefore considered outdated (Dent & Goldberg, 1999a). Moreover, as Judson (1991) posited, resistance may be better thought of as a symptom of a more basic problem underlying a particular situation rather than the fundamental problem that needs to be solved.

The differences in these two perspectives can be explained by the way the construct of resistance has evolved over time.

2.2.3.2. Traditional view of resistance to change

In the 1940s, Kurt Lewin (1951), who formulated the concept of resistance to change,

held that resistance to change was a systemic phenomenon and as such could occur anywhere in the organization. This view dominated until the 1960s when the focus of change management researchers and practitioners shifted from a systemic view of resistance to change to a more individualistic explanation of this phenomenon. In their review of the evolution of this construct, Dent and Goldberg (1999a) noted that starting with the 1960s, resistance to change was seen as a psychological phenomenon residing solely within an individual. The authors went on to point out that the mental model that people resist change was commonly accepted in organizations. This view was not altered for the next 30 years. Advances in psychotherapy might have contributed to the maintenance of this view. In the psychotherapeutic practice, the reaction of resistance was expected from patients when a therapist tried to change their behaviours (Zander, 1950). In the 1960s, the same pattern of thinking about resistance was transferred to organizational settings as well. Organizational change was viewed from the perspective of the change agents whose intentions and actions were always considered to be right. The rest of the organizational members, on the other hand, were seen as passive change takers or resisters. From a senior management perspective, employees who did not respond fast enough to the accelerating pace of change in organizations were viewed as resisting change (Quirke, 1996). According to the traditional view, the manager's task was to overcome employees' resistance. In fact, the dominant management philosophy from the 1960s through the 1990s held that resistance to change was even expected. This meant that change agents were often guided by biases that became self-fulfilling prophecies (Butler, 2001; Jansen, 2000). Management frustrations with resistance were

exacerbated by the lack of rigorous research in this area and a literature for practitioners that offered simple explanations and fast solutions to change management issues.

Two traditional models of resistance to change developed by Hultman (1979) and Jellison (1993) are reviewed in this thesis to illustrate the nature of such practical models. According to Hultman's model (Figure 4), resistance of individuals seems to be expected any time a change initiative is launched. This model has several fundamental flaws. For example, in Step 2 of the model, the author recommends the change agents to determine possible resistance by putting him-/herself in the shoes of those who must go through the change process to better understand why people resist the change. The model does not, however, offer guidelines as to how someone can identify covert and passive resistance.

Figure 4. Hultman's (1979) Resistance Strategy Model.

In addition, the author implies that resistance is an attitude unrelated to the ways the change is being implemented. This would suggest that the change agent has no control over the situation. In addition to the above flaws, the author states that it is important to determine the intensity of resistance, but the model is problematic in that it offers no suggestions on how this should be done.

Another model of resistance to change developed by Jellison (1993) also views resistance as a feature residing within separate individuals. Consequently, the change agents are offered what the author called “Six Simple Steps for Getting Results” to deal with resisting individuals (Figure 5). Similar to the model discussed above, Jellison’s technique to make individuals agree is based on popular psychology and manipulation methods rather than exploration of cause-effect relationships and addressing the fundamental causes of resistance.

	Step	Methods
1.	Setting the context	Establish relationships, praise for success, reassure that nothing much will be required.
2.	Stating the request	Provide a brief statement without detailed explanations, no delving into the past.
3.	Evaluating response	Try to determine if there is a resistance again.
4.	Circumventing resistance to change	Identify the form of resistance. Postpone extended discussion. Reinterpret the reaction.
5.	The resistance contingency	Determine if they still resist. Plan for contingencies and enforce them.
6.	Closure after the agreement	Get verbal acceptance and live up to the promises.

Figure 5. Jellison’s (1993) “Six Simple Steps for Getting Results.”

Reconsideration of the above notions came about in the 1990s with the recognition that while there might exist within any organization what Geisler (2001) referred to as “bottom-feeders” (i.e., employees with negative attitudes who thrive on organizational failures and opportunities to criticize and grumble), there was reason to believe that not all employees were innately against change (Butler, 2001; Dent & Goldberg, 1999a; Jansen, 2000). This recognition led to a call for a new perspective on change management in general and resistance to change in particular.

2.2.3.3. A new view of resistance to change

The new view on resistance to change introduced several new perspectives. First, the focus from individuals as the source of resistance shifted to a more systemic view of resistance that included contextual factors such as organizational climate, employee involvement, and rewards. Second, resistance to change ceased to be interpreted as a solely destructive force. These perspectives are discussed in more detail below.

2.2.3.3.1. The role of organizational context in resistance to change

One of the central themes in the new view on resistance to change is its source. The more thorough studies of organizational change processes have caused researchers and practitioners alike to conclude that viewing employees as the sole resisting force in the organization is too simplistic an approach (Duck, 2001, Ford, Ford & McNamara, 2002). In fact, some researchers such as Duck (2001, p.xvi) feel that labeling organizational members as “resistors” helps the leaders take the blame off themselves and put it on their

“no-good followers.” Others (i.e., Krantz, 1999; Smith, 1996b) have noted that “employee resistance” is often used as an excuse when change efforts fail.

The new resistance research paradigm also argues that resistance can be found at any hierarchical level and that the higher placed the resisters are in the hierarchy, the more potentially detrimental they are to the change effort (Dent & Goldberg, 1999a; Smith, 1996b). Moreover, leaders, managers, and also consultants may sometimes reinforce the resistance by their expectations, self-fulfilling prophecies, pushing change to happen too fast and refusing to admit that resistance exists (Butler, 2001; Jansen, 2000; Merron, 1993; Quirke, 1996). Therefore, as Judson (1991) as well as Ford and his colleagues (2002) have warned, attributing resistance to change to individuals addresses only the symptoms associated with the change process rather than the underlying fundamental problem which caused resistance to occur in the first place. According to Kotter (1995) and Jansen (2000) these fundamental problems often lie in the organization’s structure and systems.

Other factors outside the control of individual employees which may cause resistance include group norms (Lewin, 1951), institutionalized social frameworks (Oliver, 1997), organizational inertia (O’Toole, 1995), vested interests (Miles & Snow, 1996), persistence of organizational culture (Zucker, 1991), core competencies (Lieberman & Montgomery, 1988), work practices (Brown & Duguid, 1991), “organizational memory” (Nelson & Winter, 1998), organizational defensive routines (Argyris, 1985), cognitive

structures of management (Nystrom & Starbuck, 1984) as well as human resource systems such as job definitions, compensation, career development, performance appraisals, etc. (Conner, 1998; Judson, 1991; Krantz, 1999; Smith, 1996b).

Among the elements of organizational context that may provoke employees' resistance to change the literature has mentioned leadership that has failed to establish a clear vision for the change or to inspire members' commitment to follow it (e.g., Burke, 2002; Duck, 2001; Shaw, 1995). Furthermore, mismanaged change communication has been found to be one of the reasons for resistance to change this communication was supposed to eliminate (e.g., Kotter & Schlesinger, 1979; Quirke, 1996; Richardson & Denton, 1996). Although not empirically proven, there is an opinion that a supportive organizational climate minimizes resistant behaviours and increases motivation to work during periods of change (e.g., Butler, 2001; Eby et al., 2000; Judson, 1991; Quirke, 1996; Scott & Jaffe, 1995). Likewise, there is an opinion that change becomes more acceptable when employees feel in control of it (Conner, 1998). Therefore, employee empowerment and involvement in change processes are believed to reduce negative attitudes toward change (Conner, 1998; Scott & Jaffe, 1995; Smith, 1996b). In addition, attitude toward change may depend on the nature of organizational systems, especially human resource systems (e.g., Conner, 1998; Smith, 1996b). All these elements of organizational context are elaborated upon in Section 2.4.

Conceptualizing resistance forces as occurring outside the employee has important implications since organizations then can be made responsible for eliminating these forces. Approaching resistance to change from a systems perspective rather than attributing it to individuals allows for a more proactive stance. It is in the hands of the management to ensure that contextual factors are in place and ready for change. This leads to the construct of organizational readiness for change which is addressed in Section 2.3 of this review.

2.2.3.3.2. Usefulness of resistance

Finally, the new conceptualization of resistance to change recognizes that resistance may have a number of advantages to the organization. Furthermore, when managed carefully, it may be utilized by the organization to assist the change efforts (Dawson, 2003; Johnson, 1992; Waddell & Sohal, 1998).

What are the proposed upsides of resistance to change identified in the literature? First, resistance can protect an organization from ill-advised change (Jager, 2001; Waddell & Sohal, 1998). Second, resistance may serve as a warning signal that encourages the change agents to search for alternative change implementation methods (Waddell & Sohal, 1998). Third, resistance is a reliable indicator that the launched change has been felt by organizational members (Pritchett, 1996). Finally, it is also possible that employees may resist the organizational status quo and by taking a proactive stance, push the organization toward more innovation (Orr, 1996). Although resistance is rational and

at times even useful, Foote (2001) warned that taken to extremes, it may be destructive. Therefore, “maintaining the right balance is key to any organization’s ongoing health and prosperity” (Foote, 2001, p.36). It should be noted, however, that due to the fuzzy nature of the subject matter, no empirical research has been done to establish if, in fact, resistance to change can be useful.

In sum, the new view on resistance to change has broadened the scope of ways that organizations can manage change. This conceptualization encourages organizations to modify their practices to reduce fundamental obstacles to change and capitalize on the lessons of resistance instead of fighting superficial symptoms such as individual resistance. Unfortunately, the existing literature in this area cannot provide organizations with well grounded empirical research to guide their decision making. Rigorous empirical support is required to establish credible cause-effect relationships between organizational context and members’ attitudes toward change. This thesis advances knowledge in the area by empirically examining this issue.

2.2.3.4. Manifestations of resistance to change

One of the reasons why resistance to change has not been empirically researched might be the difficulty of distinguishing resistance from other organizational behaviours. Recardo (1995) claimed that it is easier to understand why people resist change than identify the resistant behaviours. There are two frameworks that might serve as a guide to researchers in this area. The first, developed by Conner (1992) categorizes all the forms of resistance

into overt and covert. The second, developed by Matejka and Julian (1995) classifies all forms of resistance into active and passive. When these two classifications are combined in a matrix, they provide an all-embracing framework which covers most of the resistance forms identified by many other authors (e.g., Henry, 1993; Hultman, 1979; Jellison, 1993; Lawrence, 1969; Maurer, 1996a). The matrix developed in this study is shown in Table 1 below. It is not an exhaustive model since there are many other resistance forms that can be slotted in the respective quadrants. It does however help one conceptualize what forms resistance might take.

While the overt resistant behaviours of quadrants #3 and #4 may be easily recognized, the covert behaviours of quadrants #1 and #2 are not. Covert-active behaviours can be misleading since they send a message whose face value does not necessarily match its

	Overt	Covert
Passive	coming late to work abusing sick leave benefits avoiding others ignorance 4	not participating in discussions accepting inferior performance from subordinates withholding information pseudo agreement 1
Active	vocal opposition sabotage agitating others filing grievances distractions 3	requesting transfer asking for more data appointing committees easy agreement excuses 2

Table 1. A matrix combining Conner's (1992) and Matejka and Julian's (1995) classifications of resistance behaviours.

intent. Covert-passive resistant behaviours, on the other hand, are likely to be the most difficult to identify since their intent is to hinder the implementation of change by not doing anything good rather than by doing something bad.

There are very few attempts in the literature to describe the manifestations of different stages of resistance. Nor have measures been developed and tested to help change agents identify them, especially in their covert forms. The ability to recognize visible and less visible signs of resistance is, however, the first step in managing this complex phenomenon. This study addressed this gap by developing a behaviourally-based measure of attitude toward change (initially conceptualized in this study as a continuum ranging from resistance through to commitment)

2.2.3.5. Rational reasons for resistance to change

Traditionally, resistance to change has been considered a destructive force. However, according to Jager (2001, p.24), resistance is, “simply a very effective, very powerful, very useful survival mechanism.” This means that people may have good reasons (i.e., personal, socio-political and structural) for resisting change.

The literature identifies a number of rational reasons why someone might resist change. First, there is the fear that a change might bring about loss in terms of material well-being, job security, status, or control (Chawla & Kelloway, 2004; Dent & Goldberg, 1999b; Recardo, 1995; Quirke, 1996). Moreover, any change comes with a certain degree

of insecurity and uncertainty (Dent & Goldberg, 1999b; Kanter, Stein, & Jick, 1992), so that people might feel a need to protect themselves against the anxieties (Krantz, 1999) and unfavourable consequences of the change (Dawson, 2003; Zander, 1950). People may, as well, fear they will not be able to adapt to change (Jager, 2001) or have a low tolerance for change in general (Hage, 1980). In addition, people may not see a need for change (Henry, 1993), or may believe that change is not good for the organization (Morris & Raben, 1995). All these personal factors may provide a good reason to resist change.

Second, people may fear that change would disrupt established social interactions as well as individual and group norms (Recardo, 1995; Sullivan, Sullivan, & Buffton, 2002; Zander, 1950). Groups with vested interests may also fear a loss of power (Hage, 1980; Henry, 1993; Smith, 1982). Social and political arrangements which exclude people affected by the change from the planning and decision making processes may also increase the resistance of those who are not involved (Henry, 1993; Judson, 1991; Sullivan et al., 2002; Zander, 1950).

Third, resistance may be caused by certain structural factors. One of the factors could be inadequate communication systems that block the information flow (Recardo, 1995). As a result, the nature of the change might not be made clear to everybody and there might be a lack of understanding of the ongoing processes (Judson, 1991; Zander, 1950). Another factor could be a lack of resources or adequate rewards for the desired behaviours (Judson, 1991; Recardo, 1995). Furthermore, the change methods might be perceived as

inflexible and therefore unacceptable (Judson, 1991). Finally, changed job characteristics may not be welcomed by the incumbents of these jobs (Henry, 1993).

The above mentioned reasons demonstrate that resistance to change can by no means be considered irrational. Butler (2001, p.17) argued that “backed in a corner, any organism shows resistance.” Organizations which acknowledge the rationality of resistance should be more able to control and influence the causes of resistance. Unfortunately research into the causes of resistance is in its exploratory phase and is dominated by case studies and empirically untested propositions. As such it offers little help to interested organizations.

2.2.4. Attitudes toward change: summary

Recent research views resistance and commitment to change as two poles of the same attitude continuum with indifference as the midpoint rather than mutually exclusive attitudes. From this it may follow that certain organizational actions can increase either resistance or commitment to change depending on the direction, intensity, and quality of these actions.

The concept of resistance to change is a multifaceted organizational phenomenon which is difficult to identify and measure since it can be not only overt and active but also covert and passive. Traditionally resistance has been viewed as a psychological phenomenon residing within individuals. However, a more recent approach also attributes the sources of resistance to organizational structures and systems. The shift of focus from individuals

to the organizational context allows change agents to assume a more proactive stance in controlling causes of resistance.

Resistance to change might not be a negative behaviour per se. In fact, several studies have shown that employees have good reasons (personal, structural and socio-political) to resist change, and sometimes resistance may even be beneficial for the organization. Personal reasons for resistance may vary with each individual whereas structural reasons are systemic and can be controlled by the organization. Therefore, structural solutions to the “resistance problem” may be much more effective than attempts to deal with individual employees.

The literature on resistance to change is dominated so far by individual case studies and theoretical propositions which have not been empirically tested and further developed into comprehensive models. Several authors have identified the ways resistance can manifest itself in organizations based on their field observations. However, these studies have not resulted in the development of an applicable measure of attitude toward change. Likewise, there are suggestions regarding the causes of resistance and how to deal with it, but very few authors have linked solutions to specific causes. Therefore, the literature is missing any frameworks addressing the cause-effect relationships between personal, social or structural factors and attitudes toward change. More rigorous empirical research is called for to close this gap. This thesis has attempted to close this gap through the testing of a framework predicting attitudes toward change which are conceptualized as a

continuum with resistance on one pole and commitment on the other. Both individual and organizational predictors of attitudes toward change are included in this model to help clarify the source of the attitudes.

2.3. Perceived organizational readiness for change

In the early 1990s, Armenakis et al. (1993) argued that before trying to reduce organizational members' resistance, change agents should create organizational and individual readiness for change. Moreover, the authors suggested that individual readiness for change is a function of employees' perceptions with respect to the organization's readiness for change. This section will introduce the concept of perceived organizational readiness for change, establish the link between perceived organizational readiness for change and employees' attitudes toward change, and identify the variables associated with perceived organizational readiness for change. The literature reviewed in

Figure 6. The hypothesized links between organizational context, perceived organizational readiness for change, and employees' attitudes toward change.

this section can be used to justify the links shown in Figure 6 (i.e., organizational context influences employees' perceptions of organizational readiness for change which, in turn, influences their attitude toward change). These links form the background of the theoretical framework underlying this research.

2.3.1. Perceived organizational readiness for change defined and explored

The concept of organizational readiness for change has been quite widely used in the change management literature since the late 1970s. For example, Salasin and Davis (1977), Pond, Armenakis and Green (1984), Fox, Ellison and Keith (1988), Stewart (1994), Lehman et al. (2002), and Cunningham et al. (2002) indicated that in order to implement change, an organization should have a certain readiness level. Armenakis and his colleagues (1993), however, were the first to emphasize the perspective of those who are affected by the change. They defined the organization's collective readiness for change as being "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" (p.681).

The organizational readiness concept was further developed by Eby and her colleagues (2000) who empirically explored the variables associated with what they referred to as perceived organizational readiness for change. They defined the construct as the degree to which members perceive that the organization is ready to implement change successfully. These perceptions are believed to be individuals' unique interpretations of the

organization's context and reflect the way that people make sense of what is happening (Eby et al., 2000). According to Eby et al., employees respond to the events in their environment and make assumptions about the change process.

The role of perceptions in forming individuals' attitudes toward the environment has been widely discussed in the psychology literature. Psychology scholars such as Bandura (1989), Spreitzer (1996), and Thomas and Velthouse (1990) pointed out that through self-construction (also referred to as perception and interpretation) individuals create their unique interpretive reality which often does not coincide with the objective reality. Following this reasoning, Jansen (2000) claimed that those are employees' perceptions of organizational readiness for change rather than the "objective" organizational readiness that might best reflect the organization's actual ability to introduce change successfully. Moreover, Eby et al. (2000) argued that under circumstances of large-scale change, perceptions that the organization might not be ready for change are even more likely.

Eby et al. (2000) also suggested that perceived organizational readiness for change can best be viewed as a continuum scale ranging from high readiness (employees' belief that organization is capable of managing change and successfully adapting) to low readiness (employees' belief that organization is not prepared to undergo change).

Several authors have offered measures to assess the level of organizational readiness for change. For example, Jones and Bearley (1986) offered organizations a survey to assess

the ability of an organization to manage change effectively along five readiness dimensions: structural, technological, climatic, systemic and people readiness. This practical tool was based on Lewin's (1951) force-field analysis and mapped the supports and barriers to change. In addition, Trahan and Burke (1996) proposed an assessment framework which included a broad range of questions pertaining to external environment, organizational strategy, systems, policies and procedures, leadership style, managerial practices, etc. Furthermore, the consulting firm Symmetrix has developed a 17-item quiz including organizational and management practices to evaluate the degree of organizational readiness for change (the instrument is reported in Stewart, 1994). Another measure of readiness for organizational change was offered by Davis and Salasin (1977) who recommended assessing an organization's values and resources, awareness of a need for the change, a plan of action and its timeliness, favourability of the existing circumstances, potential employees' resistance, and expected payoffs before initiating the change process. Notwithstanding the potentially practical applicability of these tools, none of these sources have demonstrated any empirical assessment or validation of their measures of organizational readiness for change. Nor have the authors provided any rationale for their choice of items included in the measures. All these tools were meant as practical and simple guidelines for managers and consultants wishing to implement organizational change. As such their contribution to theory building is limited and their validity suspect.

Apart from survey instruments developed solely for practical purposes, there are several empirical studies of organizational readiness for change that employed a more rigorous research methodology (e.g., Daley, 1991; Lehman et al., 2002; McNabb & Sepic, 1995). These studies contribute to a further advancement of knowledge about variables involved in the complex change implementation process. McNabb and Sepic performed a study of organizational and employee readiness to accept total quality management (TQM) implementation in a U.S. federal agency's regional centre and organizational factors that might affect this readiness. The measurement scales were adapted from several existing measures reported in the literature and supplemented with some items generated on the basis of input of the participating agency units. The sample consisted of 265 staff and supervisory personnel. The researchers found that organizational culture, operating climate, organizational policies, and performance outcomes were related to the acceptance or rejection of a pending change. In addition, they also found several job type differences in perspectives on TQM implementation.

Lehman et al. (2002) sought to develop an instrument to assess organizational readiness for change (i.e., in this case new technology transfer) at several substance abuse treatment units. Their instrument comprised items pertaining to motivation for change, personality attributes of leaders and staff, institutional resources, and organizational climate that were adapted from several existing scales and supplemented with some new items developed by the researchers specifically for their study. The scales were pretested and revised to incorporate participants' feedback. Having surveyed over 500 participants on the director

and staff level, the researchers obtained psychometric and structural properties of the measurement scale and also found some job type differences. The contribution of the results is, however, limited by the lack of proper validation of the developed measure.

Another empirical study that is related to readiness for change was conducted by Daley (1991) using the data on 7303 managers from the 1979 U.S. Federal Employee Attitude Survey. Daley found that the way managers perceived organizational change (or the “change orientation” as the author called it) was related to such antecedents as work group relationships, performance appraisal systems, delegating leadership style, and freedom to exercise one’s discretion on the job. This study also had some methodological flaws due to which the results should be interpreted with caution. Adequacy of the selected measurement items to the sample used in the study can be questioned. Although in the researcher’s view, managers can also be considered employees, items such as “When changes are made in this organization, employees usually lose out in the end” might send mixed signals with respect to the perspective the survey administrators expect managers to take. The job type differences with respect to perceptions of organizational change found in several studies (e.g., Lehman et al., 2002; McNabb & Sepic, 1995) may cast further doubt on the validity of the findings when these differences are ignored.

2.3.2. Relationship between organizational context, perceived organizational readiness for change, and employees’ attitudes toward change

In order to demonstrate and justify the relationships between the key constructs derived

from frameworks proposed by Armenakis et al. (1993) and Eby et al. (2000), these constructs and their relationship paths are shown in Figure 7 as an excerpt from the full conceptual model used in this research.

First, to justify the link between organizational context and perceived organizational readiness for change, Eby et al. (2000) and Jansen (2000) theorized that employees' attitude toward change is determined by their perception of organizational readiness for change rather than the readiness itself. Following this reasoning, organizational context may not influence employees' attitudes toward change directly. Instead, organizational members first interpret the organizational context, evaluate whether the organization can handle the change, and only then may they become ready for the launched change. This line of thought can be backed up by similar theoretical frameworks that have been proposed by James and Jones (1974), Mikkelsen, Saksvik, and Ursin (1998), and Schneider and Reichers (1983) all of whom have hypothesized that perceptions of organizational events and processes mediate the relationship between organizational context and individual responses. These propositions allowed us to hypothesize the relationship between organizational context and perceptions of organizational readiness for change.

Second, Armenakis et al. (1993) in their landmark paper on readiness for change hypothesized a causal relationship between the perceptions of organizational capacity (or

Figure 7. Hypothesized cause-effect relationships between organizational context, perceived organizational readiness for change, organizational members' readiness for change, and members' attitudes toward change (based on propositions of Armenakis et al., 1993 and Eby et al, 2000).

readiness) for change and employees' attitudes toward change. However, in their model, the relationship was not seen to be direct, but rather was hypothesized to be mediated by employees' readiness for change. A similar relationship is hypothesized in this thesis, but in this case the mediator was omitted as redundant. In this part of the section, the rationale of Armenakis and his colleagues for the mediated relationship will be first explained followed by arguments that support the omission of the mediator in this research.

To support their proposition, Armenakis et al. (1993) argued that the strategies that organizations use to deal with resistance to change (such as education, communication, involvement, support, etc.) “are effective in reducing resistance to the extent that they first create readiness” (p.682). In addition, as quoted earlier, they also believed that employees’ readiness for change is reflected in their beliefs about the organization’s capacity to implement change. They postulated that increased employees’ beliefs that the organization is ready to deal with change successfully lead to high employees’ readiness for change, and conversely, reduced beliefs lead to low employees’ readiness for change. These arguments support the hypothesized relationship between perceptions of organizational readiness for change and employees’ readiness for change as proposed by Armenakis and his colleagues.

To support the path in the model linking employees’ readiness for change and their attitudes toward change, Armenakis et al. (1993) argued that “readiness is the *cognitive* precursor to the *behaviours* of either resistance to, or support for, a change effort” (p. 681) (*italics in the original*). Moreover, the authors suggested that high employees’ readiness for change may reduce resistance and increase support for change. The idea of positive relationship between employees’ readiness for change and the resulting commitment to change was also expressed by Hanpachern et al. (1998).

In this research, the construct of employees’ readiness for change was omitted from the analysis because this construct as conceptualized by Armenakis et al. (1993), seems to

have a theoretical rather than practical value. Neither Armenakis et al. nor any other author who has used the construct, has ever precisely defined it or proposed how to operationalize and measure it. Conceptually, employees' readiness for change can be equated with their attitudes toward change. Further critique of the term "readiness" can be found in Section 2.7.2.

2.3.3. Variables related to the perception of organizational readiness for change

There are a number of sources in the change management literature that have suggested and/or explored variables associated with organizational readiness for change (e.g., Davis & Salasin, 1977; Fox et al, 1988; Lehman et al., 2002; McNabb & Sepic, 1995; Stewart, 1994). The study performed by Eby et al. (2000), however, is the only empirical research examining the antecedents of what the authors explicitly called "perceived organizational readiness for change." Based on previous research, Eby et al. (2000) identified a number of variables which might be related to an individual's perception of organizational readiness for change. They classified these variables into individual attitudes and preferences, work group and job attitudes, and contextual variables. According to this classification,

- individual attitudes and preferences include adaptability, feeling of control over the situation, reactions to change, and perceived organizational support ,
- work group and job variables include social dynamics, trust in peers, perceived participation at work, and the ability to use a variety of skills, and

- contextual variables include flexible organizational policies and procedures, logistics and systems support, and trust in management.

To measure employees' perceptions of an organization's readiness for change (dependent variable) as well as the three groups of the independent variables, the authors used well-established measures reported in the literature.

The study was conducted in two divisions of a national sales organization involving 117 respondents at different hierarchical levels. The organization was in the process of a large-scale change switching from individual sales personnel to sales teams. The authors found that all the variables included in their study accounted for 31% of the variance in perceived organizational readiness for change. Furthermore, correlations with such variables as flexible policies and procedures ($r = .45$, $p < .001$), perceived organizational support ($r = .31$, $p < .001$), perceived participation ($r = .28$, $p < .01$), trust in peers ($r = .24$, $p < .05$), logistics and systems support ($r = .22$, $p < .05$), and preference for working in teams ($r = .20$, $p < .05$) turned out to be significant. In addition, the regression analysis demonstrated that flexible policies and procedures ($b = .36$, $p < .001$) and trust in peers ($b = .28$, $p < .05$) contributed to the prediction of perceived organizational readiness for change most of all. Finally, dominance analysis showed that the group of contextual variables had the highest relative importance in predicting the dependent variable as compared to individual attitudes and preferences, or work group and job attitudes.

A significant part of the literature on change management (e.g., Jellison, 1993; Judson, 1991; Pritchett, 1996; Recardo, 1995) recommends putting more emphasis on the contextual rather than individual factors in the organizations' endeavours to create a less resistant work environment. The rationale behind this course of reasoning lies in the fact that individual variables are difficult to influence directly, whereas it might be more feasible to influence those contextual variables which are under management's control and may have an indirect impact also on individuals' attitudes. The study by Eby et al. (2000) confirmed this general view by demonstrating a high correlation between perceived organizational readiness and such contextual variables as flexible policies and procedures as well as logistics and systems support, but a low correlation between perceived organizational readiness and employee self-efficacy for change as well as skill variety.

2.3.4. Perceived organizational readiness for change: summary

The evolution of the concept of organizational readiness for change has led researchers to hypothesize that the following cause-effect relationships exist with respect to change: when organizational members' perceptions of the organizational context around change (i.e., actions, policies, practices, technology, managerial and leadership behaviours) are favourable, members develop beliefs that the organization is capable of handling change (in other words, it is ready for change) which, in turn, makes them more likely to support the change rather than resist it (i.e., have a positive attitude toward change). On the other hand, unfavourable perceptions of the organizational context with respect to change

might lead to beliefs that the organization is not ready for change which, in turn, might make organizational members less supportive of change (i.e., have a negative attitude toward change). These relationships (which form the basis of the model used in this dissertation) are shown in Figure 7.

Although these cause-effect relationships are intuitively appealing and seem to explain the mechanism by which organizational members' attitudes toward change might be formed, they need to be empirically validated. At this point in time, the theory-based model developed by Armenakis et al. (1993) has been partially tested only by Eby et al. (2000) who explored the correlation between perceived organizational readiness for change and a number of variables that might affect it. Nevertheless, more empirical research is necessary to establish and validate a conceptual framework that would help theoreticians as well as practitioners understand the nature, sources, and implications of perceived organizational readiness for change. This study has been designed to address this need.

2.4. Organizational context: possible antecedents of perceived organizational readiness for change

Literature describing the hypothesized relationships between organizational context, perceived organizational readiness for change and the resulting employees' attitudes toward change was presented in the previous section. Eby et al. (2000) have pointed out that individuals interpret the activities that organizations undertake with respect to the

change (i.e., organizational policies, practices, and actions that constitute the organizational context) and on that basis make assumptions about the organization's readiness to implement change successfully. Apart from the studies that directly relate certain organizational variables to the perceptions of organizational readiness for change (see Section 2.3), the management literature has identified a number of elements of organizational context that should increase the probability that the change implementation is successful. It can be logically assumed then, that these elements may also affect employees' perceptions of organizational readiness for change. The elements of organizational context that have been linked to perceived organizational readiness for change include, among many others, leadership, communication, creating a supportive climate, granting empowerment and participation, and establishing such organizational systems as staffing, rewards, performance management, and training. Key literature linking each of these contextual elements to successful change implementation is reviewed below. It should be noted, however, that one of the objectives of this study is to empirically identify the key contextual variables associated with increased organizational readiness for change. As such, the review that follows is not meant to be exhaustive. Rather, its purpose is to establish the link between organizational context and perceived organizational readiness to set the stage for this dimension of the research and to provide a context to help us interpret the findings.

2.4.1. Leadership

“Without leadership, planned organization change will never be realized” (Burke, 2002,

p.240). The anecdotal evidence that leadership matters in times of change is very convincing (e.g., Burke, 2002; Duck, 2001; Shaw, 1995). The research literature defines the fundamental purposes of leadership as establishing the vision, aligning people, motivating and inspiring commitment, producing change and challenging the old paradigms. This same literature notes that keeping the current system functioning is the purpose of management (Covey, 1996; Kotter, 1999; Yukl & Van Fleet, 1992). Furthermore, the most recent trend in leadership thought emphasizes that in organizations riding the wave of change, a transformational leader is called for who goes far beyond the traditional management functions (Goleman, 1998).

Leadership is of interest to the present study to the extent that it might influence perceived organizational readiness for change and members' attitudes toward change. This section will briefly review what is known about the leadership functions in times of change and explore whether change leadership is located at the very top of the organization or dispersed throughout. Finally, the characteristics and skills of change-oriented leaders will be discussed.

2.4.1.1. Leadership functions in times of change

According to Tichy and Devanna (1986, p.viii), in times of change, organizations need transformational leadership which "is about change, innovation, and entrepreneurship." Bass (1985, 1988) has proposed one of the best definitions of transformational leadership so far. According to Bass, a transformational leader can shift followers to higher-level

needs and influence them to transcend their own self-interests for the good of the organization. Moreover, a transformational leader may lead people to do more than they have ever expected to do for the organization. They do this by acting as a role model who is admired, respected, trusted, identified with, and emulated. Such a leader is expected to provide a vision, inspire, motivate, arouse team spirit, encourage new ideas and creativity, as well as to act as a coach and a mentor in support of each individual's needs for achievement and growth. In sum, a transformational leader should create positive feelings in their followers about the organization and change.

2.4.1.2. The role of the senior executive

There are authors that put a special emphasis on the leadership role of the senior executives (e.g., Conner, 1998; Davidson, 1996; Quirke, 1996; Shaw, 1995; Smith, 1996a). For example, Shaw saw the CEO as the single most important factor in managing discontinuous change. Consistent with Shaw's viewpoint is Davidson's pragmatic belief that a change agent with less decision making power would not be authorized to accomplish the tasks a leader is expected to carry out: to set the vision, allocate resources, and ensure proper communication throughout the organization. Finally, Armenakis and Harris (2002) indicated that any change effort should start with the readiness of the senior executive to be the change agent. From this literature it can be inferred that the direct involvement of the senior executive may be crucial in facilitating employee perceptions that the organization is capable of handling change.

2.4.1.3. The role of the executive and management teams

The vast majority of the authors who emphasize the leadership role of the senior executives postulate that no CEO can lead a large-scale change alone. Rather, they feel that the senior executive will need strong support from the executive and management team which represents the key stakeholders (Armenakis & Harris, 2002; Kotter, 2002; Shaw, 1995). Although such a leading coalition is believed to be effective, some authors have warned organizations against potential problems with management teams such as their lack of readiness for change (Armenakis & Harris, 2002) and misalignment among the leaders that might split groups into factions (Duck, 2001). Most probably, under such conditions, organizational members might not believe the organization is ready for change.

2.4.1.4. Dispersed leadership

There are authors who strongly believe that in times of large-scale change, leadership should be dispersed throughout the organization rather than concentrated at the very top. Buchanan and Badham (1999), Bass (1985), Ulrich (1996), Simon (1996), Dawson (2003), Kotter (2004), and Kanter (2004) posited that leadership must be encouraged at the middle management and first-line supervisory level, as well as on the shop floor where self-managing teams and project teams dominate. It has been argued that members who are actively involved in planning and designing change initiatives, are believed to be more supportive of change (Coch & French, 1948; Conner, 1992; Scott & Jaffe, 1995;

Smith, 1996a). Another reason for participative change management is the high probability that the senior change agents might not possess all the knowledge they need for successful change implementation in specific areas. They would need people who work in those areas to assume a leadership role (Heifetz & Laurie, 2003). However, for dispersed leadership to happen, a special kind of leadership on the senior management's part might be necessary. Manz and Sims (1989, p.5) have labeled it "superleadership" which involves "leading others to lead themselves."

2.4.1.5.. Characteristics and skills of change-oriented leaders

Armenakis et al. (1993) posited that in the light of the new perspective on resistance to change, the leader's role should be to create organizational readiness for change. Furthermore, it is expected that leaders might need certain skills and characteristics to accomplish this mission. Several authors have contributed to the hypothetical portrait of a change-oriented leader. According to these authors, leaders are brutally honest about the change progress (Conner, 1998), practice what they preach (Davidson, 1996), and act as role models (Kotter, 2002).

Senge (1990b) has proposed grouping of all the leadership skills into three large critical areas: building shared vision, surfacing and challenging mental models, and engaging in systems thinking. These areas can serve as a broad framework for the skills identified by many other authors. First, a shared vision can be built if leaders have the ability to generate and communicate new visions, listen to others and reflect on what has happened

so far (Farren & Kaye, 1996; Haskett & Schlesinger, 1996; Lauer, 1996; Leider, 1996; Melendez, 1996; Wheatley & Kiechel, 1996; Wilhelm, 1996). Furthermore, a shared vision can be built if the leaders can anticipate change (Duncan & Warden, 1999), maximize the contributions of others (Ketterer & Chayes, 1995; Manz & Sims, 1991), develop relationships and trust (Ketterer & Chayes, 1995; Ulrich, 1996), destroy walls and replace them with bridges (Farren & Kaye, 1996; Kanter, 1996).

Second, leaders surface and challenge mental models by asking tough questions rather than providing answers (Heifetz & Laurie, 1997), by providing a challenging climate (Ketterer & Chayes, 1995), allowing the followers to experiment and make mistakes (Ghoshal & Bartlett, 1995), as well as by sharing authority, power, and information with others (Duncan & Warden, 1999). Third, leaders engage in systems thinking by seeing opportunities even when they might appear to be obstacles (Duncan & Warden, 1999; Plamondon, 1996).

2.4.2. Communication

Open communication has been recognized as one of the most critical organizational behaviours related to the success of change programs (Porras & Hoffer, 1986; Quirke, 1996; Richardson & Denton, 1996; Troy, 1995). It has been seen as the organizing framework for creating employee readiness for change (Armenakis & Harris, 2002) and a tool for reducing resistance to change (Kotter & Schlesinger, 1979). On the other hand, poor communication has been found to be one of the most frequently cited reasons for the

failure of change efforts (Quirke, 1996; Richardson & Denton, 1996). Moreover, if mismanaged, communication may create the resistance to change it was supposed to eliminate (Chawla & Kelloway, 2004; Quirke, 1996). In fact, frustration with communication is a common theme in most organizations (Quirke, 1996). As Quirke (p.ix) has observed, “employees claim that no one listens to either their complaints or their ideas; managers claim that when they ask their people for input they get no response.”

This section will elaborate on the importance of communication and the problems associated with it in more detail. First, the changing role of communication will be addressed, followed by the discussion of contents and channels of communication, the communication role of different levels of management, and the ways to improve communication.

2.4.2.1. The changing role and functions of communication

Traditionally communication has been largely understood as a process of managers providing subordinates with job-related information and telling them what to do (Quirke, 1996). However, as Quirke has noted, communication is about sharing, and he saw the modern managers' role as fostering communication rather than “telling the troops” (p.9). In times of change, communication is seen as a tool for announcing and explaining change (Jick, 1993) and increasing people's understanding and commitment to change (Kotter, 2002; Morgan, 1988; Spector, 1989). Communication is also seen as a means of

promoting learning across the organization (Quirke, 1996). Moreover, it is believed that communication may encourage people to change their attitudes and behaviours (Beckhard & Pritchard, 1992), which is seen as the ultimate purpose of communication under conditions of organizational change (Davidson, 1996; Larkin & Larkin, 1994).

According to Ford and Ford (1995), all the above perspectives imply that communication is a tool used within the change process. These authors have proposed a different approach. They contended that “change is a phenomenon that occurs within communication” (p.542). In the view of Ford, Ford, and McNamara (2002, p.108), “our realities exist in the words,” and people’s attitudes toward change are shaped by the context socially constructed through conversations. Following this course of thought, communication then should be the single major factor that may bring about change and influence people’s attitude toward it. In fact, Ford and his colleagues have suggested that a favorable context for change might be created by the ways that managers and employees talk about it.

2.4.2.2. Contents of communication

Following the reasoning of Ford and Ford (1995) and Ford et al. (2002) that the context for change is created with the help of background conversations, the contents of communication should be the primary consideration of the change agents. The following might serve as a shortlist for drafting communication initiatives.

Ford et al. (2002) advised organizations to encourage a dialogue to bring about closure of the past before discussing the present and future. Larkin and Larkin (1994) felt that organizational members most probably want to know how the change is going to affect their own job security and their future with the organization. Quirke (1996) noted that employees also want to know the vision and the bigger picture of organizational events while Larkin and Larkin contended that employees are interested in the global issues of the organization insofar as they relate to employees' immediate work. Larkin and Larkin also felt that propaganda and abstract appeals to values might not mean anything to many employees. Above all else, however, the research suggests that organizational members expect the communication contents to dissipate the uncertainty surrounding the change (Larkin & Larkin, 1994; Quirke, 1996).

2.4.2.3. Usage of communication channels

Theoretically, organizations have a broad range of top-down, bottom-up, and horizontal communication channels at their disposal (Gordon, 1996). In fact, the communication channels organizations used to implement change might not be very effective. For example, a Wyatt survey in the UK found that 70% of employees felt the information they received from management during change was misleading (Wyatt, 1989 in Larkin & Larkin, 1994). Furthermore, Quirke (1996) reported that employees in organizations undergoing change were more likely than those working under stable conditions to feel that they could not express their concerns (75% versus 59%). Other authors have noted that top-down channels often do not reach the front line. For example, company

newspapers “communicate information about managers to other managers” while employees turn to their supervisors and coworkers when faced with problems (Larkin & Larkin, 1994, p.118). In addition, such media as business television, satellite broadcasting, videos and e-mail might be useful for disseminating information, but not be appropriate for creating a trusting relationship which is needed in order to change behaviours (Quirke, 1996). Duck (2001) admitted that most people might prefer to get information from a human being whom they trust. Most often that person is the employee’s immediate supervisor. It has also been observed that in the absence of adequate formal communication channels, the vacuum is filled with gossip, rumors, and news from the grapevine (Duck, 2001; Larkin & Larkin, 1994).

Communication with respect to change should also include bottom-up feedback. Management listening is seen as an important element of communication (Scott & Jaffe, 1995). Controversially, Larkin and Larkin (1994) have observed that typically managers prefer such feedback tools as employee surveys and suggestion schemes as opposed to face-to-face communication. This is interesting given that face-to-face communication has been found to be the single most preferred method of sharing knowledge at all organizational levels (Duck, 2001; Quirke, 1996). The above literature suggests that inappropriate contents and inadequate channels of communication might block important change messages and fail to persuade organizational members that the organization is ready for change.

2.4.2.4. The communication role of middle managers and supervisors

Whose responsibility is it to develop the contents of communication, select the appropriate channels and deliver the messages? Duck (1993) argued that communication must be a priority for all levels of managers. Conventional wisdom states that employees want to hear about change from the senior executives (Larkin & Larkin, 1994). The results of a study in the US, UK, and Canada (Foehrenbach & Rosenberg, 1983 in Larkin & Larkin, 1994), however, demonstrate that often the most trusted source of information is the employee's immediate supervisor (this is true for 92% of employees in the US, 88% in the UK, and 90% in Canada). Supporting this finding is evidence from a study by Cadbury Schweppes (1974) which showed that when asked how internal communication could be improved, 45% of the respondents replied that there should be increased communication from their immediate supervisor. Larkin and Larkin (1994), in fact, concluded that interactions with the immediate supervisor play a critical role in changing behaviours and attitudes as well as in improving performance since the supervisor is often seen as the most credible source of information.

In contrast, a study by the US Conference Board showed that middle managers were perceived as the least effective in communicating change to subordinates (Troy, 1995). Larkin and Larkin (1994) explained this negative attitude with the observation that middle managers are often believed to withhold or modify information before passing it down. At the same time, middle managers are expected to make the company and all the

employees function seamlessly (Troy, 1995). To resolve this dilemma, Larkin and Larkin advised that supervisors at all levels receive adequate and timely information straight from the senior management and use it in their day-to-day, face-to-face communications with their subordinates. Furthermore, the authors warned that supervisors without information lack the necessary power to act as a force for change.

2.4.2.5. Making communication work

Since communication is believed to be the crucial element in shaping people's attitudes toward change, the practitioner literature offers a vast amount of advice on how to improve organizational communication. The usual solution seems to be communication training. However, as Larkin and Larkin (1994) have pointed out, formal training might not always be the answer. Instead, supervisors and middle managers should be better supported in their communication roles (Richardson & Denton, 1996). According to Larkin and Larkin, organizations can accomplish this by: 1) using supervisors as the primary source of information, 2) using face-to-face communication as the primary mode of communication, and 3) communicating information pertaining to employees' local work area as primary contents of communication. Furthermore, it has been advised that any message should be clear, consistent, use simple language (Duck, 1993; Jellison, 1993; Kotter, 2002), and be repeated many times using various communication methods (Duck, 1993; Scott & Jaffe, 1995). Quirke (1996) added to this list by stating that a better orchestration of communication is required at all levels, starting with the headquarters. Finally, a number of authors caution management not to spend all their efforts

communicating new values. Instead, they have to enact the values (Larkin & Larkin, 1994). In other words, the most effective way for managers to communicate during times of change is to walk their talk (Kotter, 2002; Richardson & Denton, 1996).

2.4.3. Supportive organizational climate

The literature so far has not provided strong theoretical support or substantial empirical evidence of a direct link between a supportive organizational climate and attitude toward change. Nevertheless, some authors have hinted that such a relationship may exist. For example, authors such as Butler (2001), Eby et al. (2000), Judson (1991), Quirke (1996), and Scott and Jaffe (1995) have argued that management should create a supportive climate that minimizes resistant behaviours and increases motivation to work during periods of change. Furthermore, Quirke (1996) and Shadur, Kienzle, and Rodwell (1999) have suggested that organizational support enhances communication. The literature on supportive climate differentiates between the support provided by the organization on the whole and that provided by supervisors. Both streams will be introduced below.

2.4.3.1. Supportive organizational practices

Organizational practices such as investment in employee training, career development, promotions, job redesign, time off for education, salary increases, and work-life balance may lead to employee perceptions that the organization is supportive of their needs and well-being (De Jonge et al., 2001; Fandray, 2000; Hutchinson & Garstka, 1996; Shore & Shore, 1995). Other researchers have observed that employees reciprocate high levels of

perceived organizational support (Moorman, Blakely, & Niehoff, 1998; Wayne, Shore, & Liden, 1997). The form of this reciprocation includes increased organizational commitment, affective attachment, organizational citizenship behaviors (i.e., diligence and loyalty), and an increased willingness to perform beyond the call of duty (Eisenberger, Fasolo, & Davis-LaMastro, 1990; Ogilvie, 1987; Wayne et al., 1997). Hence it can be inferred that employees will be more tolerant of the hardships and inconveniences caused by organizational change and more committed to the organization when they feel a moral obligation to reciprocate high levels of organizational support.

2.4.3.2. Supervisor support

Other research indicates that the relationship between employees and their supervisors may influence employee attitudes toward their work and organization. Without a supportive manager, the best organizational policies will have little or no effect (Beyond the Talk, 1999; Pascale & Sternin, 2005). Furthermore, empirical research findings show that management and supervisor behaviour is the most important determinant of perceived organizational support followed by human resource practices (Shore & Shore, 1995; Wayne et al., 1997). Supervisors can demonstrate their support by listening to and acting on employees' feedback, coaching and mentoring their staff, planning the work to be done and defining staff roles and responsibilities, and giving recognition for a job well done (Beyond the talk, 1999; Strategic approaches, 2000).

Consequently, it can be expected that employees will be less resistant to change if they feel their supervisors support them. Hanpachern, Morgan and Griego's (1998) research finding that the relationship with the manager affects employee readiness for change supports this expectation. Therefore, to increase employee commitment to change, management should adopt practices and behaviours that promote perceived organizational and supervisor support (Shore & Shore, 1995; Wayne et al., 1997).

2.4.4. Empowerment

Although not empirically proven, sharing power with employees has been recognized as an effective means of implementing change (Wetlaufer, 1999). Unfortunately, "managers love empowerment in theory, but the command-and-control model is what they trust and know best" (Argyris, 1998, p.98). Argyris further argued that empowerment would not work if employees do not want to take on more responsibility. Thus, empowerment seems good in theory, but in practice it may be a controversial issue. This section will outline the essence and benefits of empowerment as well as the conditions under which it might work.

2.4.4.1. Essence of empowerment

Empowerment does not mean abandonment (Duck, 1993). "It is not about giving people new authority and new responsibilities and then walking away" (Kotter & Cohen, 2002, p.104). Moreover, empowerment should not be confused with delegation. The delegates are accountable for all their decisions and can be punished when too many mistakes have

been made (Conner, 1998). In contrast, according to Conner's (1998, p.225) definition, "empowered employees are those whose input is considered valuable enough to influence the outcomes of key decisions, but who are not in a position to make the final decisions themselves." Thus, it can be concluded that truly empowering employees might serve as a means of increasing employee commitment to change.

2.4.4.2. Benefits of and conditions for empowered relationships

Empowered employees often feel a greater sense of control. Research suggests that change might be perceived as chaos when people feel powerless, whereas it becomes manageable and more acceptable when there is a sense of control (Conner, 1998). An increased sense of control may also serve to reduce the stress levels brought about by organizational events such as change (Work habits, 1997). In addition, according to Conner, empowered relationships create mutual respect and trust between employees and managers. These findings suggest that empowerment that gives people an increased sense of control might reduce resistant behaviours.

The literature suggests that for empowerment to work, certain conditions should be present. First of all, people should be prepared for empowerment. Duck (1993) proposed starting with a skills inventory to allow employees and organizations to see "where they are." This should be followed by such supervisory support as watching the performance of subordinates, giving feedback, and maintaining an ongoing dialogue. Furthermore, empowerment can only work when all the involved parties believe the empowered

members have valuable inputs to offer (Conner, 1998). On the negative side, Kotter (2002) pointed out that the bureaucracy, performance evaluation and reward systems (especially in the public sector) create the highest barriers to genuine empowerment. Moreover, managers who do not feel sufficiently empowered themselves, might experience difficulties with empowering their subordinates (Conner, 1998; Nadler & Tushman, 1989).

2.4.5. Employee involvement and participative management

The literature suggests that people feel empowered when they are involved in the change process (Conner, 1992; Scott & Jaffe, 1995; Smith, 1996a). However, the literature cannot provide any empirical evidence of the causal relationship between employee participation and their attitudes toward change. Nevertheless, several observations have suggested the plausibility of such a relationship. Key to this argument is research done in the 1940s by Coch and French (1948) who reported that implementation of change may be much more successful if employees affected by change participate in the process from the very start.

Similar to the empowerment issue, participation in change processes is a topic still much debated (Dunphy, 2000). There is an opinion that across-the-board participation should not be considered the ultimate goal. In Dunphy's view, participation of knowledgeable, skilled and motivated people in the process may enhance change projects, while

participation of unskilled, uninformed and unmotivated workforce will not.

Some authors, however, have pointed to problems associated with the concept of participatory management. Kanter et al. (1992, p.381), for example, wrote that “sometimes participation can be something the top orders the middle to do for the bottom.” The authors further argued that “being ordered to participate does not feel much different from being ordered to do anything else.” Imposition of large amounts of information does not mean participation either since force of reason may turn out to be another form of coercion (Waddell & Sohal, 1998).

Another roadblock to employee participation in the change process might be the lack of managerial support. Supervisors and managers themselves should be made a part of participatory scheme. Klein (1984) found that only 31% of supervisors felt that their company’s employee involvement programs were good for themselves. This may happen when supervisors and middle managers are required to involve their subordinates, but are not involved in the critical decision making themselves (Klein, 1984; Larkin & Larkin, 1994; Neuman, 1989). Thus, organizations have to invest money, time and attention in participatory schemes to make them really work. Rhetoric about participation may breed only cynicism (Dunphy, 2000).

2.4.6. Creating organizational systems

The way that organizational systems, especially human resource systems, are functioning

may signal whether the organization is or is not ready for change. Although there are views (e.g., Nadler, 1995) that in times of change, more attention should be paid to the “soft” side of managing, Galbraith (2000) argued that in some circumstances, the organization’s formal structure and systems can be the central lever for change. Moreover, some authors have suggested that impersonal organizational systems may create the work environment that helps people adjust to change (Conner, 1998; Smith, 1996a). Armenakis, Harris and Feild (1999, p.112) made a good point when they called the human resource systems a “symbolic evidence of organizational support for the change.”

The practitioner literature has identified a variety of organizational systems that are critical for change success although their impact on the perceived organizational readiness for change or employee attitude toward change has not been empirically tested. This section will explore the organizational systems most extensively addressed in the literature - staffing, rewards, performance management, and training.

2.4.6.1. Staffing

There is a proposition that organizations tend to attract candidates whose value systems correspond to the values held by the organization. Therefore, to attract the right people, it is important to build a values-led organization first, then hire resilient people and coach them to expand their capabilities even more (Conner, 1998; Sullivan et al., 2002). On the other hand, when hiring the same kind of people over and over again, organizations

cannot expect any change (Smye & McKague, 1994). The literature does not offer many options on how organizations should deal with existing employees who do not fall into the category of resilient workforce. Morris and Raben (1995) advised companies to use reassignment or outplacement as the last resort of dealing with organizational members who persistently refuse to support change. Ultimately, when an organization has a critical mass of people who demonstrate the desired qualities and values, the organization's ability to change dramatically increases (Conner, 1998).

2.4.6.2. Reward system

It is commonly held that things that get rewarded get done (Kerr, 1995). Very often it happens that organizations require one kind of behaviour, but reward a different kind (Quirke, 1996). For example, while organizations talk about teamwork, most compensation systems are still based on individual rewards (Smye & McKague, 1994). Likewise, people are required to learn and adopt new skills, but are evaluated and rewarded according to the old performance standards (Smith, 1996a).

Jellison (1993) and Pettigrew (2000) contended that changing the consequences of people's actions would change their behaviours much faster than appeals to some abstract moral principles or rhetorical statements from the top. However, in order to design an effective reward system, organizations need to know what behaviours they want to encourage (Lawler, 1994). Thus, Lawler suggested that organizations can be effective only

if: 1) there is congruence among its various systems and 2) strategy identifies the critical behaviours which in turn drive the design of the reward system.

In sum, when the positive consequences in the form of desirable rewards outweigh the negative consequences of change, people might be more motivated to support the change (Jellison, 1993; Wruck, 2000).

2.4.6.3. Performance management

Improvement of performance results is often seen as the primary objective of organizational change (Smith, 1996a). In fact, as Larkin and Larkin (1994) noted, it often does not matter how fast organizations change, but how fast they gain performance improvements. Smye and McKague (1994) saw the performance management system as the most essential tool for reinforcing behaviours. Consistent with this view is the observation by Duck (1993) that when people see that change in behaviours yields positive performance results, excitement and belief in the change often follows.

Performance management is closely related to other organizational systems (Smye and McKague, 1994), especially rewards (Jellison, 1993). Jellison noted that since monetary reward allocation to a large extent is the domain of senior executives, middle managers and supervisors may feel disempowered to encourage the desired performance. At the same time, as noted earlier, the immediate supervisors rather than the senior executives have the strongest impact on employee behaviours and performance. Jellison reported

that managers have a number of tools to reward desired performance. Examples he gave included the discretion to authorize tuition assistance, approve time off to pursue courses, and provide access to company-sponsored training as well as words of praise.

To measure the results of behaviours, it is necessary to have a performance monitoring system in place (Pritchett, 1996). Kotter (2002) has warned against a misalignment between the performance criteria and the desired results: “Performance evaluation and rewards can disempower when they are at odds with the direction of needed change” (Kotter, 2002, p. 108). Moreover, Armenakis et al. (1999) emphasized the role of appropriate feedback in changing people’s behaviours. These studies suggest that establishing adequate performance standards and measures is of utmost importance for successful implementation of change.

2.4.6.4. Training

Companies use training programs as one of the major tools to ensure employee performance. The rationale is simple: “If you expect people to perform differently, make sure they know how to go about it” (Pritchett, 1996, p.28). The literature has listed several benefits of training including the development of skills and techniques that ultimately may lead to expertise (Farson, 1996), acceptance of job redesign (Pritchett, 1996), and institutionalization of the change (Armenakis et al., 1999). Moreover, training can reduce employees’ feeling of insecurity when their career with the company is in danger because of change (Conner, 1998; Judson, 1991). It may also prepare the

employees for more active participation in decision making and signal that management takes participation seriously (Neumann, 1989).

Notwithstanding the upside of corporate training programs, some authors have noted that there is a downside as well. Larkin and Larkin (1994), for example, argued that training might not always be the answer. In their view, a situation should be created where people feel a pressure to learn in the first place. Making employees just sit in the training room might not involve much learning (Larkin & Larkin, 1994; Neumann, 1989). Learning is motivated by an individual's quest for knowledge while participation in training can be a matter of compliance (Morris, 1995). Hence, training programs might be beneficial if they take place within a context of learning necessity. Ultimately, motivated learning might result in reduced job insecurity that might lead to higher acceptance of organizational change.

2.4.7. Organizational context: summary

The management literature has suggested that an organization is perceived as being ready for change when certain policies and practices are in place. Although the propositions have stemmed from the extensive observations and consulting experience of the authors, they have not been empirically tested; therefore, the resulting frameworks should be viewed with caution. First, it has been proposed that in times of change, organizations might need a strong transformational leadership at all organizational levels starting from the CEO and the executive and management teams to the first-line supervisors and shop

floor workers. The transformational leaders' role would be to provide the vision, inspire, motivate, act as role models and care about each individual's needs and growth. In order to perform these functions, good leaders would need to master a set of skills which includes building shared vision, surfacing and challenging mental models, and engaging in systems thinking.

Second, internal communication is recognized as a special challenge for organizations undergoing change. Some authors have viewed communication as a socially constructed context within which change takes place. Therefore, the right choice of the communication contents and its channels is of the utmost importance. Organizational members are likely to expect management to share their thinking about global issues affecting the whole organization as well as issues concerning each employee's immediate workplace. Moreover, observations show that employees at all levels might prefer face-to-face communication about the change from the immediate supervisor whom they trust.

Third, several studies have suggested that supportive organizational practices and managerial behaviours may make organizational members feel that the organization cares about them. This might make employees more willing to improve their performance and exhibit organizational citizenship behaviours. It can be assumed that under such circumstances resistance to change will be reduced.

Fourth, the literature suggests indirectly that empowerment may reduce resistant

behaviours when used appropriately. The research suggests that this may happen either because empowerment increases employees' sense of control over their environment and makes the change more manageable or because it helps employees cope with the stress associated with change.

Fifth, it has been argued that implementation of change may be much more successful if employees affected by the change participate in the process and can make important decisions. However, the members' contribution may depend on their ability and willingness to participate. Therefore, across-the-board participation per se might not be advised as the ultimate goal. In addition, there are organizational practices (e.g., training and support) that can significantly influence the effectiveness of participatory schemes.

Finally, such organizational systems as staffing, rewards, performance management, and training have been recommended as tools that might significantly affect perceived organizational readiness for change and ultimately the effectiveness of change. Organizations have been advised to assure that they hire the right people who support change, create reward systems that encourage the desired behaviours, implement performance management that supports the desired outcomes, and do not make training a formal requirement but rather motivate employees to learn.

This literature review is not an exhaustive account of all the possible contextual factors that might determine the organizational members' perceptions of organizational readiness

for change. Only the most frequently mentioned factors have been reviewed. Moreover, for all these organizational policies, practices, and systems as well as managerial behaviours to be effective, the literature suggests they should be congruent and supportive of the overall change strategy. Otherwise, the misalignment will create an impression of an organization that is not ready for change.

2.5. Individual dispositions that may affect perceived organizational readiness for change and attitudes toward change

The interpretation of personality variables and their impact on organizational behaviours has changed over time. As summarized by Hough and Schneider (1996), from the mid 1960s to the early 1990s, personality variables in work settings were largely discredited. Currently, however, they are enjoying a rebirth. Whereas earlier research juxtaposed personality to situational factors, now industrial and organizational psychologists have adopted a more integrated approach to explaining complex organizational behaviours and acknowledge the legitimacy of both situational and personal factors. Several studies have found that alongside contextual factors, personality may also affect the way people perceive organizational events including change initiatives (e.g., Ashford, 1988; Michael & Lawson, 2000; Wanberg & Banas, 2000). It should be noted that the link between personality factors and attitude toward change as proposed in the popular management literature (e.g., Conner, 1998; Geisler, 2001; Larkin & Larkin, 1994; Michael & Lawson, 2000) is based on observations and individual case studies; and therefore, it is not highly credible. Most of the existing empirical research (e.g., Ashford, 1988; Lau & Woodman, 1995; Wanberg & Banas, 2000), on the other hand, has not directly addressed the

relationship between personality factors and resistance or commitment to change. However, there are some studies that may indirectly suggest this relationship. These studies are reviewed below.

Wanberg and Banas (2000) in their study of 130 employees from 85 housing authorities of the National Association of Housing and Redevelopment Officials found a significant correlation between personal resilience (i.e., self-esteem, optimism, and perceived control) and change acceptance. Ashford (1988) in her study of 83 employees of the Bell Telephone System found that personal control and tolerance for ambiguity moderated the relationship between the uncertainty of change and individual stress, anxiety and depression caused by the change events. Lau and Woodman (1995) found that locus of control influences an individual's change schema or his/her mental structure. This, in turn, was associated with an individual's attitude toward change. Lau and Woodman also concluded that an individual's attitude toward specific change events is a function of their general attitude toward change (correlation between the two is .421). All these studies hint at the role individual dispositional factors play in terms of attitude formation toward and coping with change.

Any change is stressful (Pritchett, 1996; Taylor & Brown, 1988), and to cope with the stress and feel good about the change, it takes a "resilient personality" (Major et al., 1998; Wanberg & Banas, 2000). Such a person, in the authors' view, is characterized by a high level of change acceptance, optimism, self-esteem, a feeling of being in control of his or

her life, a positive view of him-/herself, and an optimistic outlook on the future. Furthermore, based on the proposed association between attitude toward change and perceived organizational readiness for change, it can be hypothesized that certain individual dispositions also affect the way that people perceive organizational readiness for change. Among the most often cited personality factors associated with attitude toward change are locus of control, positive and negative affectivity, and tolerance for ambiguity. These three factors are discussed in more detail below.

2.5.1. Locus of control

Spector (1982, p.482) described the concept as follows: “People attribute the cause or control of events either to themselves or to the external environment. Those who ascribe control of events to themselves are said to have an internal locus of control and are referred to as *internals*. People who attribute control to outside forces are said to have an external locus of control and are termed *externals*” (italics in the original).

Research suggests that there is a link between locus of control and coping with organizational change (Ashford, 1988; Callan et al., 1994; Judge et al., 1999). Locus of control may influence the way employees solve problems, perform their job duties, deal with promotions and changed job characteristics, respond to leadership and exercise it themselves, experience job satisfaction, and feel motivated to work (Spector, 1982; Judge et al, 1999; Lam & Schaubroeck, 2000). Taylor and Brown (1988) as well as Lau and Woodman (1995) found that locus of control is associated with the openness to change

which would be logical to assume to be a prerequisite for employee readiness to change.

Lau and Woodman (1995) have found that internals have more positive attitudes than externals in organizations experiencing change. This could be because internals are more likely than externals to possess attributes that are critical for coping with organizational change and forming more favorable attitudes toward it. The literature proposes that internals tend to perceive more alternatives in choice situations (Harvey et al., 1974). They also exert more effort with respect to collecting relevant information as well as making better use of information in complex problem-solving situations. They have also been found to perform better (Phares, 1968) and be better learners (Spector, 1982). Internals are more likely to take action when dissatisfied with the current situation (Giles, 1977; Spector, 1982), are more sensitive to reinforcement contingencies (and therefore are easier to motivate if rewards are valued), and they have stronger beliefs in their own competence (Spector, 1982). Lau and Woodman (p.539) suggested that “if they see a reasonable probability of success, they are not afraid of change.” As leaders, internals use more participative style, are more task oriented, and prefer participative approaches from their supervisors as well (Spector, 1982). On the other hand, internals tend to be less compliant to authority and more resistant to influence; therefore, they may be more resistant to change if the initiative is considered undesirable and detrimental to their organization (Lau & Woodman, 1995: Spector, 1982).

In sum, Spector (1982) suggested that internals would perform better than externals in

situations that require complex information processing, frequent learning, initiative, and independence of action - situations that are characteristic of many transformational change initiatives.

2.5.2. Positive and negative affectivity

Some people may be more or less favorably predisposed toward life and organizational events and behaviours than others, i.e., they may hold positive or negative affectivity. According to Watson et al. (1988, p.1063), “positive affect (PA) reflects the extent to which a person feels enthusiastic, active, and alert. High PA is a state of high energy, full concentration, and pleasurable engagement, whereas low PA is characterized by sadness and lethargy. In contrast, negative affect (NA) is a general dimension of subjective distress and unpleasurable engagement that subsumes a variety of aversive mood states, including anger, contempt, disgust, guilt, fear, and nervousness, with low NA being a state of calmness and serenity.”

Judge et al. (1999) posited that positive affectivity is associated with a positive worldview, and individuals scoring high on this dimension should be more amenable to organizational change. Wanberg and Banas (2000) referred to positive affectivity as “optimism” and found that alongside with locus of control, it is moderately correlated with acceptance of change. Bowman and Stern (1995) in their study of 186 nurses discovered a significant relation between negative affectivity and occupational stress, and a strong correlation (.28) between positive affectivity and problem-solving coping with

stressful work situations. As has been noted before, organizational change involves high levels of stress; therefore, it can be inferred that people with positive affectivity may be more likely than people with negative affectivity to cope with stress and form a favorable attitude toward change. Watson and Clark (1997) noted that people who score high on positive affectivity seek change in their lives and intense, stimulating environments.

On the other hand, people scoring high on negative affectivity “focus on negative aspects of themselves and others, and are generally dissatisfied with themselves and their lives” (Stokes & McKirnan, 1989, p.257). The authors noted that such people tend to see everything in a negative light and tend not to admit the availability of social support even if it is present. Social support from colleagues and supervisors has been identified as one of the mechanisms of coping with stress caused by organizational change (Coghlan, 1984; Moore, 2001; Scott & Jaffe, 1995); therefore, people with a negative disposition may find it more difficult to cope with stressful events and consequently may also find it more difficult to accept change.

2.5.3. Tolerance for ambiguity

Budner (1962, p.29) defined intolerance for ambiguity as “the tendency to perceive (i.e., interpret) ambiguous situations as sources of threat” and tolerance for ambiguity as “the tendency to perceive ambiguous situations as desirable.” The literature provides extensive evidence that change brings about ambiguity and uncertainty (e.g., Ashford, 1988; Conner, 1998; Larkin & Larkin, 1994). Conner (1998) has proposed that to deal with such

situations, organizations need resilient people with high tolerance for ambiguity.

According to Budner (1962, p.48), “tolerance-intolerance of ambiguity may affect the individual’s adjustive capacity.” Furthermore, “the more disruption a transition causes, the more adjustment it requires” (Ashford, 1988, p.21). These statements suggest that during major organizational transitions, intolerance for ambiguity may make it extremely difficult for people to adjust to the new situation. Ashford found that tolerance for ambiguity is a significant buffer of such transition-related stressors as uncertainty and perceived disruptions. These studies suggest that this disposition may influence how individuals cope with organizational change.

2.5.4. Individual dispositional variables: summary

The literature suggests that organizational members’ attitude toward change is influenced not only by organizational policies and practices, but also by certain personality factors of individuals. Many authors have based their conclusions on observations and individual case studies. However, the empirical evidence of the relationship between individual dispositions and individual outcomes of change (such as stress, anxiety and depression), mental structures, coping with as well as acceptance of change suggests the existence of an association between individual dispositions and resistance/commitment to change. It takes a resilient personality to cope with the uncertainty, disruption and stress that accompany organizational change. The three most often cited personality factors contributing to the degree of resilience are locus of control, positive and negative

affectivity and tolerance for ambiguity. It can therefore be hypothesized that certain individual dispositions are related to the way individuals perceive their organizational readiness for change as well as their attitude toward change.

2.6. Job type and perspective on organizational change

Although the literature does not provide specific empirical evidence of the relationship between job type (i.e., managerial vs. non-managerial jobs) and organizational members' perspectives on change, several sources have proposed that such a relationship might exist. Other studies which focus on the personality dispositions of those in managerial jobs provide additional support for the idea that job type moderates the relationship between organizational context around the change and perceived organizational readiness for change. This section will present an overview of these propositions. First, the impact of personality traits on the choice of occupation will be introduced followed by a discussion of how job type might influence attitudes toward change.

2.6.1. Individual dispositions and job type

Rigorous research on occupational choice and vocational development started in the 1920s. Many empirical studies have been conducted since then (e.g., Ginzberg, Ginsburg, Axelrod & Herma, 1951; Kitson, 1925; Paterson & Darley, 1936; Principles and practices, 1927; Super, 1949), and several theories have been built as a result. Based on extensive previous research, Super (1953, p.189) proposed a vocational development theory. Some of the cornerstones of this theory are:

- people differ in their abilities, interests, and personalities ,
- people are qualified, by virtue of these characteristics, for a number of occupations, and
- each of these occupations requires a characteristic pattern of abilities, interests, and personality traits.

Super concluded that people prefer, enter, remain in, and succeed in occupations for which they have appropriate patterns of traits.

The theory of careers developed by Holland (1985) reinforces the premise that there is an association between individual dispositions and the choice of occupation an individual makes. Using this fundamental research (conducted over several decades), Holland created a framework of personality-environmental fit. According to this framework, personalities as well as occupational environments can be categorized as realistic, investigative, artistic, social, enterprising, and conventional. Furthermore, “each environment is dominated by a given type of personality” (Holland, p.3). According to Holland, people search for environments that let them exercise their skills and abilities. Holland’s Vocational Preference Inventory indicates the match between the environment and the required personality traits.

For the purpose of this dissertation, it is useful to identify those personality traits that match the requirements of managerial jobs to differentiate them from other job types. According to Holland’s (1985) Occupational Classification, most managerial jobs fall

into the enterprising and social occupations categories. The enterprising personality type is apt to be acquisitive, adventurous, agreeable, ambitious, domineering, energetic, extroverted, optimistic, excitement-seeking, self-confident, sociable, and talkative. It has been found that this type of personality prefers activities that entail manipulation of others to attain organizational goals or economic gain. They should value political and economic achievement. The social personality type is apt to be cooperative, emphatic, patient, friendly, helpful, persuasive, responsible, sociable, warm, and understanding. According to Holland's framework, sociable people prefer activities that entail manipulation of others to inform, train, develop, cure, or enlighten.

A number of other studies provide evidence that personality traits distinguish managers from other job types. McClelland and Burnham (1976) argued that managers want to achieve and influence others. Miner (1977) performed numerous empirical studies to conclude that motivation to manage is developed at an early age and it influences the choice of a managerial career as well as the degree of success on this job.

In sum, rigorous empirical research supports the link between personality traits and the careers people choose. Furthermore, Holland's (1985) framework of personality-environmental fit and Miner's (1977) findings may suggest an association between certain traits of managers and personal dispositions that affect an individual's attitude toward change. Following this course of reasoning, being ambitious, domineering, energetic, self-confident, and motivated to manage might mean an internal locus of

control. Being optimistic, excitement-seeking, sociable, warm, friendly and agreeable might testify to the positive affectivity. Finally, being adventurous, enterprising, understanding and patient might describe a high tolerance for ambiguity. Consequently, it may be theorized that people with internal locus of control, positive affectivity and high tolerance for ambiguity are more likely to choose managerial jobs.

2.6.2. Job type and attitude toward change

Organizational members may see change from different perspectives because of their legitimate role differences (Woodman, 1989). Judson (1991) hypothesized that there are differences in how change is perceived by its originators (who most often are the senior management), and implementors (those in positions that are further down the hierarchy). Furthermore, Strebel (1996, p.86) has observed that the attitude toward change is a function of the organizational member's level and his/her respective self-interests:

top-level managers see change as an opportunity to strengthen the business ..., to take on new professional challenges and risks, and to advance their careers.... For many employees, however, including middle managers, change is neither sought after nor welcomed. It is disruptive and intrusive.

Although there is no research evidence of the relationship between coping with change and attitude toward change, it would seem reasonable to argue that people who can better cope with change also develop more positive attitudes toward change. In this connection, Mamman (1996) has theorized that managers are in a better position to cope with the uncertainty of change and adjust more easily than those at lower levels because they can use active strategies, such as changing organizational rules, and have more control over

reducing the uncertainty. Karasek's (1979) empirical research findings can be used to support this point of view. Based on national survey data from Sweden and the USA, he found that job incumbents with high decision latitude and heavy intellectual demands have enhanced feeling of efficacy and the ability to cope with the environment. In addition, Hanpachern et al. (1998) in a study involving 131 respondents of a large manufacturing company found that managers were readier for change than operations workers. Also research on organizational readiness for change conducted by Lehman et al. (2002) involving 135 directors and 458 staff members from more than 100 substance abuse treatment units found that the directors held more positive perceptions of certain organizational climate dimensions and availability of resources than staff members.

If the cause-effect relationships between individual dispositions and job type on the one hand and individual dispositions and attitudes toward change on the other hand hold true, then it could be hypothesized that because of their internal locus of control, positive affectivity and high tolerance for ambiguity, managers may have a more positive attitude toward change than non-managers. This should occur despite the fact that this group has to undergo the highest degree of adjustment and stress (Troy, 1995). In other words, managers might be less resistant and more committed to change than organizational members at lower levels.

In sum, the vast majority of propositions concerning the link between job type and attitude toward change stem from indirect evidence and individual observations.

Systematic research is lacking, and there is no empirical evidence to support these propositions. Therefore, the argument that managers might be more committed to organizational change than lower level members is based on logical inferences that managers tend to possess personal characteristics and be in positions that have been found to be associated with increased acceptance of change. By empirically examining the relationship between job type and employees' attitudes toward change, this research contributes to understanding in this area.

2.7. Critique of the reviewed literature

The literature reviewed in this chapter covers four areas of research: resistance to change, organizational readiness for change, possible antecedents of perceived organizational readiness for change, and variables that might moderate the relationship between these phenomena (i.e., job type and individual dispositions). The following subsections offer a critique of the literature in these four areas.

2.7.1. Literature on resistance to change

Over the past 20 years, there has been a proliferation of literature on change management. Resistance to change is mentioned in virtually every book and article dealing with this topic. Most of the writers in this area have, however, taken a narrow perspective on the topic of resistance to change. The following list summarizes the approaches to resistance to change various authors have taken:

- Resistance has been viewed as an unavoidable part of change management, but has not been elaborated upon (e.g., Morris, 1995; Paton & McCalman, 2000; Wruck, 2000).
- Resistant behaviours have been described and classified, possible reasons for resistance suggested, and some straightforward recommendations offered on how to overcome it based on practical consulting or managerial experiences (e.g., Abbasi & Hollman, 1993; Guskin, 1996; Kanter, 1992; Klein, 1984; Matejka & Julian, 1995; Maurer, 1996b; Morris, 1992; Recardo, 1995).
- Resistance of individuals has been analyzed from a psychological point of view (e.g., Bunker & DeLisle, 1991; Butler, 1996; Conner, 1993; Kohut, 1997; Menaker, 1991; Rowe, 1996).
- Certain organizational and environmental aspects have been identified that may cause resistant behaviours from the managerial perspective (e.g., Brown & Duguid, 1991; Kilmann, Saxton & Serpa, 1985; Kondra & Hinigs, 1998; Miles & Snow, 1996; Oliver, 1992).
- Generalized or simplified models of resistance to change have been developed (e.g., Hultman, 1979; Jellison, 1993).
- The construct of resistance to change has been related to contextual variables such as organizational readiness and managerial policies and practices. These relationships have never been empirically tested (e.g., Armenakis et al., 1993; Trahan & Burke, 1996).

While all these perspectives have contributed to a basic understanding of the resistance phenomenon, there is no unanimity amongst the authors who write on organizational change with respect to the nature and sources of resistance. Although case studies and anecdotal evidence abound, it seems that this lack of agreement is preventing researchers from building on each other's propositions and findings.

Another limitation of the existing work in the area of resistance to change is the fact that this vast body of literature is missing a solid empirical component, most probably due to the fact that the construct of resistance to change is difficult to operationalize. Research in this area is limited to case studies and theoretical propositions. Moreover, none of the authors have used a rigorous methodology to develop and empirically test a measure of attitudes toward change. Consequently, the lack of a comprehensive model and a reliable measure of resistance and other attitudes to change has made it difficult for organizations to assess the presence/absence of resistance and its degree of intensity.

Another weakness of the mainstream change management literature lies in viewing change from a generic viewpoint. The majority of writers do not differentiate between types of change (i.e., large-scale versus fine tuning) when identifying the sources of resistance or suggesting how organizations could deal with it. Only a few authors (e.g., Ashford, 1988; Eby et al., 2000; Kotter, 2002; Wanberg & Banas, 2000) have linked the scale of change to specific organizational factors and the resulting members' attitudes toward change. Following Eby and her colleagues' (2000) and Kotter's (2002) reasoning,

organizational members' attitudes toward change must be especially important in cases of large-scale or transformational change which involves forcefully interrupting the status quo, since this type of change is fundamental and all encompassing, and brings about a state that is diametrically different than what used to be (Gersick, 1991; Greiner, 1972; Johnson, 1987; Miller, 1982 in Szamosi, 1999).

Finally, none of the reviewed articles, models, or case studies exploring resistance (or any other attitude toward change) has examined the impact of sector of employment on these phenomena.

The above critique supports the need for theoretically sound empirical work in this area. This study was motivated by this need.

2.7.2. Literature on organizational readiness for change and its possible antecedents

The number of authors addressing the issue of organizational readiness to change is growing. Nevertheless, the contribution of different studies to building a well-grounded framework varies. One of the limitations in the existing research is inconsistency in using the term "readiness for change." Simon (1996), Salasin and Davis (1977), and Stewart (1994) used this term to denote the structural attributes of an organization, but Fox, Ellison and Keith (1988), Armenakis et al. (2000), and Cunningham et al. (2002) explicitly referred to employee mindsets. On the other hand, such authors as Lehman et al. (2002), Daley (1991), and McNabb and Sepic (1995) referred to both institutional and

personal aspects of readiness without clearly separating them. Only Armenakis et al. (1993) drew a distinction between the constructs of organizational and employee readiness for change and suggested a causal relationship between them.

The literature is further limited by the fact that the researchers have not put the concept of organizational readiness for change into perspective by specifying whose point of view is being considered (i.e., employee or managerial). Several authors have pointed to the differences between managerial (change agent) and employee perspectives on change initiatives (e.g., Conner, 1998; Strebel, 1996; Woodman, 1989). The change management literature, however, has rarely considered these differences, and most studies view change from a single perspective (usually that of the change agents) only. The introduction of the concept of perceived organizational readiness for change (Armenakis et al., 1993) has finally addressed this issue on a theoretical level. In the model of Armenakis et al., the organization's capacity (or readiness) for change is viewed from the perspective of those who are affected by the change. This model is, however, limited by the fact that the authors have only suggested, but not empirically examined, variables that may influence employees' perceptions of organizational readiness for change and consequently increase or reduce their resistance to change.

An attempt to empirically explore the antecedents of perceived organizational readiness for change was made by Eby et al. (2000). Although their study is a significant contribution to a further operationalization of the theoretical model proposed by

Armenakis et al. (1993), it has serious limitations. Most importantly, this study suffers from the same shortcomings as all the previous empirical research in this area. Although Eby et al. claimed to have measured organizational readiness for change as perceived by those who are affected by the change, the measure and all the antecedents of organizational readiness used in the study were drawn from the previous research that focused on the perspective of the change agents. Furthermore, the measure of perceived organizational readiness for change comprised separate items from three different scales (i.e., Daley, 1991, Jones & Bearley, 1986, and Tagliaferri, 1991) none of which was developed with the change-takers' perspective in mind. For example, the item "Employees here are resistant to change" might be more suitable to elicit the change agents' views rather than those of employees. In addition, this item measures employee rather than organizational readiness for change. Therefore, to assess employees' perceptions of organizational readiness for change, a new measure comprising items deemed important by those who are affected by the change is needed. In addition, differentiation between the perspectives of managers and non-managers with respect to important measurement items would help us understand the relationship between perceptions of organizational readiness for change and hierarchical level.

The study of Eby et al. (2000) is further limited by its weak degree of generalizability due to the small sample size (117 respondents) drawn from only one participating organization. While this particular limitation has been partially avoided in several other empirical studies linking organizational context to organizational or employee readiness

for change, these studies suffer from other methodological weaknesses. For example, Daley's (1991) analysis involved 7303 supervisors who had filled out the U.S. Federal Employee Attitude Survey but had no comparison group of employees. Some other studies that used sufficiently large samples did not validate their measures they used (e.g., Cunningham et al., 2002; Fox et al., 1988; Lehman et al., 2002; McNabb & Sepic, 1995). Lack of empirical validation of the proposed measures or ideas is also characteristic of the compilations of context variables produced by authors such as Davis and Salasin (1977), Jones and Bearley (1986), Simon (1996), and Stewart (1994) who claimed these tools could be used by the change agents to assess organizational readiness for change. Finally, the authors of these practical tools do not provide any rationale for their choice of items included in the measures. These measures were meant as simple guidelines for managers and consultants wishing to implement organizational change. As such their contribution to theory building is limited.

2.7.3. Literature on moderating variables

This study includes two groups of moderating variables: job type (conceptualized as managers and non-managers) and individual dispositions (i.e., locus of control, tolerance for ambiguity, and affectivity) that have been found to affect people's perceptions of organizational change. The literature so far has not explicitly established that job type or individual dispositions affect perceptions of organizational readiness for change. Nor has the impact these variables have on the relationship between perceived organizational readiness for change and employees' attitudes toward change been empirically

determined. Furthermore, the studies which suggest such a relationship might exist (e.g., Ashford, 1988; Lau & Woodman, 1995; Wanberg & Banas, 2000) have a number of limitations that may undermine their generalizability. Ashford as well as Wanberg and Banas used small samples (85 and 130 respondents respectively), while Lau and Woodman surveyed undergraduate students rather than employees in organizational settings. Moreover, the research findings are too fragmented to offer a solid theoretical framework with respect to the role of job type differences and individual dispositions in shaping employees' perceptions of organizational readiness for change. By incorporating these moderating variables, the present study was designed to explore their impact on perceived organizational readiness for change and employees' attitudes toward change in greater detail.

2.8. Summary of the main constructs used in this thesis

This section defines or briefly describes each of the main constructs used in this thesis.

Organizational context – organizational policies, practices, and actions that organizations and their managers undertake to implement the change initiatives.

Perceived organizational readiness/unreadiness for change – the degree to which organizational members believe that their organization is ready (or capable) to launch a change, implement it successfully, and ensure its sustainability (Armenakis et al., 1993; Eby et al., 2000).

Resistance to change – counter-productive behaviours that serve to maintain the status quo in the face of pressures to alter it (Wadell & Sohal, 1998; Zaltman & Duncan, 1977).

Commitment to change – the most powerful phase of acceptance of change when employees have created a strong emotional link, loyalty, and attachment to the organization, its values, and goals (Coetsee, 1999). In this research, commitment is related to specific changes launched by an organization rather than to change in general.

Positive affectivity – a state of enthusiasm, activity, alertness, high energy, full concentration, and pleasurable engagement (Watson, 1988).

Negative affectivity – a state of subjective distress and unpleasurable engagement characterized by anger, contempt, disgust, and nervousness (Watson, 1988).

Locus of control – people's attribution of the causes or control of events either to themselves or to the external environment (Spector, 1982).

Tolerance for ambiguity – the degree to which a person perceives ambiguous situations as sources of threat or as desirable (Budner, 1962).

Job type – employees' position with the organization. Two job types are considered in this thesis: managers and non-managers.

Chapter 3: Research Questions

The literature review revealed that we do not fully understand key components of the change process including organizational readiness for change and attitudes toward change. Nor do we understand how these constructs are associated with each other and other key factors including job type, personality, and organizational context. This thesis was designed to close some of the key gaps in the existing literature. This chapter of the thesis outlines the key objectives of this research as well as the specific research questions to be addressed. Appendix A provides a summary of the objectives and the corresponding research questions.

Objective 1: **To develop a conceptual model linking the organizational context of change, perceived organizational readiness for change, and employees' attitudes toward change.**

Objective 2: **To develop and validate measures of public service employees' attitudes toward transformational organizational change.**

Research Question 1: **What unique behaviours of public servants are associated with their attitudes toward change?**

- 1a What unique behaviours do public servants engage in when they are committed to change?
- 1b What unique behaviours do public servants engage in when they are indifferent to change?
- 1c What unique behaviours do public servants engage in when they are resistant to change?

The literature has described various resistant behaviours that might be observed in organizations undergoing a large-scale change. However, in practice it may often be difficult to identify these behaviours since many of them can be passive and covert. Moreover, descriptions of behaviours associated with commitment and especially indifference to change are vague, inconsistent and lacking any framework. There is, therefore, a need to identify a unique set of behaviours that public service employees engage in when they are committed, resistant or indifferent to change. A list of such behaviours would help organizations diagnose their employees' attitudes toward change and take appropriate action where necessary. It would also increase our understanding of commitment and resistance to change (i.e., if these attitudes can be conceptualized as a continuum or not, an issue addressed later in this thesis).

Objective 3: To develop and validate measures of perceived organizational readiness for change and perceived organizational unreadiness for change.

Research Question 2: What organizational actions are associated with employees' perceptions of organizational readiness for change?

- 2a What organizational actions make public servants perceive that the organization is ready for change?
- 2b What organizational actions make public servants perceive that the organization is not ready for change?

There exist several measures of organizational readiness for change (e.g., Jones & Bearley, 1986; Salasin & Davis, 1977; Stewart, 1995; Trahan & Burke, 1996) which have suggested various organizational policies, practices and actions (i.e., organizational context) that might affect an organization's readiness for change. As noted earlier,

however, these measures are flawed in that they have not addressed the perspective of those whom the change is going to affect. This limitation supports the need for a study to identify factors in the organizational context associated with employees' perceptions of organizational readiness for change. It should be noted that in this research, the construct of perceived organizational readiness for change is expanded to include not only its positive side, but also its negative aspect, that is, perceptions of organizational unreadiness for change.

Objective 4: To empirically validate the conceptual model linking organizational context of change, perceived organizational readiness/unreadiness for change, and employees' attitudes toward change.

Eleven research questions (Research Questions 3 to 13) have been posed to help us meet this objective.

Research Question 3: What is the best way to conceptualize resistance and commitment to change: as two separate constructs or as two poles on the same attitude continuum?

Traditionally researchers have viewed resistance (e.g., Ansoff, 1988; Kotter & Schlesinger, 1979; Zaltman & Duncan, 1977) and commitment (e.g., Beer, Eisenstat, & Spector, 1990; Nadler & Tushman, 1989) as two separate attitudes. In other words, the opposite of commitment is no commitment, and the opposite of resistance is no resistance. According to these authors, the opposite of resistance to change is not commitment to change and vice versa. More recently, however, researchers have conceptualized commitment and resistance to change as opposite poles on the same

continuum (Coetsee, 1999; Johnson, 1992; Judson, 1991). If this assumption were true, it would imply that by decreasing resistance, change agents might increase organizational members' commitment to change. It also would imply that resistance and commitment are a function of the same organizational actions depending on the contents and direction of these actions. For example, poor leadership might encourage resistance whereas good leadership might encourage commitment to change. This study seeks to clarify this issue by examining which view is best supported by the data.

Research Question 4: What is the best way to conceptualize perceived organizational readiness for change and perceived organizational unreadiness for change: as two separate constructs or as two poles on the same continuum?

Eby et al. (2000) proposed that perceptions of an organization's readiness for change exist on a continuum, "from viewing the organization as capable of withstanding change and successfully adapting (high readiness for change) to believing the organization is not ready to undergo such change (low readiness for change)" (p.424). Alternatively, it is possible that perceived readiness for change and perceived unreadiness for change are two separate constructs (i.e., the opposite of perceived readiness is low perceived readiness while the opposite of perceived unreadiness is low perceived unreadiness). These two views of this construct or constructs have very different implications. In the first case (i.e., continuum), the absence of organizational actions associated with perceptions of readiness would be associated with increased feelings of unreadiness for change (and vice versa). In the second case (i.e., dichotomy), employees could identify organizational actions associated with both readiness and unreadiness at the same time.

Research Question 5a: To what extent is perceived organizational readiness/unreadiness for change associated with employees' attitudes toward change?

Research Question 5b: To what extent do employees' perceptions of organizational readiness/unreadiness for change predict their attitudes toward change?

Based on their experiences, Armenakis et al. (1993) and Eby et al. (2000) theorized that organizational members develop opinions about organizational readiness for change which in turn shape their attitudes toward change. Moreover, the authors have suggested that there is a causal relationship between both constructs. This thesis seeks to empirically validate the relationship between these constructs.

The following three research questions (Research Questions 6 to 8) pertain to the impact of job type on variables in this research.

Research Question 6: What is the association between job type and employees' attitudes toward change?

Research Question 7: What is the association between job type and perceived organizational readiness/unreadiness for change?

This research seeks to empirically validate the relationship between job type and attitudes toward change and job type and perceived organizational readiness/unreadiness for change (hereafter referred to as PORC/POURC). The literature proposes that managers and non-managerial employees view change differently due to their role differences

(Woodman, 1989) and personality characteristics (e.g., Ashford, 1988; Geisler, 2001). Hence, it can be concluded that managers and non-managerial employees might hold different attitudes toward change and different perceptions of organizational readiness for change. Moreover, due to their personality dispositions as well as job characteristics, managers might have a more positive attitude toward change and they might view organizational readiness for change in a more positive light than the non-managerial employees.

Research Question 8: What is the association between job type and individual dispositions (i.e., tolerance for ambiguity, positive affectivity, negative affectivity, and locus of control)?

The theory of careers (Holland, 1985) has suggested that people select their career based on certain personality characteristics. This suggests that managerial and non-managerial employees might have different individual dispositions. The literature provides quite strong support for the proposition that the personality dispositions most associated with attitudes toward organizational change are locus of control, tolerance for ambiguity, and affectivity (e.g., Ashford, 1988; Budner, 1962; Callan et al., 1994; Conner, 1998; Judge et al., 1999; Wanberg & Banas, 2000; Watson & Clark, 1997). This study intended to empirically test if managers and non-managerial employees differ with respect to these individual dispositions.

Research Question 9: What is the association between individual dispositions and employees' attitudes toward change?

Research What is the association between individual dispositions and perceived
 Question 10: organizational readiness/unreadiness for change?

The literature has suggested that certain personality traits may affect the way people perceive organizational change (Ashford, 1988; Geisler, 2001; Michael & Lawson, 2000; Wanberg & Banas, 2000). Internal locus of control (e.g., Ashford, 1988; Callan et al., 1994; Judge et al., 1999), high tolerance for ambiguity (e.g., Budner, 1962; Conner, 1998) and positive affectivity (e.g., Judge et al., 1999; Wanberg & Banas, 2000; Watson & Clark, 1997) are the personality traits most often associated with positive perceptions of organizational change. Moreover, these researchers have also implied that there is a causal relationship between individual dispositions and people's perceptions of organizational change. Hence, it can be inferred that these dispositions may also affect employees' attitudes toward change and PORC/POURC. This study tested these propositions.

Research To what extent do individual dispositions moderate the relationship
 Question 11a: between perceived organizational readiness/unreadiness for change and
 employees' attitudes toward change?

Research To what extent do perceptions of organizational readiness/unreadiness for
 Question 11b: change mediate the relationship between individual dispositions and
 employees' attitudes toward change?

According to Armenakis et al. (1993) and Eby et al. (2000), perceptions of organizational readiness for change may affect employees' attitudes toward change. Furthermore, the literature (e.g., Ashford, 1988; Geisler, 2001; Michael & Lawson, 2000; Wanberg &

Banas, 2000) has proposed that people's perceptions of change and their attitudes toward change might depend on their personal characteristics. These propositions suggest two possible ways that individual dispositions may influence attitudes toward change: 1) by moderating the relationship between PORC/POURC and attitudes toward change (see Figure 8) and/or 2) by influencing PORC/POURC which is in turn associated with attitudes toward change (i.e., PORC/POURC acts as a mediator between individual dispositions and attitudes toward change as shown in Figure 9). To better understand what drives employees' attitudes toward change, there is a need to explicate the role of individual dispositions in the model.

Figure 8. Individual dispositions as moderators of the relationship between PORC/POURC and attitudes toward change.

Figure 9. PORC/POURC as a mediator of the relationship between individual dispositions and attitudes toward change.

Research Question 12a:	To what extent does job type moderate the relationship between perceived organizational readiness/unreadiness for change and employees' attitudes toward change?
Research Question 12b:	To what extent do perceptions of organizational readiness/unreadiness for change mediate the relationship between job type and employees' attitudes toward change?

As stated above, an employee's attitude toward change might be determined by his/her perception of organizational readiness/unreadiness for change. The literature also provides some support for the impact of employees' position in the organization on how they view organizational change (Woodman, 1989). Job type may, therefore, influence attitudes toward change in two ways: 1) by moderating the relationship between PORC/POURC and attitudes toward change and/or 2) by influencing PORC/POURC which is in turn associated with attitudes toward change (i.e., PORC/POURC acts as a mediator between job type and attitudes toward change). This study set out to clarify the role job type plays in the model.

Research
Question 13: What are the most important predictors of employees' attitudes toward change: individual dispositions, job type, or perceived organizational readiness/unreadiness for change?

It was proposed earlier in this thesis that individual dispositions, job type, and PORC/POURC all affect employees' attitudes toward change. Knowledge of the relative importance of these constructs in predicting attitudes toward change would have theoretical as well as practical implications. The findings would contribute to the change management literature and would also offer the change agents a better insight into the degree to which organizational actions (as opposed to employees' personalities) can influence employees' attitudes toward change.

Chapter 4: Methodology

Several qualitative and quantitative research methods were used to meet the objectives for this study and answer the research questions. Denzin (1989, p.237) referred to such a combination of techniques as “methodological triangulation” and described it as the use of multiple methodologies to study a single phenomenon. Several authors (e.g., Beer, 1980; Denzin, 1989; Fielding & Fielding, 1986) have acknowledged the usefulness of triangulation in ensuring the efficacy and validity of findings. The methodology used to address the respective objectives and research questions is summarized in Appendix A. It should also be noted that in this study, the unit of analysis was the individual rather than the organization and the focus was on perceptions of changes rather than the changes themselves.

The research involved six steps which are summarized in Table 2 and described in greater detail later in this chapter. The chapter is divided into four major parts. In part one the procedure used to interview the change agents and analysis of the resulting qualitative data will be described. Part two will introduce the statistical techniques used to describe the sample. Part three will deal with the act frequency approach (AFA), the technique that was used to develop two groups of measures: 1) employees’ attitudes toward change and 2) PORC/POURC. Part three is divided into five sections. It will start with the introduction of the AFA in section one. Subsections two, three, and four correspond to the three stages of the AFA. In subsection two, the interview procedure used in the act

nomination stage will be introduced. The prototypicality rating of the nominated acts and development of the two groups of measures will be presented in subsection three. The final survey including the measures of organizational outcomes and individual dispositions used in this thesis will be discussed in subsection four. In subsection five, the statistical tools used to assess the newly developed measures will be presented. The fourth part of the chapter will describe the statistical techniques used to examine the research questions outlined in Chapter 3.

Step 1	Selection of research sites and interviews with the change agents to identify the major change initiatives that the respective organizations have attempted in the last two years.
Step 2	Interviews with a sample of organizational members at all research sites regarding their attitude toward specific change initiatives and perceptions of organizational context (Stage I of the act frequency approach).
Step 3	Administration of the first survey to a subsample of employees at all sites. This survey was used to determine prototypicality of the nominated acts (Stage II of the AFA).
Step 4	Analysis of Stage II data to develop measures of 1) PORC/POURC and 2) employees' attitudes toward change.
Step 5	Administration of the second survey which included the newly developed measures, demographics, measures of individual dispositions, and the outcome variables needed to validate the measures (Stage III of the AFA).
Step 6	Statistical analysis of the survey data to validate the newly developed measures, test the model, and answer the research questions.

Table 2. Steps of the research.

4.1. Interviews with the change agents

Five public sector organizations were selected to participate in this research. All these organizations had launched some transformational change initiatives over the past two years. The research sites are discussed in greater detail in Chapter 5. As a first step in the

research, exploratory interviews with two or three change agents from each participating organization were performed.

This step involved approximately one-hour long one-on-one interviews using a tape recorder with the respondents' permission. At four sites, the interviews were conducted in person. At the other site, the interviews were done over the telephone. Overall, 14 change agents were interviewed. The purpose of this interview was to learn more about the change initiatives undertaken in each of these organizations in the past two years (Cooper & Schindler, 1998). As suggested by Cooper and Schindler as well as Molenaar (1982), in a situation when the researcher lacks a clear idea of what has happened in the organization, the most appropriate technique is personal in-depth interviews which are conversational rather than structured in nature and involve open and non-directive questions. Interviewees were asked to identify the objectives, scope, expected outcomes, and the current impact of the change initiatives on the organization and all its members. In addition, the researcher compiled lists of specific change initiatives each organization had launched. This information was not directly used in the further analysis, but it set the stage for the analysis and interpretation of members' responses to the interview and survey questions at later stages of the research.

Interviews with the change agents in each organization were content analyzed for their "what aspect" to obtain general background information about the change process (Cooper & Schindler, 1998). This stage of the study was purely exploratory and provided

the researcher with a knowledge of the specific change initiatives being undertaken in the five participating departments.

4.2. Analysis used to describe the sample

Simple descriptive statistics (i.e., frequencies) were calculated to describe the demographic composition of the sample. The sample was then examined to see if it was balanced in terms of employees' job type, supervision of others, gender, age, and years of service. Second, to better interpret the research results, the sample was also examined with respect to its scores on the two outcome variables included in the analysis: perceived organizational support (POS) and job stress. Means and standard deviations were first calculated for each of these variables using the total sample. Calculations were then done on subsamples with respect to job type (i.e., managers and non-managerial employees). T tests were used to see if managers differed from non-managers on any of these measures. Differences at $\alpha \leq .05$ were considered significant.

There are a number of considerations to be taken into account when performing t tests in this thesis. According to Stevens (1996), to regard a univariate t test as reliable, the data should be checked against three assumptions. First, all the observations should be independent as dependence causes the actual alpha level to be several times greater than the level of significance. In social sciences, however, observations are seldom completely independent. Stevens suggested that random sampling can approximate independence, but a more stringent alpha level can reduce the undesirable effects of dependence if necessary.

Second, data should be normally distributed. This assumption was rarely met within this set of data. The Shapiro-Wilk test for normality (significant at alpha level of .01) indicated that the distribution of all the items in this analysis (i.e., demographic items as well as those used later in this research) deviated from normality and their skewness and kurtosis coefficients differed from zero. Bock (1975) has argued, however, that non-normal distributions can be approximated to normality when at least 50 observations are used, which is the case in this study. Furthermore, Stevens noted that skewness has only a slight effect on power. Kurtosis attenuates power slightly more, especially platykurtosis. Platykurtosis was rare in this set of data. The third assumption is homogeneity (or equality) of variance across the groups. Levene's test for equality of variances showed that in 77% of the cases, the variance was homogeneous. In addition, the significance level of between-group tests was not affected in any of the inequality cases (i.e., there was no notable difference between test values when equality was assumed and when it was not). The above analysis suggests that the t tests performed in this thesis are interpretable.

The researcher should be aware of a potential problem with overall Type I error inflation associated with performing multiple tests. When each individual test is set at the traditional alpha level of .05, the resulting overall α of the scale is unreliable. In such cases, there is a high probability of inflated overall Type I error when too often the null hypothesis is rejected by chance (Stevens, 1996; Uitenbroek, 1998). There are two instances in this research where spurious test results are possible. First, such results may occur when t tests are run with correlated outcome variables (Uitenbroek, 1998) (i.e., tests

for job type differences in attitudes toward change, PORC/POURC factors, and individual dispositions). Second, Type I error can be inflated when elements of a correlation matrix are examined for their significance (Stevens, 1996).

The research methodology literature has suggested a way that researchers can minimize Type I error inflation. This type of error can be reduced by using the Bonferroni adjustment (i.e., dividing alpha of .05 by the number of t tests performed) as suggested by Stevens (1996). According to Uitenbroek (1998), however, the full Bonferroni correction in cases when outcome variables of interest are correlated is too conservative and may lead the researcher to reject significant findings. Instead, the author suggested researchers use a corrected alpha which is between no correction at all and full Bonferroni correction (i.e., a partial Bonferroni adjustment). In this research, the appropriate alpha was calculated with the help of an interactive table provided on the Simple Interactive Statistical Analysis (SISA) web site (Uitenbroek, 1998) where the mean correlation between variables and the number of tests were taken into account.

On the other hand, it should be recognized that not all multiple tests create inflated Type I error problems. When, in the context of a larger study, each individual test pertains to a separate hypothesis, it is appropriate to consider the significance of each test on its own merits (Uitenbroek, 1998). In this research, for example, t tests for job type differences in outcome variables (i.e., perceived organizational support and job stress) were run at the alpha level of .05 as these variables were considered independent.

4.3. Act frequency approach (AFA)

A qualitative research technique called the act frequency approach or AFA was used in this dissertation to develop comprehensive behaviourally-based measures of PORC/POURC and employees' attitudes toward change. This section will introduce the technique and will describe its three stages: act nomination, prototypicality rating of the nominated behaviours, and analysis of the final survey data.

4.3.1. Introduction of the AFA

This section will present the essence of the technique, summarize key criticisms associated with its use and outline its application in this study.

4.3.1.1. Essence of the AFA

The AFA was developed by Buss and Craik (1980, 1981, 1983a, 1983b, 1984) and was originally used for studying personality dispositions. Disposition was defined as a “tendency of individuals to behave in certain ways” (Buss & Craik, 1980, p.379) and “a natural cognitive category with acts as members” (Buss & Craik, 1983a, p.105). To identify a certain dispositional category, a special emphasis is placed on the monitoring of the relative frequency of behavioural acts which constitute a composite measure of a disposition. Buss and Craik have emphasized that not all acts occur equally frequently and therefore are not equally characteristic of a given disposition. They argued that “act members vary in prototypicality from core to peripheral status” (1983b, p.394).

Therefore, the purpose of the AFA technique is, on the basis of past behaviours, to distill the most prototypical acts within a category which then can be used as predictors of future behaviours (Buss & Craik, 1984). Block (1989, p.234) described this principle as follows:

“Mary is dominant” is said to mean that, over a specified interval (e.g., 3 months), Mary has exhibited many dominant acts and therefore can be expected to exhibit many dominant acts in the future.

The AFA procedure consists of two main stages: act nomination and prototypicality ratings (Buss & Craik, 1983a, 1984). Act nomination involves subjects nominating behaviours typical of a certain disposition, for example, aloofness, in order to create a representative preliminary list of behaviours exhibited by someone with this disposition. The most frequently used sources of information are retrospective recollections of behaviours by the subjects and retrospective observer reports. When the list is considered complete, redundancies, non-act statements, vague and general tendency statements as well as frequency statements are eliminated and the list corrected for grammatical errors.

The second stage of the AFA involves a second sample rating the revised list of behaviours for their prototypicality (i.e., the degree to which each behaviour represents the disposition at issue) on a 7-point Likert scale. The reliability of the composite prototypicality ratings and the between-rater agreement are then calculated.

As summarized by Dyke (1990) and Cooper, Dyke and Kay (1990), the AFA proceeds on the following assumptions: 1) that dispositions are simply the sum of behaviours, 2) the domains under study contain multiple acts and therefore provide a more stable target for

prediction, 3) specific acts provide a better measure of a domain than do global evaluations, and 4) the respondents understand what acts form the core of domains. Some of these assumptions have been criticized by Block (1989) and Moser (1989) as discussed in Section 4.3.1.2 below.

Since Buss and Craik's (1980) study of the dominance disposition, the AFA has been accepted and utilized in other personality trait studies, for example, aloofness, gregariousness and submissiveness (Buss & Craik, 1981), helplessness (Peterson, 1993), deception in mating strategies (Tooke & Camire, 1991), risk taking (Kruger & Amelang, 1995), and impulsivity (Romero, Luengo, Carrillo-de-la-Pena, & Otero-Lopez, 1994). Furthermore, the AFA has been successfully applied beyond the domain of personality traits to explore such organizational behaviours as self-promotion and loyalty (Cooper et al., 1990; Dyke, 1990), motivation (Piedmont, 1989), person-job fit (Allen, 1993), supervisor support (Bhar, 1995), mentoring (Russell, 2001) and organizational support for revolutionary change (Szamosi, 1999). The applicability of the technique to the study of organizational behaviours supports the use of the AFA in this research to develop measures of perceived organizational readiness for change and members' attitudes toward change.

4.3.1.2. Critique of the AFA

It is important to understand the assumptions and weaknesses of the method to better utilize its strengths in measurement scale construction. Buss and Craik (1981, 1984) have

claimed that the AFA is a novel approach to the analysis of personality and an alternative to the traditional methods used in the area. Among the major benefits of the technique the authors indicated empirically based scale development and utilization of multiple-act trends as opposed to more traditional single-act behaviours in studying personality traits. Block (1989) and Moser (1989) have criticized these claims as too ambitious since in their view, the contribution of the AFA is not that unique. Cooper et al. (1990) and Dyke (1990) in their turn tried to strike a balance between the criticisms and benefits of the method. They stated that the AFA might not necessarily be a superior method, but it compares favourably with more traditional methods of scaling and factor analysis and certainly has its strengths such as an empirical approach to the generation of scale items, incorporation of self and peer ratings and identification of the internal structure of the domains studied.

In her comprehensive critique of the AFA, Dyke (1990) has grouped the criticisms of the technique into those pertaining solely to personality measures and those potentially damaging to its use in organizational behaviour research. For the purposes of the present study, only the latter will be addressed. It must be also noted that not all the weaknesses of the technique might be critical to this research.

Both Block (1989) and Moser (1989) have argued that the AFA treats all the acts as stable and unidimensional across situations and time which they believed is not necessarily true. In this study, however, the respondents were asked to nominate acts

within a specific situational context (i.e., the current organizational change) and within a limited time frame (i.e., past two years). This criticism should not, therefore, be of major concern to this research.

Another concern of the critics is the reliance on inaccurate recollections (Block, 1989) which might mean that participants nominate invented rather than existing acts (Moser, 1989). Block also warned that social desirability of certain acts might affect the responses as well. To alleviate this concern and reduce self-serving bias, respondents to this study were asked to nominate acts occurring in the public domain (Buss & Craik, 1984) (i.e., acts associated with organizational PORC/POURC for change) rather than their own acts.

Block (1989) also pointed to the fuzzy boundaries between dispositional categories, a weakness of the method acknowledged by Buss and Craik (1981) themselves. This means that less prototypical acts can be members of several categories which lowers the discriminant validity of the act trend. Not to attribute this criticism only to the AFA, Dyke (1990, p.89) admitted that such category overlap “is a feature of the world, not an artifact of the measure” and suggested including only the most prototypical acts in act frequency reports to minimize sampling from other domains. Finally, a focus on an adequate sample size and significant inter-rater agreement should help ensure the centrality of act membership (Dyke, 1990).

Block (1989) also raised an issue of the ability of the respondents to decide on the relevance of the acts to the disposition under study knowing that the subjects most often have been undergraduate students or laypeople. In this study, the subjects were most qualified to determine the adequacy of the acts since these acts dealt with people's perceptions and attitudes concerning change in their own organization and their own attitudes toward change. It cannot, however, be denied that due to the lack of a clear definition of what constitutes an act (Block, 1989), nomination of non-act statements might be possible.

4.3.1.3. Application of the AFA in this study

The precedents of the act frequency application to organizational studies suggest the generalizability of the method to this research. Cooper et al. (1990) stated that the AFA is useful in situations without established measures for certain dispositions and without alternate measures for comparison. These conditions apply to the present study. Moreover, the benefits of the technique seem to outweigh its limitation as discussed above. The most important benefit of the method is considered to be measurement scale construction. As pointed out by Dyke (1990), the AFA allows the generation of an exhaustive list of items without immediate editing. Furthermore, Dyke emphasized the role of act nomination in creating items, a task where traditional scale construction methods do not offer the researcher much guidance. Most importantly, using organizational members as the basic source for item generation may be the most appropriate approach when perceived organizational readiness and people's attitudes are

involved. In addition, Szamosi's (1999, p.89) argument that "the policies and procedures found within an organization...could be viewed as dispositions (i.e., the tendency to behave in a certain way)" may serve as another encouragement to use the AFA technique in the present research.

The measure development consists of three stages: act nomination and prototypicality ratings as well as testing of the reliability and validity of the new measures. The following is a summary of the research stages which will be introduced in greater detail in the following sections of this chapter.

- Stage I: ACT NOMINATION**
- nomination of organizational actions which are associated with PORC/POURC through the interview process,
 - nomination of manifestations of employees' attitudes toward change through the interview process,
 - elimination of redundancies and editing,
 - compilation of two lists of organizational actions which make people perceive the organization to be or not to be ready for change,
 - compilation of three lists of manifestations of employees' attitudes toward change (i.e., commitment, indifference, resistance).
- Stage II: IDENTIFICATION OF PROTOTYPICAL ACTS**
- administration of Stage II survey,
 - elimination of non-important organizational actions and manifestations of attitudes toward change through prototypicality rating,
 - development of two lists consisting of the most typical organizational actions which make people perceive the organization to be or not to be ready for change,
 - development of three lists of the most typical ways employees behave when they are committed, indifferent, and resistant to change.
- Stage III: ASSESSMENT OF THE MEASURES**
- administration of Stage III survey,
 - testing the reliability and validity of the resulting measures.

4.3.2. Stage I: act nomination

The major goal of Stage I is to catalogue organizational acts associated with the constructs under study, in this case PORC/POURC and self-reported manifestations of attitudes toward change. This section will present the employee interview guide and protocol, and provide an overview of how the interview data was analyzed.

4.3.2.1. Employee interview guide

The purpose of employee interviews was to create two groups of measures: 1) attitudes toward change and 2) PORC/POURC. The interviewees were asked two groups of questions. One group of questions was designed to help us identify behaviours to be included in our measure of employees' attitudes toward change. Respondents were asked to report behaviours they engaged in when they were committed, resistant, or indifferent to the changes they had experienced. The other group of questions was designed to elicit participants' views on the organizational actions they associated with organizational readiness for change and organizational unreadiness for change. These two sets of questions are shown in Table 3 (attitudes toward change) and Table 4 (PORC/POURC).

Question used to elicit behaviours typifying commitment to change	Rationale for the question
When you experienced a change initiative that you felt committed to, what did you do to demonstrate your commitment?	Candid self-reported behaviours may help catalogue manifestations of commitment to change in order to obtain an exhaustive list of nominated acts.
Question used to elicit behaviours typifying indifference to change	Rationale for the question
When you experienced a change initiative that you were indifferent to, what did you do to demonstrate your indifference?	Candid self-reported behaviours may help catalogue manifestations of indifference to change in order to obtain an exhaustive list of nominated acts.
Question used to elicit behaviours typifying resistance to change	Rationale for the question
When you experienced a change initiative that you resisted/were against, what did you do to demonstrate your lack of support for the change?	Candid self-reported behaviours may help catalogue manifestations of resistance to change in order to obtain an exhaustive list of nominated acts.

Table 3. Questions used to identify employees' behaviours typifying their attitudes toward change.

The essence of the method is to identify as many acts as possible; however, as proposed by Strauss (1987), when the interviews yield nothing new, the domain can be considered saturated and the interview stage completed. In both cases the AFA methodology was used to create exhaustive lists of behaviours participants identified as typifying the two constructs: employees' attitudes toward change and PORC/POURC. Three lists were created for the first construct: employees' behaviours typifying their commitment, indifference, and resistance to change. Two lists were created for the second construct:

organizational actions typifying perceived organizational readiness for change and organizational unreadiness for change.

Question used to elicit actions typifying organizations perceived to be ready for change	Rationale for the question
In general, what do you think organizations that are capable of changing do? (Specific examples of actions specifying perceived readiness for change)	Identify (nominate) organizational actions that make people believe the organization is ready for change. They will contribute to the list of actions typifying perceived organizational readiness for change.
Question used to elicit actions typifying organizations perceived to be not ready for change	Rationale for the question
What kinds of things do organizations do that would lead you to think that they are not ready/capable of changing? (Specific examples of actions typifying perceived unreadiness to change).	Identify organizational actions that make people believe the organization is not ready for change. They will contribute to the list of actions typifying perceived organizational unreadiness for change.

Table 4. Questions used to identify organizational actions typifying PORC/POURC.

At the end of the interview, respondents were asked for their comments with respect to organizational change they have experienced and a piece of advice they could give to organizations with regard to successful change management and unsuccessful change management. Responses were not meant to contribute directly to the development of the lists of nominated behaviours, but rather to help us interpret the results of this research. The complete interview guide is presented in Appendix B. Not all questions, however, were used in this analysis.

4.3.2.2. Employee interview protocol

To start with, the interviewees were briefed on the nature of the interview, purpose of the study, and confidentiality of individual responses. Interviewees were asked to sign a letter of consent to be interviewed. To capture the responses as precisely as possible, tape recording was used with the permission of the respondents. In three cases, taping was not permitted, and the interviewer took notes.

For the sake of clarity, in the interview questions, perceived organizational readiness for change was referred to as “an organization’s capability of changing.” This is consistent with Armenakis et al.’s (1993) definition which stated that perceived organizational readiness for change is reflected in organizational members’ beliefs regarding their organization’s capacity to implement change. In addition, respondents were asked to clarify unclear responses and nominate only explicit behaviours they engaged in when they felt committed, indifferent, or resistant to a change. Likewise, they were asked to focus on specific and tangible organization actions that they believed made an organization ready or not ready for change.

Every effort was made to avoid interviewer bias. While the interviewer used meaningful probing and asked for clarification when necessary, every effort was made to avoid leading questions and comments that directed the respondent (Cooper & Schindler, 1998; Denzin, 1989).

4.3.2.3. Analysis of Stage I interview data

The data obtained from the interviews with 88 organizational members were content analyzed in accordance with the objective for this stage of the AFA. Five lists representing the constructs of attitudes toward change and PORC/POURC were generated. As indicated by Cooper and Schindler (1998), the units developed through content analysis, should “reflect the objectives for which the data were collected” (p.418). To satisfy this criterion, the initial lists were then edited by two researchers for redundancies, vague behaviours, and non-act statements to generate a survey instrument to be administered in Stage II of the AFA.

4.3.3. Stage II: identification of prototypical acts

In Stage II of the AFA, the five exhaustive lists of nominated acts (i.e., the two lists of organizational actions associated with perceived readiness and unreadiness for change and the three lists of behaviours manifesting individual attitudes toward change) were reduced through prototypicality rating to obtain the following two groups of measures: 1) employees’ attitudes toward change and 2) PORC/POURC. The lists of nominated acts were rated using the survey that can be seen in Appendix C. This section will outline the prototypicality rating procedure and analysis performed at this stage of the AFA methodology.

4.3.3.1. Prototypicality rating of nominated acts

As noted by Buss and Craik (1980), some of the nominated acts are more prototypically dominant while others are more peripheral to the given act category. For the purpose of measure development, it is essential to retain only those behavioural acts which are considered as typical by the vast majority of the raters. A high degree of consensus in terms of an act's typicality is needed to reduce the number of nominated acts to a "reasonable" number (i.e., one that does not produce an undue response burden). Therefore, a random sample of 178 respondents from four participating organizations filled out a web-based survey to rate the acts nominated in Stage I according to their prototypicality. The survey consisted of six sections, one which collected demographic information from the respondents (i.e., gender, job type, and supervision of others) and five which corresponded to each of the lists generated in Stage I as follows:

- Section 1: Individual behaviours typifying commitment to change.
(e.g., "I speak favourably about change to my peers.")
- Section 2: Individual behaviours typifying resistance to change.
(e.g., "I complain about change to my co-workers.")
- Section 3: Individual behaviours typifying indifference to change.
(e.g., "I ignore the initiative and just keep doing my work.")
- Section 4: Actions of public sector organizations which their members
perceived as typifying an organization that is ready for change.
(e.g., "Change is driven by a vision that everybody understands.")

Section 5: Actions of public sector organizations which their members perceived as typifying an organization that is not ready for change.
(e.g., “The reasons for change are not well explained.”)

To obtain the lists of the most typical employee behaviours, respondents were asked to indicate the extent to which they agreed that the behaviours listed in the survey represented the way they have behaved when faced with a significant organizational change that they supported, resisted, or were indifferent to. To obtain the lists of the most typical organizational actions, respondents were asked to indicate the extent to which they agreed that the listed actions typified 1) an organization that was ready for change and 2) an organization that was not ready for change. They were asked to rate the statements for their prototypicality on a Likert scale from “1 = strongly disagree” to “7 = strongly agree” with a midpoint of “4 = neither agree nor disagree”.

The survey was web-based and offered in both official languages. It was administered with the help of SurveyMonkey software utilizing the professional survey developer’s web site. The software was designed to accept anonymous responses and export them directly to the researcher’s file. Volunteers in each organization were invited to fill out the on-line survey through an organization-wide communiqué.

Given the considerable number of acts to be rated (i.e., 59 individual behaviours typifying the three attitudes toward change and 168 organizational behaviours typifying an

organization which is or is not perceived to be ready for change), two forms of the survey were developed. Both surveys asked respondents to rate all 59 items pertaining to attitudes toward change. Survey one also asked respondents to rate the 100 items pertaining to organizational readiness for change. Survey two also asked respondents to rate the 68 items pertaining to organizational unreadiness for change. Each participating organization was asked to fill out only one of the two surveys. To avoid any bias in the data, the surveys were randomly assigned to the organizations. Ultimately, each list was rated by individuals in at least two organizations.

4.3.3.2. Analysis of Stage II data

The first step in the Stage II data analysis was examining the means and standard deviations of each of the items in the five sections of the survey devoted to measure development. These statistics were calculated for the total sample, for each job type (i.e., managers and non-managers) and for each gender. The prototypical acts for the total sample were selected first. This was followed by an examination of two sets of subsamples (one based on gender, one based on job type) to see if there were any behaviours that were prototypical for a specific group (e.g., managers or women) that had not made the “cut-off” because their means were too low when the total sample was considered. This step was done to ensure that the measure contained behaviours that were typical of all the strata.

Based on means, a consensus of respondents was sought with respect to the most prototypical acts to be included in the final measures. The goal of the AFA is to end up with a measure that is valid and reliable but does not lead to response burden. Measures with too few items may suffer from problems with respect to reliability while measures that are too large may result in respondent fatigue and a lower response rate. In this thesis our goal was to identify a “manageable” set of prototypical behaviours where “manageable” was operationally defined to be 5-20 items. While this number is somewhat arbitrary, it meets our goal with respect to the utility of the measure.

To this end, a cut-off score to determine the most prototypical behaviours had to be established. It must be noted that the literature and research precedents utilizing the AFA methodology do not offer steadfast rules in this respect. A number of authors (e.g., Buss & Craik, 1980; 1983; Dyke, 1990; Romero et al., 1994) have chosen the top quartile of the list as the most prototypical acts. Several researchers (e.g., Szamosi, 1999) have used the mean of 5.0 (i.e., almost everyone agrees that the behaviour is important) as the default cut-off score while some others (e.g., Russell, 2001) have examined the incremental reduction in the mean scores and drawn the line between the acts with the largest difference.

In this research, a complex approach was undertaken. The number of individual behaviours typifying attitudes toward change was reduced in two steps. First, all items with means above 5.0 were examined in the total sample. This cut-off ensured that the

majority of respondents agreed that a particular behaviour was typical. However, in cases of commitment behaviours for the total sample this principle of reduction failed to generate a manageable list of behaviours as more than a half of the items on these lists had means that exceeded 5.0. In these cases the second reduction step was applied and the largest difference between means of adjacent items was identified and used as the cut-off point. To maximize the number of relevant items retained in the analysis, we started at the bottom of the list of items rather than the top. The difference between means indicated a clear break point in the data where the degree of consensus diminished. Items scoring below this cut-off were dropped from further analysis.

The same procedure was repeated with the subsamples based on job type and gender. Behaviours that did not make the cut-off for the total sample but were prototypical for a subsample were identified. These behaviours were added to the measure.

The number of organizational actions typifying PORC/POURC was reduced in three steps. As described above, all items with means above 5.0 were first examined in the total sample. Ideally, fewer than 20 items would be considered adequate and all included in the measure. When the number of items with means above 5.0 considerably exceeded 20, the second reduction step was applied. In the second reduction step, only items in the top quartile were selected to be in the measure. When after step two, the number of the retained items was still considered too large, the third data reduction step was used where the largest difference between means of adjacent items was identified. This technique

indicated a clear break point in the data where the degree of consensus diminished. Items scoring below this cut-off were dropped from further analysis.

The same procedure was repeated with the subsamples based on job type and gender. Items that did not make the cut-off for the total sample were identified and added to the measure.

At the end of Stage II analysis, there were two groups of measures developed: one quantifying PORC/POURC and one quantifying employees' attitudes toward change. The validity and reliability of these measures were tested in the Stage III survey.

4.3.4. Development of the Stage III survey instrument

Survey data to assess the reliability and validity of the two groups of newly developed measures (i.e., employees' attitudes toward change and PORC/POURC) were collected in Stage III of the study. The survey consisted of eight sections. Section 1 included the proposed measures of employees' attitudes toward change in their workplace. Section 2 included the proposed measures of PORC/POURC. Variables measuring individual dispositions were included in sections 4 (tolerance for ambiguity), 5 (positive/negative affectivity), and 6 (locus of control). The survey also included measures of two outcomes, perceived organizational support (Section 3), and job stress (Section 7) that the literature has associated with attitudes toward change and PORC/POURC. These items were included to provide us with the necessary data to check the validity and reliability of the

new measures. Finally, Section 8 included questions to collect relevant demographic data (i.e., job type, supervision of others, gender, age, and years of service). The Stage III survey can be seen in Appendix D.

The Stage III survey was offered in English and French. It was web-based and designed with the help of SurveyMonkey software utilizing the professional survey developer's web site. Volunteers were invited to fill out the on-line survey through an organization-wide communiqué. Details on each part of the survey are given below.

4.3.4.1. Attitudes toward change and PORC/POURC

The survey started with the two groups of measures that were developed in this study: 1) employees' attitudes toward change¹ (i.e., 10 items typifying commitment and 6 items typifying resistance met the cut-off criteria noted earlier) and 2) PORC/POURC (21 items typifying organizational readiness for change and 19 items typifying organizational unreadiness for change met the cut-off criteria noted earlier). Following the methodology utilized by Buss and Craik (1980, 1983a, 1983b), the respondents were given a 5-point Likert scale ("strongly disagree", "disagree", "neither agree nor disagree", "agree", "strongly agree") and asked to rate the degree to which they agreed with the attitudes toward change and PORC/POURC statements.

¹ Items typifying indifference to change were excluded from further analysis. Details on this finding are presented later in Chapter 6, but it is noted here as this finding affected the methodology.

When answering the questions associated with attitudes toward change, respondents were instructed to think of transformational changes launched by their organization that they had been committed to and changes they had resisted. They were then asked to indicate the extent to which they agreed or disagreed that each statement described how they behaved when they were committed to or resisted a change. All statements pertaining to members' attitudes toward change were written in the first person, singular. An example of a statement characterizing commitment to change was, "I invest more time and effort in my work than required as per job description." Higher scores on these items represent greater commitment to change. An example of a statement characterizing resistance to change was "I share my concerns with those who have initiated the change." Higher scores on these items indicate higher resistance to change. Commitment and resistance to change were calculated as summed averages of the items included in the respective measures.

The second set of statements pertained to the respondents' perceptions of their organization's readiness for change. Respondents were asked to indicate the extent to which they agreed or disagreed that each of the 40 actions was taking place in their organization. An example of a statement characterizing perceived organizational readiness for change was, "There is a champion of change at the most senior level of the organization." Higher scores on these items reflected a higher degree of perceived organizational readiness for change. An example of a statement characterizing perceived

organizational unreadiness for change was, “Employees do not see how they will personally benefit from the change.” Higher scores on these items reflected a higher degree of perceived organizational unreadiness for change.

4.3.4.2. Outcome measures

To validate the newly developed measures, it is necessary to relate them to well established criterion variables. Two outcome measures were used in this thesis to validate our measures of attitudes toward change and PORC/POURC: job stress and perceived organizational support (POS). The measures used to quantify these two constructs in this thesis are discussed below. Theory linking them to attitudes toward change and PORC/POURC and the methodology used are discussed in Section 4.3.5.4. The measures themselves can be found in Appendix E.

House and Rizzo (1972a) defined job-induced anxiety and stress as “tension and pressures growing out of job requirements, including possible outcomes in terms of feelings or physical symptoms” (p.481). Job stress was measured using the job-induced tension subscale of House and Rizzo’s anxiety-stress scale. Further information on this measure can be found in Cook, Hepworth, Wall, and Warr (1981). The subscale was further reduced from 7 to 5 items by Murphy (2000). In this study, job stress was measured as a summed average of the 5-item scale. An example of the items of this measure was “I work under a great deal of tension.” Respondents were asked to indicate the degree to which they found their jobs stressful on a 5-point Likert scale where 1 =

“strongly disagree”, 3 = “neither agree nor disagree”, and 5 = “strongly agree”. Higher scores reflected greater work stress. The reliability coefficient obtained in Murphy’s study was .85.

POS measures the extent to which employees perceive that their organization values their contribution and cares about their well-being (Eisenberger et al., 1990). POS was measured using the shortened 9-item version of the Survey of Perceived Organizational Support (POS) developed by Eisenberger et al. (1986). The shortened measure of POS has been used in a number of studies (e.g., Eisenberger et al., 1990; Szamosi, 1999; Wayne et al., 1997) and has demonstrated high internal consistency, with Cronbach’s alpha ranging from .74 to .95.

Examples of the measurement items included “Management of my company cares about my general satisfaction at work” and “Management of my organization shows very little concern for me.” Respondents were asked to indicate their degree of agreement with each statement with respect to their feelings about the organization for which they work on a 5-point Likert scale where 1 = “strongly disagree”, 3 = “neither agree nor disagree”, and 5 = “strongly agree”. Negative items (as marked in Appendix E) were reverse scored, and POS calculated as the summed average of these 9 items. Higher scores reflected higher perceived organizational support.

4.3.4.3. Measures of individual dispositions

The organizational behaviour and psychology literature offers established and tested measures of the four individual dispositions that are included in this thesis: locus of control, positive affectivity, negative affectivity, and tolerance for ambiguity. This research used the most commonly applied scales to measure these dispositions. The measurement instruments used to quantify the dispositions are presented in Appendix F. Details with regard to each of the measures are given below.

Locus of control (LOC) is defined as a “generalized expectancy that rewards, reinforcements or outcomes in life are controlled either by one’s own actions (internality) or by other forces (externality)” (Spector, 1982, p.335). The former group of people are said to have an internal locus of control whereas the latter group are said to have an external locus of control. The 16-item Work Locus of Control Scale (WLCS) developed by Spector (1988) was used in this thesis to measure locus of control. Examples of the measure include “A job is what you make of it” and “Getting the job you want is mostly a matter of luck.” The respondents were asked to rate their attitudes on a 5-point Likert scale from “1 = strongly disagree” to “5 = strongly agree.” Items reflecting internality were reverse coded (as marked in Appendix F) and LOC calculated as the summed average of the 16 items. High average scores indicate that an individual has an external LOC, while low scores indicate an individual with an internal LOC.

Spector has tested the instrument on six independent samples. For all these samples, internal consistency of the measure was high (i.e., Cronbach's alpha ranged from .75 to .85). The WLCS appears to be more applicable to this study than a measure of general locus of control. The items in the WLCS pertain to work behaviours rather than being a measure of general locus of control, and they have strongly correlated with work attitudes such as job satisfaction, intention to quit, perceived influence at work, and organizational commitment. Spector (p.339) concluded that work locus of control scale "may predict work behaviour more precisely than the general scales."

Positive affectivity (PA) and negative affectivity (NA) were measured using an instrument developed by Watson, Clark, and Tellegen (1988). Both PA and NA were measured by giving respondents lists of 10 one-word descriptors of feelings and emotions. The descriptors of PA are: "enthusiastic, interested, determined, excited, inspired, alert, active, strong, proud, attentive." The descriptors of NA are: "scared, afraid, upset, distressed, jittery, nervous, ashamed, guilty, irritable, hostile" (Watson et al., 1988, p. 1067). Respondents were asked to use a 5-point Likert scale (ranging from "1 = very slightly or not at all" to "5 = extremely") to indicate to what extent they had felt this way during the past year. PA was calculated as the summed average of the 10 PA items, and NA was calculated as the summed average of the 10 NA items. In both cases higher summed scores on the affectivity scales indicate higher PA or NA. Although the authors of these measures report that both scales exhibit a high level of stability in every time frame (i.e., from "feeling this way right now" to "generally feeling this way"), they

warned that the measures might be sensitive to fluctuations in moods if the respondent was asked to recall their feelings over a relatively short time span (i.e., a day or a week). Accordingly, in this research we took the authors' suggestion and asked respondents to indicate the extent to which "you have felt this way during the past year." This gives these dispositions more "traitlike stability" (Watson et al., 1988, p.1069).

The Cronbach's alpha reliabilities of both these measures were high ranging from .86 to .90 for PA and from .84 to .87 for NA (Watson et al., 1988).

Tolerance for ambiguity was measured using a 7- item scale developed by Lorsch and Morse (1974). The authors derived their statements from several generally accepted personality inventories (e.g., the Minnesota Multiphasic Personality Inventory, California Psychological Inventory, Kuder Preference Test). Although no statistical proof of its internal consistency and reliability is available in the literature, the face validity of the statements seems to adequately represent the disposition of tolerance for ambiguity. Examples of the items of this measure included "The most interesting life is to live under rapidly changing conditions" and "It's satisfying to know pretty much what is going to happen on the job from day to day." Respondents were given a 5-point Likert scale that ranged from "1 = strongly disagree" to "5 = strongly agree" and asked to indicate their agreement with each of the items. The responses to the items characterizing low tolerance for ambiguity were reverse coded (as marked in Appendix F), and the measure was

calculated as the summed average of the seven items. Higher summed average scores on this measure indicate higher tolerance for ambiguity.

4.3.4.4. Demographic questions

To describe the participating samples and better interpret the research results, the survey included five types of demographic questions. First, respondents were asked to indicate their position in the organization. They were offered six categories to select from: 1) Director/Director General, 2) Manager, 3) First Line Supervisor/Team Leader, 4) Professional, 5) Administrative/Clerical, and 6) Operational. In some participating organizations, upon consultation with officers most competent on these issues, the titles were adjusted to reflect the specificity of the organization's field of work and the nature of the jobs in question. Nevertheless, the basic structure and meaning of the labels were preserved to ensure their comparability across organizations. Ultimately, the analysis was performed on two aggregate groups of jobs: managerial (i.e., directors/directors general, managers, and first line supervisors/team leaders) and non-managerial (i.e., professional, administrative/clerical, and operational) employees.

Second, respondents were asked to indicate if they supervised the work of others. Other demographic data collected included gender, respondents' age, and years of service with their current organization. Age was grouped into five categories: 1) 25 years and younger, 2) 26 to 35 years, 3) 36 to 45 years, 4) 46 to 55 years, and 5) 56 years and older. Years of

service were grouped into five categories: 1) less than a year, 2) 1 to 5 years, 3) >5 to 10 years, 4) >10 to 20 years, and 5) more than 20 years.

4.3.5. Analysis of Stage III data

This section will describe the procedures undertaken to test the two newly developed measures and establish their validity. These include screening the survey data, factor analysis of the items included in the two groups of measures, development of new measurement scales based on the results of factor analysis, and calculation of reliability and validity for each of these new measures.

4.3.5.1. Data screening

Inferential statistical analysis requires that the assumption of data normality should be met. Performing analysis on non-normally distributed data with a large number of outliers can lead to erroneous results that do not generalize well (Stevens, 1996; Tabachnick & Fidell, 1989). Accordingly, the distribution of each variable on the Stage III survey and their outliers was examined prior to the analysis. The skewness coefficients indicated that the majority of items were not normally distributed. In some ways, this finding was not surprising given the nature of the survey questions. We were, however, interested in determining to what extent skewness in these data was reinforced by outliers.

Stevens (1996) suggests that a general rule of thumb is to consider an outlier any value outside three standard deviations of the mean. Stevens also noted, however, that this

guideline is quite arbitrary as the definition of an outlier depends on the sample size. In case of a large sample (> 100), some subjects may fall outside a z score >3 by chance. In this research two established rules for detecting unduly influential univariate outliers were applied. First, we looked at the percentage of outliers that were three standard deviations from the mean. When evaluating this number we considered the fact that Stevens observed that regardless of the data distribution, the percentage of observations that are contained within three standard deviations of the mean must be at least $(1 - 1/3^2)100\% = 89\%$. We then considered Shiffler's (1988) advice in Stevens (1996) that the largest possible z value in a data set is bounded by $(n-1)/\sqrt{n}$. In this analysis, since the Stage III sample size equaled 583, the z score should not exceed 24.1. Data analysis indicated that no variable in this thesis contained more than 3% of outliers. None of them had a z score that exceeded $|4|$. Therefore, the existing outliers were not deleted or transformed, and the data set was considered approximately normal.

4.3.5.2. Developing factor-based scales

One of the objectives of this stage of research was to explore if the new measures developed in Stage II could be further divided into subscales. One key technique used in scale development is factor analysis, an item reduction scheme that clusters together items sharing a common source of variance (Stevens, 1996).

Before factor analyzing the scales, it is necessary to examine the intercorrelation matrix of each scale to see if it is factorable (Kim & Mueller, 1978a; Tabachnick & Fidell,

1989). According to Tabachnick and Fidell, a matrix that is factorable should include several sizeable correlations (i.e., correlations that exceed .30). Stevens (1996) suggested that the presence of potential common underlying constructs can also be confirmed by Bartlett's sphericity test which tests the null hypothesis that the variables in the correlation matrix are uncorrelated. It should be noted, however, that this test is sensitive, and with a large sample size (i.e., more than five observations per variable as is the case in this research where $N = 583$ and the maximum number of variables in the correlation matrix = 21), it can reject the null hypothesis even if correlations are low (Tabachnick & Fidell, 1989).

In a situation when the researcher does not have any prior theory with respect to the number of factors present and their degree of intercorrelation, it is useful to perform exploratory factor analysis (Stevens, 1996). In particular, Stevens as well as Tabachnick and Fidell (1989) recommended the use of principal components analysis as it is a psychometrically sound procedure. To perform this analysis, we followed several recommendations from the literature.

First, to improve the interpretability of the results, many statistics experts (e.g., Kim & Mueller, 1978b; Rummel, 1970; Stevens, 1996; Tabachnick & Fidell, 1989) have suggested the use of an orthogonal (varimax) rotation, a technique that makes the factors uncorrelated and clearly clusters items that have high loadings on one factor. To decide which factors to keep in the analysis, we followed Stevens' suggestion and used Keiser's

criterion which states that only factors with eigenvalues greater than one should be retained in the analysis (especially if the total variance all the factors account for is at least 70%). We were, however, cognizant of Rummel's (1970) advice not to employ this criterion mechanically as a factor with an eigenvalue slightly below "one" can also be important. We retained only those factors that contained three or more items and kept only those items that have factor loadings above .5. We then inspected the residual correlation matrix as suggested by Tabachnick and Fidell (1989). Such an analysis can provide an insight into the variance left unaccounted for by the derived factor structure. Several moderate residuals (.05 to .1) or a few larger residuals ($> .1$) suggest the possible presence of another factor. To check if another factor is indeed present, Tabachnick and Fidell recommended that the researcher run additional factor analyses specifying the number of factors to be retained. The factor eigenvalues and loadings of items on each factor are then inspected to see if the new structure is the optimal solution. The new factor structure is retained, however, only if all the factors are deemed meaningful by the researcher (Rummel, 1970). Finally, all the extracted factors are given names that best reflect the substance of the variables constituting a particular factor (Rummel, 1970).

The resulting factors constituted new scales that were utilized in further analysis. It must be noted that for the purposes of scale development, weights of each initial item (i.e., its relative importance based on factor loadings) within a factor were not taken into account, and factor scores were computed as the summed average of the items loading on each factor.

Further assessment involved establishing the reliability and validity of the new measures. Any measurement instrument should be reliable and valid, and measure what it is supposed to measure (Nunnally, 1978); otherwise it is of little use to the researcher (Davis, 1996). The methods used to test reliability and validity will be discussed in the following subsections.

4.3.5.3. Reliability of measures

There are several methods to assess the reliability of a measure. First of all, the usage of scientifically well-grounded procedures of measure development implies a certain degree of reliability. In this case, items of the measures were identified using the AFA. This is considered to be a reliable technique for item generation when people's perceptions are involved (e.g., Dyke, 1990). Furthermore, the underlying scale structure of each new measure was established with the help of factor analysis. When appropriate criteria for factor selection are applied (i.e., factor loadings, eigenvalues, and substantive meanings), factors can be considered reliable (Tabachnick & Fidell, 1989). Moreover, Buss and Craik (1983a) claimed that composite indices (the type generated in this research) offer a higher reliability than single-act measures. Notwithstanding the above evidence of measure reliability, many analysts (e.g., Cascio, 1991; Nunnally, 1978) also recommend calculating Cronbach's alpha coefficient as "the basic formula for determining the reliability based on internal consistency" (Nunnally, 1978, p.230). Nunnally has advocated coefficient alpha as the first test applied to all new measures. The coefficient

determines the percentage of total variance which is caused by systematic or “true” variance in test scores.

Cronbach’s alpha was calculated for all the measures used in the study (i.e., those developed in this study and those derived from the literature). The scale was considered reliable if the coefficient alpha exceeded .70. This is a level that Nunnally as well as Davis (1996) and Cascio (1991) have suggested for early or exploratory stages of research.

If a measure is found unreliable, it is imprecise and will generate tests with attenuated power. The results obtained through its application will have an increased unsystematic error rate and reduced generalizability (Cascio, 1991; Tabachnick & Fidell, 1989). However, high reliability only ensures that all the items of the scale “hang together” (Stevens, 1996, p.31) and consistently measure the same thing. Even perfectly reliable scales may not be measuring the right thing (i.e., might not be valid) or be associated with other related variables (Cascio, 1991). Therefore, as Cascio has pointed out, reliability is a necessary but insufficient condition for a safe application of a measure. The measure must also be valid.

4.3.5.4. Validity of measures

According to Nunnally (1978), measurement instruments serve three purposes: representation of a specified universe of content, measurement of the subject matter, and

establishment of a functional relationship with a particular variable. Corresponding to these purposes are three types of validity: content, construct and predictive validity which will be addressed in the following subsections. The face validity of the developed measures will also be discussed below.

According to Cascio (1991), content validity is “concerned with whether or not a measurement procedure contains a fair sample of the universe of situations it is supposed to represent” (p.151). In this study, *content validity* refers to the extent to which: 1) the measures of PORC/POURC represent an organization which is or is not ready for change from the point of view of organizational members and 2) the measures of attitudes toward change represent attitudes of commitment or resistance respectively. According to Nunnally (1978), content validity depends primarily on the adequacy with which the content is sampled. Cooper et al. (1990) and Dyke (1990) have claimed that an inherent feature of the AFA is the content validity of the constructed measurement scales due to the prototypicality ratings by the actors in the given context. Moreover, Buss and Craik (1983a) have indicated that the very multiple-act criteria of the AFA validate the construct and its predictive power. Therefore, the measures developed in this study are considered valid based upon their content-related evidence.

Construct validity concerns the ability of the measure to represent the concept being measured (Davis, 1996). Cronbach and Meehl (1955) indicated that in order to validate a construct, measures of variables in a theoretical framework should relate to each other in

systematic and predictable ways. This means that measures of constructs that are theoretically related to each other should be also observed to be related. On the other hand, measures of constructs that are theoretically unrelated to each other should not be observed to be related. Consistent with this interpretation, there are two basic approaches to validating the construct: convergent and discriminant (or divergent) validation. In this respect, Trochim (2002) pointed out that in order to establish construct validity, researchers have to demonstrate evidence for both convergent and discriminant validity. Neither one alone is sufficient for establishing construct validity.

Convergent validity is demonstrated when correlations between different measures of the same theoretical variable are high and significantly different from zero. On the other hand, discriminant validity is demonstrated when correlations between measures of dissimilar variables are low (i.e., close to zero) (House & Rizzo, 1972b). In other words, a high correlation between the measure to be tested and an established measure of the same construct would prove that both measures reflect the same construct. At the same time, the scores on the new measure should be unrelated to scores on instruments that are not supposed to measure the same construct (Cascio, 1991). Since there are no other reliable and valid measures of the constructs of attitude toward change (i.e., commitment and resistance) and PORC/POURC available, construct validity of these newly developed measures could not be established.

Predictive validity of a measure, also known as *criterion-related validity*, reflects how well this measure can predict another construct it should theoretically be able to predict (Trochim, 2002). For the measure to be valid, it should relate in the manner suggested by a theory to some designated criterion variable.

In this research, to test predictive validity of the newly developed measures, criterion variables were sought which would have a theoretical relationship to the constructs to be measured and which would themselves be valid (Cooper & Schindler, 1998). Two such constructs were identified: perceived organizational support (POS) and job stress. Literature justifying their choice as criterion variables to establish the predictive validity of the measures developed in this research is described below.

POS: The only study where POS and perceived organizational readiness for large-scale change were directly correlated was conducted by Eby et al. (2000). In this case, the authors found a significant correlation between these constructs ($r = .31$, $p < .001$). While this relationship might be undermined by the questionable validity of the measure of perceived organizational readiness for change that the authors have used (see Section 2.3 of the Literature Review), their determination of this relationship supports the link between the two constructs. Furthermore, it has been proposed that POS may make organizational members perceive the impending change as less threatening (Rush, Schoel & Barnard, 1994) and develop more favourable attitudes towards it (Lau & Woodman, 1995). Other researchers have observed that employees reciprocate high levels of

perceived organizational support with increased commitment to the organization, affective attachment, organizational citizenship behaviors (i.e., diligence and loyalty), and willingness to perform beyond the call of duty (Cropanzano et al., 1997; Eisenberger, Fasolo, & Davis-LaMastro, 1990; Moorman, Blakely, & Niehoff, 1998; Ogilvie, 1987; Wayne, Shore, & Liden, 1997). Consequently, it seems reasonable to assume that employees might reciprocate high POS with increased commitment to change and perceived organizational readiness for change. The extant body of research in this area supports the following hypothesis: POS will be 1) positively correlated to commitment to change and perceived organizational readiness for change, and 2) negatively correlated to resistance to change and perceived organizational unreadiness for change. In both these cases, significant correlations indicate that the measure has predictive validity.

Job stress: The literature abounds in evidence and propositions that organizational change is stressful (e.g., Ashford, 1988; Major et al., 1998; Pritchett, 1996; Taylor & Brown, 1988; Wanberg & Banas, 2000). Sources of job stress mentioned in the literature include: uncertainty about the future, job insecurity, unclear expectations, employee role conflict, role overload, and role ambiguity, poor labour-management relations, lack of organizational and supervisor support, feedback and communication problems, lack of employee power and control, organizational politics, qualitative changes in job, and technology change (Ashford, 1988; Babin & Boles, 1996; Cropanzano et al., 1997; Greenberg, 1990; Holt, 1982; Mikkelsen et al., 1998; Pool, 1999; Work habits, 1997). Many of these same ideas have also been linked in the research literature with the

implementation of transformational change (e.g., Duck, 1993; Kotter, 2002; Strebel, 1996). Similarly, higher levels of each of these conditions (i.e., greater job insecurity, poor labour-management relations, poor communication, etc.) have also been shown to increase the probability that employees will have a negative view of the organization and/or unfavourable attitude toward change (e.g., Judson, 1991; Michael & Lawson, 2000; Sullivan et al., 2002; Zander, 1950). Furthermore, there is some evidence that job stress might be associated with such counterproductive organizational outcomes as antagonistic employee behaviours (e.g., spreading rumours, doing inferior work on purpose, damaging equipment), reduced organizational commitment, alienation from the organization, and absenteeism (Cropanzano et al., 1997; Holt, 1982; Pool, 1999). These are behaviours that the literature reports to typify resistance to change. Bowman and Stern (1995), on the other hand, claimed that people who can better cope with stress are more likely to form a favourable attitude toward change. This body of literature supports the following hypothesis: job stress will be 1) negatively correlated to commitment to change and perceived organizational readiness for change, and 2) positively correlated to resistance to change and perceived organizational unreadiness for change. Again, significant correlations indicate high predictive validity of the measures.

Face validity refers to the extent to which a scale looks like it measures what it is intended to measure. According to Nunnally (1978), the researchers and/or the users of the measures apply their judgments about the instrument after it is constructed. Though

not the scientifically soundest procedure, all the new measures were examined for face validity.

Although the four types of measurement validity have been assessed separately, they tend to complement each other in practice (Nunnally, 1978). Therefore, a good measure should meet the requirements of content, construct, predictive, and face validity.

4.4. Analysis used to empirically evaluate the theoretical framework

Apart from the development and validation of two groups of new measures, this study also sought to empirically evaluate the conceptual model presented in Figure 1 of Chapter 2. This section is organized into seven parts that introduce the methodology applied to seek answers to the research objectives and questions related to model evaluation. First will come the description of the steps taken to determine if 1) attitudes toward change form a continuum ranging from commitment to resistance and 2) perceived organizational readiness and unreadiness for change are two distinct constructs or two poles on the same continuum. Analytical tools used to establish the relationship between employees' attitudes toward change and their perceptions of organizational readiness for change will be presented in part two. This will be followed by a description of the techniques used to assess the relationship between job type and 1) the prototypicality ratings of the behaviours typifying attitudes toward change, 2) the prototypicality ratings of the behaviours typifying perceptions of organizational PORC/POURC for change, 3) attitudes toward change as assessed using the measures

developed in this thesis, 4) perceptions of organizational PORC/POURC for change as assessed by the measures developed in this thesis, and 5) individual dispositions. Part four will present a discussion of the techniques used to establish the impact of individual dispositions on employees' attitudes toward change and their perceptions of organizational PORC/POURC for change. Part five will describe the procedures used to establish if job type and individual dispositions moderate the relationship between PORC/POURC and attitudes toward change. Procedures to explore if PORC/POURC mediates the relationship between individual dispositions and attitudes toward change on the one hand and job type and attitudes toward change on the other will be discussed in part six. The methodology section will conclude with a discussion of statistical tools used to determine the relative importance of PORC/POURC, individual dispositions, and job type in predicting employees' attitudes toward change.

4.4.1. Continuums of attitudes toward change and PORC/POURC

The literature presents two alternative views with respect to attitudes toward change. Most authors have treated resistance to change and its acceptance as separate constructs. While some authors have discussed strategies designed to increase acceptance of change (e.g., Beer, Eisenstat, & Spector, 1990; Nadler & Tushman, 1989), others have offered tools to reduce resistance (e.g., Ansoff, 1988; Kotter & Schlesinger, 1979; Zaltman & Duncan, 1977). On the other hand, Coetsee (1999), Johnson (1992), and Judson (1991) suggested that resistance and commitment to change were two poles on the same attitude continuum. None of the authors, however, have attempted to empirically test the

relationship between commitment and resistance. Research Question #3 was aimed at resolving this dilemma.

A similar argument can be made with regard to perceptions of organizational PORC/POURC for change. While on the one hand, it could be logically assumed that perceptions of organizational readiness and unreadiness for change might form a continuum, they might also be two distinct constructs. While there is no empirical support for either proposition in the literature, Eby et al. (2000) have suggested that these perceptions might best be described using a continuum. This issue was addressed by Research Question #4.

Two methodological approaches were used to answer these two research questions. First, an attempt was made to apply the story telling methodology Herzberg (1959) used to develop his two-factor (i.e., satisfier – dissatisfier) theory. His work was based on content analysis and critical incidents. The author examined all the reported items typifying employee satisfaction and dissatisfaction with their work for their similarities and differences. He originally hypothesized these two constructs as opposite poles on a continuum and expected to find similar items to typify both attitudes. He did, however, expect the sign to differ (e.g., good pay would be associated with work satisfaction, but poor pay with dissatisfaction). In his research, however, he found that items that described satisfaction were quite different from those describing dissatisfaction. This led

Herzberg to conclude that work satisfaction and dissatisfaction were two distinct constructs.

In this study, the storytelling methodology was applied as follows, First, interview responses (AFA Stage I) and then the prototypicality rating survey (AFA Stage II) results were content analyzed to see if there were any parallel patterns in the nominated behaviours typifying 1) employees' commitment and resistance to change and 2) organizations that employees perceived to be ready for change and those that they perceived not to be ready for change. This was done as follows. First, all the nominated behaviours (AFA Stage I results) were analyzed. In the case of attitudes toward change, all the behaviours typifying commitment were compared to those typifying resistance in an attempt to identify pairs of behaviours that would be very similar, but oppositely directed. In the case of PORC/POURC, the groupings of the nominated organizational actions were compared. Themes of behaviours describing organizations that were perceived to be ready for change were sought that corresponded to the themes of actions describing organizations that were perceived not to be ready for change. Next, the employees' behaviours typifying their resistance and commitment to change were compared after they were rated for their prototypicality (AFA Stage II results) to see if at this stage a continuum of attitudes could be established. Similarly the groupings of actions typifying organizations that were perceived to be ready for change and organizations that were perceived not to be ready for change were compared.

There would be some grounds to believe that commitment and resistance were two poles on a continuum if these attitudes were manifested by similar employee behaviours that were oppositely directed. Similarly, perceived organizational readiness and unreadiness for change would be two poles on a continuum if they were described by similar organizational actions that were oppositely directed. It should be admitted, however, that although this approach might suggest that a continuum of attitudes toward change exists, it would not provide sufficiently substantial grounds to give an ultimate answer to the research question.

As Herzberg's storytelling approach was later criticized by Vroom (1964) and House and Wigdor (1967) as insufficiently rigorous, we supplemented the analysis in this thesis with additional analysis based on the quantitative results of the AFA Stage III survey. Correlations between commitment and resistance scores and between scales (factors) describing organizations that were perceived to be ready for change and those describing organizations that were perceived to not be ready for change were examined. Uncorrelated scales (i.e., correlation close to zero) would suggest that commitment/resistance and readiness/unreadiness were dichotomous variables. On the other hand, strong negative correlation (i.e., correlation close to -1) would suggest that these attitudes were two poles on the same continuum.

4.4.2. Relationship between employees' attitudes toward change and PORC/POURC

Research Question #5 inquired about the relationship between employees' attitudes toward change and their perceptions of organizational readiness for change. The question consisted of two parts addressing two types of relationships: 1) simple association between PORC/POURC and employees' attitudes toward change (Research Question #5a) and 2) the ability of PORC/POURC to predict employees' attitudes toward change (Research Question #5b). Two approaches were used to examine these relationships: correlation and regression analyses. These procedures are described below.

Correlation analysis was used to explore the simple associations between the scales and subscales measuring employees' commitment and resistance on the one hand, and those measuring PORC/POURC on the other hand. To reduce the possibility of false significance of coefficients, a corrected alpha was calculated using the interactive statistical analysis table mentioned previously (see Section 4.2).

Correlation coefficients measure the strength and direction of the relationship between two variables, but they do not imply causality. Nor do they allow us to establish the relative importance of designated predictors. To this end, regression analysis was also used to examine the relationship between these two groups of measures.

To run the regression analysis, the dependent (DV) and independent variables (IV) had to be first established. As pointed out by Allison (1999), sometimes the direction of

causation cannot be inferred from the data, and the decision has to be based on the researcher's knowledge of the subject matter which is grounded in theory. Although in this case it could be hypothesized that the relationship between employees' attitudes toward change and PORC/POURC might be reciprocal, the literature does not support this idea. Instead, Armenakis et al. (1993) and Eby et al. (2000) have hypothesized that perceptions of organizational context (i.e., PORC/POURC) might affect employees' attitudes toward change. Accordingly, multiple regression analyses were run with attitudes toward change as the DVs and the PORC/POURC factors as the IVs.

Before the regression was run, the IVs were inspected for the presence of multicollinearity which can affect parameter estimates, inflate the variance in standardized coefficients and their standard errors, overestimate the model effect size, and diminish the power of the test (Agresti & Finlay, 1997; Darlington, 1968; Hocking, Speed & Lynn, 1976; Hoerl & Kennard, 1970a; Tate, 1988). In addition, as Sujan (1984) has pointed out, the inflated standard errors of estimated parameters caused by multicollinearity may make the estimates insignificant at the usual alpha levels even though their coefficients are high.

In some cases, multicollinearity can be resolved by removing an IV that has high correlations with other explanatory variables, but when this procedure is not appropriate (as in this case), a number of researchers (e.g., Hocking et al., 1976; Hoerl & Kennard, 1970b; Sujan, 1984; Thomas et al., 1998; Walker, 2004) have suggested adding a small

positive constant k ($0 < k < 1$) to the diagonal terms of the predictor intercorrelation matrix $X'X$ and then run a regression. The resulting procedure is referred to as “ridge regression.” Consequently, the biased ridge estimator is defined as:

$$\beta^* = (X'X + kI)^{-1} X'Y$$

where $X'X$ is the predictor intercorrelation matrix, $X'Y$ is the predictor criterion correlation vector, and I is the p -dimensional identity matrix (p = number of predictors). Hocking et al. (1976), Hoerl and Kennard (1970b), Sujan (1984), Thomas et al. (1998), and Walker (2004) reported studies where ridge regression with an introduced small bias minimized the mean standard error of parameter estimates thus increasing their accuracy and providing better predictive power than ordinary least squares. Ridge regression rather than ordinary least squares was therefore applied in this study.

For the purpose of ridge regression, the value of constant k had to be chosen. Thomas et al. (1998) have indicated that this can be a challenge. Although there exist several sophisticated computational techniques to guide the researcher with respect to this issue, according to Wetherill et al. (1986), one popular although subjective method is the inspection of the “ridge trace,” a graphical technique of plotting β^* against k for increasing values of k . The technique has been demonstrated in detail by Hoerl and Kennard (1970a). According to this technique, a value of k is chosen at the point where the system starts stabilizing (i.e., where the slopes level out) (see Appendix G). The following values of k were chosen for use in this thesis:

- in the regression with “Spreading the change” as the dependent variable, $k = .35$,

- in the regression with “Implementing the change personally” as the dependent variable, $k = .5$, and
- in the regression with “Voicing concerns about the change” as the dependent variable, $k = .5$.

Next, in each multiple regression equation, the coefficient of multiple determination (i.e., R^2) was examined to establish the proportion of variance in the DV (i.e., each attitude toward change) that the IVs jointly accounted for. The F-statistic was used to assess the overall significance of the model (Lewis-Beck, 1908). Although higher values of R^2 were desirable, the researcher followed Allison’s (1999) advice not to recklessly reject models with smaller R^2 .

Two techniques were used in this thesis to compare the unique impact of each of the IVs on the DV when other IVs were held constant: 1) standardized ridge regression coefficient (or beta weight) and 2) standardized Pratt’s measure. The beta weight is the average amount the DV increases when the IV increases one standard deviation and other IVs are held constant (Garson, n.d.). While frequently used, betas may underestimate the importance of a variable which makes a strong joint contribution to explaining the dependant variable since betas reflect only the unique contribution of each IV (Garson, n.d.). Accordingly, a second technique which addresses this drawback was used in this thesis. Thomas et al. (1998) referred to this as “Pratt’s measure”. Pratt’s measure “gives each independent variable an importance proportional to the product of its beta

coefficient and its correlation with the dependent variable” (Pratt, 1987, p.246). This measure overcomes the drawbacks associated with the use of the beta weight as each predictor’s contribution is based on its simple correlation with the criterion and also on its correlations with all predictors in the model. Furthermore, Thomas et al. (1998) elaborated on the measure and demonstrated that its standardized version called “standardized Pratt’s measure” (p.260) introduced even more interpretability. The measure is a sample estimate of Pratt’s measure, divided by the total variance explained and is expressed in the form $d_j = \beta_j \rho_j / R^2$, $j = 1, \dots, p$ where β is the beta weight, ρ is the correlation coefficient, and p denotes the number of predictors. All standard Pratt’s measures of the model sum up to 1.

In this research, beta weights from the ridge regression were utilized to calculate standardized Pratt’s measures. Pratt’s measures indicate the magnitude of variable importance relative to other IVs in the given model. They do not, however, imply the statistical significance of the IVs. Therefore, variables were also inspected for significant beta weights and correlations ($\alpha \leq .05$). When ranking according to beta weights and standard Pratt’s measures differed, the decision on the relative importance of a variable was guided by the value of Pratt’s measure. The direction of influence of each variable was, however, judged on the basis of beta weights, as Pratt’s measure should always be positive to be interpretable. Finally, it is important to note that both Pratt (1987) and Thomas et al. (1998) have warned that Pratt’s measures might sometimes be negative due to the opposite signs of correlation and regression coefficients. Typically this occurs when

the sign of the regression coefficient (beta weight) is affected by interactions between the IVs. According to the authors, such situations indicate the presence of a suppressor variable which does not contribute to the regression by itself, but does so only in conjunction with some other explanatory variables. Negative Pratt's measures are for all practical purposes uninterpretable (Cascio, 1991; Thomas et al., 1998).

4.4.3. Impact of job type on variables in the model

Three research questions were posed to explore the relationships between job type (i.e., managers versus non-managers) and other variables in the model. Research Question #6 inquired about the association between job type and attitudes toward change as assessed using the measures developed in this thesis. Similarly, Research Question #7 pertained to the association between job type and PORC/POURC as assessed using the measures developed in this thesis. Finally, Research Question #8 inquired about the association between job type and individual dispositions.

The same technique was used to answer Research Questions #6, #7, and #8 as follows. First, the total sample was divided into two subsamples: managers (N = 235) and non-managers (N = 347). Second, the mean scores and standard deviations were calculated for attitudes toward change, the PORC/POURC factors, and each of the four individual dispositions for both subsamples. Finally, independent-sample two-tailed t tests for equality of means were used to determine if differences between the groups were significant. For all three groups of tests, the level of alpha was corrected using a partial

Bonferroni adjustment technique to reduce the possibility of spurious results as outlined in Section 4.2. Between-group differences significant at the adjusted α were identified.

4.4.4. Impact of individual dispositions on variables in the model

Two statistical procedures were used to answer Research Question #9 which asked about the relationship between individual dispositions (i.e., tolerance for ambiguity, positive/negative affectivity, and locus of control) and attitudes toward change. First, to see if a simple association exists between both constructs, the means of the four individual dispositions were correlated with the mean scores of the subscales (factors) of the newly developed measures of attitudes toward change. In addition, to control for a possible job type confound (preliminary analysis suggested an association between job type and individual dispositions), the sample was split into two subsamples (managers and non-managers), and all correlations were repeated. To avoid spurious results that may happen in cases of multiple tests (as explained in Section 4.2), the alpha level was lowered using the Bonferroni adjustment technique.

Second, to examine the extent to which individual dispositions could predict attitudes toward change and PORC/POURC, regression analysis was used. Before running the regressions, the correlation matrix of individual dispositions was examined for high coefficients that would indicate multicollinearity. Since in this case, multicollinearity did not seem to be a problem, ordinary least squares regression was run.

In the regression analysis, the attitudes toward change factors were used as the DVs while individual dispositions were used as the IVs. To control for job type, it was also included as an IV in all the regression equations. Since job type was only included as a control variable in the regressions, it was not interpreted separately from other IVs. Finally, to obtain a more detailed insight into the impact of job type on the causal relationship between individual dispositions and the DV (i.e., attitudes toward change), separate regression analysis was run with subsamples based on job type (Garson, n.d.) and differences in R^2 examined. Further insights were gained by calculating Pratt's measure for all regressions using the manager sample and comparing these to the Pratt's measures calculated for these regressions using the non-manager subsample. Differences in relative importance of the IVs with significant beta weights between these two subsamples were noted. Regression data were analyzed using the procedures described in Section 4.4.2.

The same set of statistical procedures was used to answer Research Question #10 which asked about the relationship between individual dispositions and PORC/POURC.

4.4.5. Prediction of attitudes toward change

The conceptual model developed in this research (see Figure 1 in Chapter 2) proposed the following relationships among the variables involved:

- employees' attitudes toward change are related to PORC/POURC, individual dispositions, and job type and
- PORC/POURC is related to individual dispositions and job type.

It is not, however, clear from the literature what exactly the relationship is between the three variables (i.e., PORC/POURC, attitudes toward change and job type/individual dispositions). Theoretically, two patterns of relationships can be hypothesized:

- 1) individual dispositions/job type moderate the relationship between PORC/POURC and attitudes toward change (Research Questions #11a and #12a respectively),
- 2) PORC/POURC mediates the relationship between individual dispositions/job type and attitudes toward change (Research Questions #11b and #12b respectively).

It should be noted that these relationship patterns are not mutually exclusive. Either or both of them might be found in the data. Furthermore, if PORC/POURC does not fully mediate the relationship between individual dispositions/job type and attitudes toward change, PORC/POURC and individual dispositions/job type each may affect the attitudes in a straightforward fashion. In such a case, it is useful to know what affects the attitudes to a higher degree: PORC/POURC or the dispositions, or job type. These issues are addressed in Research Question #13. Statistical procedures to test these hypotheses/issues are described in the following three subsections.

4.4.5.1. Job type and individual dispositions as moderators of the relationship between PORC/POURC and attitudes toward change

Moderation implies that “the causal relationship between two variables changes as a function of the moderator variable” (Baron & Kenny, 1986, p.1174). In other words, the ability of PORC/POURC to predict attitudes toward change might vary depending on an employee’s personality and/or his or her position in the organization. In Figure 1 (Chapter

2), the moderation effect can be represented by the combination of paths *a*, *e*, and *f* (dispositions as moderators) and paths *a*, *c*, and *d* (job type as a moderator).

This hypothesis can be tested using linear regression analysis. Regressions were run for each of the attitudes toward change factors two times. First they were run with attitudes as the DV and the PORC/POURC factors and the four individual dispositions as the IVs. In the second set of regressions, the interaction (i.e., product) terms between PORC/POURC factors and individual dispositions were added to the IVs (Baron & Kenny, 1986). The moderation model (i.e., the scheme of regression variables) is graphically shown in Figure 10.

Figure 10. The scheme of regression variables to determine the moderation effect of individual dispositions.

Prior to running the regressions, precautions had to be taken against multicollinearity within the set of the IVs. As a rule, in such models, the interaction terms are highly

correlated with their component parts (Jaccard & Turrissi, 2003). To avoid this type of multicollinearity, as suggested by Garson (n.d.) and Jaccard and Turrissi, the predictor and moderator variables were centered (i.e., the mean subtracted from each variable) prior to forming the product terms. Furthermore, to reduce the multicollinearity among other IVs, the ridge version of the linear regression was used. The procedure of ridge regression was described in Section 4.4.2. The values of k used in each regression were also presented in this section.

In all cases, the values of R^2 and unstandardized regression coefficient b were identified. The moderation effect would be true overall if the predictability of attitudes toward change increased when one added the interaction terms to the model (i.e., the difference in R^2 between models with and without interaction terms was significant). Since ridge regression does not allow one to run a hierarchical regression to obtain the F statistic of the change in R^2 when the interaction terms are introduced in the model, the value of this F statistic was calculated as follows (Jaccard & Turrissi, 2003):

$$F = \frac{(R_2^2 - R_1^2)/(k_2 - k_1)}{(1 - R_2^2)/(N - k_2 - 1)}$$

where R_2 comes from the equation with the interaction terms, R_1 comes from the original equation without the interaction terms, k_2 is the number of predictors in the equation with the interaction terms, k_1 is the number of predictors in the original equation, and N is the total sample size. The resulting F is distributed with $k_2 - k_1$ and $N - k_2 - 1$ degrees of freedom.

When the overall moderation effect was established, it was checked to see if each particular interaction was significant (path *c* in Figure 10). In the equations with interaction terms included, a significant *b* value for an interaction term indicated that the particular disposition moderated the relationship between the DV (the respective attitude factor) and the PORC/POURC factor that constituted the given interaction term. It was expected that in an overall moderated model, not every interaction might be significant. Also, in a model without a moderation effect, it would be informative to check to see if any of the interaction effects is significant. Given the large number of variables involved in these equations, the significance was tested at an alpha level of .01.

The same procedure as described above was used to answer Research Question #11b regarding the extent to which job type moderates the relationship between PORC/POURC and attitudes toward change. In this case, instead of individual dispositions, the regression equations included job type as a moderator variable and interaction terms between PORC/POURC and job type.

4.4.5.2. PORC/POURC as a mediator of the relationship between individual dispositions/job type and attitudes toward change

Mediation implies that attitudes toward change might not be determined directly by individual dispositions or job type but rather through their impact on PORC/POURC which in its turn determines attitudes toward change (Baron & Kenny, 1986; Research Design and Analysis Unit, n.d.). In Figure 1 (Chapter 2), paths *e*, *f*, and *a* (individual

dispositions) and paths c , d , and a (job type) represent the mediation effect. In this model, individual dispositions/job type were treated as IVs, attitudes toward change as DVs, and factors of PORC/POURC as mediator variables (MV). The mediation effect (i.e., the scheme of regression variables) with individual dispositions as the IV is graphically shown in Figure 11.

Figure 11. The scheme of regression variables to determine the mediation effect of PORC/POURC between individual dispositions and attitudes toward change.

The question was answered using two steps. First, the mediated regression methodology as explained by Research Design and Analysis Unit of Monash University, Australia (Research Design and Analysis Unit, n.d.) was used to see if the factors of PORC/POURC would collectively mediate the relationship between individual dispositions and each attitude toward change subscale. According to this methodology, four criteria have to be met to claim that PORC/POURC fully mediates the relationship between dispositions and attitudes:

1. The IV (dispositions) should significantly predict the MV (PORC/POURC),
2. The MV (PORC/POURC) should significantly predict the DV (attitudes),
3. The IV (dispositions) should significantly predict the DV (attitudes),
4. The IV (dispositions) should not significantly predict the DV (attitudes) after the MV (PORC/POURC) is controlled for.

Predictions were established using simple linear regressions. In cases where the set of the IVs included PORC/POURC, ridge regression was used to reduce multicollinearity (see Section 4.4.2.). In all cases, R^2 and its significance level were identified to establish the significance of each prediction (at $\alpha \leq .05$).

In the final step, the difference in R^2 was calculated between the model used to test the third criterion (i.e., attitudes toward change regressed on individual dispositions) and the model used to test the fourth criterion (i.e., attitudes toward change regressed on individual dispositions controlling for PORC/POURC). The F statistic for ΔR^2 was calculated using the formula presented in Section 4.4.5. An insignificant difference in R^2 would indicate that individual dispositions and the PORC/POURC factors together do not predict attitudes toward change more effectively than the PORC/POURC factors alone. PORC/POURC factors then would be said to fully mediate the relationship between individual dispositions and attitude toward change.

Depending on the degree to which the four criteria are met, there are three possible outcomes to this analysis:

- If all four criteria are met, PORC/POURC fully mediates the relationship between individual dispositions and attitudes toward change,
- If at least one of the first three criteria is violated, the association among the variables involved is not strong enough, and mediation cannot be established,
- If the first three criteria are met, but the last one violated (the case in this thesis), PORC/POURC might partially mediate the relationship between individual dispositions and attitudes toward change. In this case, further analysis would be warranted.

To further explore the nature of relationships among the variables in the mediation model, it was necessary to test it for partial mediation. For this purpose, the methodology described by Kenny (1993) was used. This methodology was explained in greater detail by Baron and Kenny (1986) and MacKinnon and Dwyer (1993). Again, regression results were examined against four criteria. The following criteria had to be met to establish a partial mediation effect:

- the IV (dispositions) should significantly predict the DV (attitudes),
- the IV (dispositions) should significantly predict the MV (PORC/POURC),
- the MV (PORC/POURC) should significantly predict the DV (attitudes) controlling for the IV (dispositions),
- the IV (dispositions) should not significantly predict the DV (attitudes) controlling for the MV (PORC/POURC).

This methodology requires that the number of simple linear regressions being run equal the number of all variable combinations in the analysis.

In this step of the analysis, the following regression parameters were examined: unstandardized regression coefficient b , its standard error, t statistic, and its significance level. Depending on the degree to which the above criteria are met, there are two possible outcomes to this analysis:

- If all four criteria are met, PORC/POURC is partially mediating the relationship between individual dispositions and attitudes toward change,
- If any of the first three criteria is not fulfilled, it indicates that PORC/POURC is not partially mediating the relationship between individual dispositions and attitudes toward change,
- If the first three criteria are met, but the last one is violated, the presence of a partial mediation needs to be assessed with Sobel test as described below.

The Sobel test has been created to assess the presence of partial mediation in a model. In such a case, both the z -value and its significance level need to be examined (Preacher & Leonardelli, 2001)¹. In this analysis, the test was run with the help of an interactive calculation table provided by Preacher and Leonardelli. In this case, a z -value which is significant at $\alpha \leq .05$ indicates that PORC/POURC partially mediates the relationship

¹ The Sobel test is calculated as follows: $z\text{-value} = a*b/\text{SQRT}(b^2*s_a^2 + a^2*s_b^2)$ where a is the unstandardized regression coefficient for the association between IV and mediator, b is the unstandardized regression coefficient for the association between the mediator and the DV (when the IV is also a predictor of the DV), S_a is the standard error of a , and S_b is the standard error of b (Preacher & Leonardelli, 2001).

between the given individual disposition and the given attitude toward change.

The procedures described above were also used to explore if PORC/POURC mediates the relationship between job type and attitudes toward change. In this case, job type was used as the IV in all the equations.

4.4.7. Relative importance of individual dispositions and PORC/POURC in predicting employees' attitudes toward change

As noted in Section 4.4.6, the literature has proposed that perceived organizational readiness for change, individual dispositions, and job type may all determine employees' attitudes toward change. In this research, the relative importance of these two predictors of attitudes toward change was explored to seek answers to Research Question #13. Regression analysis was used to answer this question. The number of regressions calculated equals the number of attitudes toward change scales that were designated as the DVs. In each case, four individual dispositions and the factors of PORC/POURC were used as the IVs and were entered all together in one model. All regressions were controlled for job type as it was hypothesized to affect employees' attitudes toward change and their perceptions of organizational readiness for change. In these analyses, ridge regression was again run to reduce the impact of multicollinearity (see Section 4.4.2 for a complete explanation of this procedure). The values of k used in these analyses were the same as reported previously. The selection of k values was also described in Section 4.4.2.

To have a better insight into the effect job type might have on the ability of PORC/POURC and individual dispositions to predict employees' attitudes toward change, the sample was split into two subsamples based on job type, and the regressions outlined above calculated for the job type subsamples.

Regression outputs were interpreted as described in Section 4.4.2. Finally, R^2 values were compared with those obtained in the previous models (i.e., regressions run with individual dispositions and PORC/POURC separately) to see if adding more IVs notably increased the proportion of variance accounted for.

Chapter 5: Description of samples

This chapter provides background information on the samples involved in the study and evaluates the measures included in the survey instrument. The chapter is divided into two sections. The first section will provide relevant information on the samples. The second section will provide reliability data on the organizational outcomes (i.e., POS and job stress), and individual dispositions (i.e., tolerance for ambiguity, affectivity, and locus of control). Two sets of reliability data will be presented for each of these measures: as reported in the literature and as calculated from the data collected for this study.

5.1. Research sites and samples

This section will introduce the research sites and provide the rationale behind their selection. This will be followed by a discussion of the demographic characteristics of the three samples used in various stages of the AFA framework. Additional details will be given on the sample used in Stage III. In addition to basic demographics, the Stage III sample will also be described with respect to their score on POS and job stress considered in this analysis. Significant between-group differences within each demographic category will be identified.

5.1.1. Selection of research sites and samples

All of the organizations that participated in this study were public sector departments which had launched transformational change initiatives in the two years prior to this research. Each of the departments involved in this study were involved in a cultural change initiative. While confidentiality agreements with each of the participating

departments limit the amount of detail that can be disclosed with respect to these changes, it is possible to talk generally about the types of transformational change that have taken place in these organizations. In several organizations, change coincided with the shift in the strategic direction of the whole department toward a higher degree of transparency of their policies and actions, more information sharing, improvement of their service to the public, involvement of external stakeholders, and collaboration with other departments. The new direction involved change in the scope of authority of many structural units and their managers and a shift from a command and control management style toward staff involvement in planning and implementation of these plans. Employees had to acquire negotiation and cooperation skills and a new view on the role of the department. One organization had started a structural change that involved centralization of their services under one authority to optimize their resources and services. This direction also involved changes in the reporting relationships, scope of authority, decision making power, importance of individual units, and skill set of many professionals (i.e., added need for managerial skills). Some organizations had started initiatives to become healthier workplaces. They sought to improve work practices to eliminate overtime and become more efficient and effective. Managers at all levels were given more power to accommodate the needs and work-life balance of their staff, and senior management sought new ways of direct communication with the whole staff, introduced new policies, and required accountability at all levels.

Five different public sector organizations participated in the research. All five organizations, however, did not participate in all three stages of the study. Due to the

lengthy process of obtaining approvals, the interview stage (i.e., Stage I) was undertaken only in three organizations. A fourth public sector organization joined the study in Stage II. In Stage III, one of the initial participating organizations chose to discontinue their involvement (due to a change in leadership), while a fifth public sector department completed the approval process and joined the study. An overview of which organization participated in which stage of the research can be seen in Table 5.

	Stage I	Stage II	Stage III
Organization 1	X	X	
Organization 2	X	X	X
Organization 3	X	X	X
Organization 4		X	X
Organization 5			X

Table 5. Public sector organizations participating in the different stages of this research.

There are a number of factors behind the decision to focus our study on public sector organizations. First and foremost, the public sector is currently undergoing significant changes with respect to services they provide, the structure of internal operations and management, and the organizational culture. As such they meet the key selection criteria noted above (i.e., they had undergone transformational change in past two years). Second, since the study took place in Ottawa, these organizations were highly available and easily reachable. Third, by choosing one sector (as opposed to studying both public and private sector organizations), we were able to limit the influence of various environmental factors that might affect the nature of change, organizational members' perceptions of organizational readiness for change and their attitudes toward change (i.e.,

control for possible confounds). Finally, very few empirical studies of change management issues in the public sector have been undertaken to date. As such this study contributes to our knowledge in this area and provides tools and insight to guide managers' efforts to introduce and manage change in this sector.

This research started with the identification of public sector organizations that had undergone transformational change in the past two years. Senior management of these public sector organizations was then approached and asked to give permission for their organization to participate in the study. In organizations where the permission was granted, a contact person was appointed who arranged interviews with two to three change agents. As noted earlier, these interviews allowed the researcher to gather background information on the change initiatives these organizations had launched. After the introductory interviews, the research design required three different samples. Samples were drawn as outlined in Table 5.

An invitation to participate in Stage I of the research (i.e., act nomination) along with the information on this study and a guarantee of confidentiality of individual responses was circulated in organizations 1, 2, and 3 via their internal information network. To ensure a balanced representation of managerial and non-managerial employees, volunteers were stratified by their job type. Volunteers were contacted by phone or e-mail to schedule the interview. The interviews took up to one hour to complete.

Information on Stage II and Stage III of the research along with an invitation to participate and a guarantee of confidentiality was disseminated in the participating organizations in a similar manner (i.e., via their internal information network). The link to the Stage II and Stage III web-based surveys were included in these information mail-outs. Follow-up e-mails were sent two weeks after the initial information package on this study was disseminated.

5.1.2. Stage I sample description

Eighty-eight employees from three participating organizations participated in Stage I. The sample broke down as follows:

- 59% of the sample were men, and 41% were women,
- 39% of the sample held a managerial position (director, manager or team leader), while 61% were non-managerial employees (professionals, administrative/clerical or operational job holders).

These employees were equally distributed across the three participating departments.

5.1.3. Stage II sample description

The Stage II survey consisted of three sets of items pertaining to 1) attitudes toward change, 2) organizational readiness for change, and 3) organizational unreadiness for change. As explained in Section 4.2.3.1 of the Methodology chapter, the fact that the Stage II survey was so long meant that we needed to break it down into its component parts and have different groups complete different parts of the survey. While all four organizations were asked to fill out the items associated with attitudes toward change,

two organizations were randomly assigned to complete actions associated with perceived organizational readiness for change, and the other two organizations the section on organizational actions associated with unreadiness for change. Overall, 231 respondents submitted the filled-out surveys. It should be noted that in some cases respondents completed one part of the survey but not the other. As long as the demographic section was also completed we included these data in our analysis. Ultimately, the retained 178 respondents were allocated as shown in Table 6.

Survey components	Org.1	Org.2	Org.3	Org.4	N
Attitudes toward change behaviours	X	X	X	X	106
Organizational readiness for change behaviours	X		X		98
Organizational unreadiness for change behaviours		X		X	80

Table 6. The Stage II sample.

The demographic composition of the samples which rated the three groups of survey items is shown in Table 7. A comparison of the demographic data on the sample to that of the participating departments shows that the sample is representative of the overall demographic composition of the population. The organizations were allowed to tailor the demographic questions on the survey so that the job type classifications corresponded to the terms used in each organization. This decision did not, however, impact our analysis as we only looked at two job types in this thesis (i.e., managers and non-managers) (see Table 7).

	Attitudes toward change behaviours	Organizational readiness for change behaviours *	Organizational unreadiness for change behaviours *
Gender			
Male	57%	51%	51%
Female	43%	45%	46%
Job type			
Directors and managers	19%	23%	14%
1 st line supervisors	21%	39%	16%
Professionals	48%	28%	53%
Admin/clerical and operational employees	12%	6%	15%
Supervision			
Supervise others	50%	55%	41%
Do not supervise others	50%	41%	56%

* Percentages do not add up to a 100% due to rounding and missing values in the data set.

Table 7. Stage II sample demographics.

5.1.4. Stage III sample description

Seven hundred and forty-two respondents from four participating organizations submitted filled-out on-line Stage III surveys. Surveys that were incomplete (n = 159) were excluded from the analysis. Table 8 shows the demographics of the 583 respondents retained in the sample. Since the unit of analysis was the individual rather than the organization, data at the organization level are not reported in this thesis.

The sample was well distributed with respect to the demographic variables of interest. It is also representative of the public sector with respect to gender, age, years of service, and job type suggesting that the findings of the study can be generalized to the participating organizations as well as the public sector at large.

Gender		Age	
Male	41%	25 years and less	4%
Female	59%	26-35 years	25%
Job type		36-45 years	33%
		46-55 years	31%
		56 years and more	7%
Directors + managers	12%	Years of service	
1st line supervisors	31%		
Professionals	34%		
Administrative + operational employees	23%	Less than 1 year	11%
Supervision		1+ - 5 years	33%
		5+ - 10 years	13%
		10+ - 20 years	23%
		More than 20 years	20%
Supervise others	50%		
Do not supervise others	50%		

Table 8. Stage III sample demographics.

5.1.5. Sample description with respect to the outcome variables

As noted previously, two organizational outcome variables (i.e., POS and job stress) were included in the final survey to validate the newly developed measures. The total sample can also be described in terms of their scores on these variables. Data (i.e., means and standard deviations) with respect to POS and job stress are presented in Table 9 below.

Data are given for the total sample and for manager and non-manager subsamples.

Between-group differences in these constructs were examined using t tests.

	POS					Job stress				
	mean	SD	t-test	df	p	mean	SD	t-test	df	p
Overall	3.15	.926				3.10	.907			
Mgrs.	3.22	.977	1.484	580	.138	3.21	.869	2.495	580	.013
Nonmgrs	3.11	.888				3.02	.925			

Table 9. Sample demographics with respect to outcome variables.

Overall, public servants felt that their organization was moderately supportive of their needs and interests (mean POS = 3.15) with quite a high degree of variability in their opinions (standard deviation = .926). POS was not associated with job type.

Public servants also reported a moderate level of job stress (mean = 3.10). Similar to the perceptions of organizational support, the degree of the stress level varied across the sample (standard deviation = .907). Managers reported higher levels of job stress than non-managers.

5.2. Reliability of the outcome measures

To validate the new measures with the help of established ones, it is important that the measures used as criteria are themselves reliable. This would appear to be the case in this study. Table 10 below summarizes the reliability level of job stress and POS measures as reported in the literature and those found in this study. The POS coefficients found in several studies (e.g., Eisenberger et al., 1990; Szamosi, 1999; Wayne et al., 1997) ranged from .74 to .95. This study confirmed its high reliability (Cronbach's alpha = .95). Findings with respect to the job stress measure are equally reassuring. Murphy (2000)

reported a Cronbach's alpha .85 using this measure that is similar to the value determined using this sample (.83). From these data we can conclude that outcome measures used in this thesis are internally consistent and reliable.

Measures	Literature	This study
Perceived organizational support	.74 - .95	.95
Job stress	.85	.83

Table 10. Reliability coefficients (Cronbach's alpha) of the outcome measures.

5.3. Reliability of the individual disposition measures

With the help of the final survey, measures of individual dispositions were also tested for their reliability. Table 11 below summarizes the reliability levels of individual disposition measures as reported in the literature and those found in this study. The alpha coefficients calculated for the affectivity measures used in this study were very close to those generated by the previous studies. For positive affectivity, the Cronbach's alpha for this study was .92 (versus .86-.90 in the literature). The Cronbach's alpha for negative affectivity was .89 (versus .84 - .87 in the literature). The reliability of the locus of control measure was also in the acceptable range - .72 (versus .75 - .85 in the literature). No reliability data of the tolerance for ambiguity measure were available in the literature. Calculations using this data set gave us a Cronbach's alpha coefficient of .65 which is slightly below the desirable level of .70 recommended by Nunnally (1978), Davis (1996), and Cascio (1991). Given, however, that Cascio noted there is no fixed value below which reliability is unacceptable, the measure was considered usable for this thesis. These data support the following conclusion: the measures used to quantify individual dispositions in this thesis are internally consistent and reliable.

Measures	Literature	This study
Tolerance for ambiguity	Not available	.65
Locus of control	.75 - .85	.72
Positive affectivity	.86 - .90	.92
Negative affectivity	.84 - .87	.89

Table 11. Reliability coefficients (Cronbach's alpha) of the individual disposition measures.

Chapter 6: Developing measures of individual attitudes toward change

This chapter will discuss the development and validation of measures of individual attitudes toward change. This chapter is divided into four major sections that follow the methodological framework of the Act Frequency Approach (AFA). First, the nomination of behavioural acts associated with individual attitudes toward change will be described. Second, analysis and results of the prototypicality rating of the nominated acts will be presented. The third and largest section of this chapter will show the outcomes of the statistical analysis performed on the attitudes toward change data collected in Stage III. This section will evaluate the reliability and validity of the newly developed measure. Finally, in the last section, the developed measure will be discussed.

6.1. Stage I: Nomination of behavioural acts

Stage I of the AFA methodology involved interviews where study participants identified behaviours that they felt typified their attitudes toward change. The interviews generated three lists of individual behaviours:

- 22 behaviours describing how people act when they are committed to change,
- 30 behaviours describing how people act when they resist change, and
- 15 behaviours describing how people act when they are indifferent to change.

The complete list of behaviours are shown in Appendix H. These three lists were edited for non-act statements and redundancies. In some cases statements were re-phrased in order to obtain grammatically correct items.

The process of editing yielded three lists of 59 unique behaviours representing the following three individual attitudes toward change:

- 19 behaviours describing how people act when they are committed to change,
- 25 behaviours describing how people act when they resist change, and
- 15 behaviours describing how people act when they are indifferent to change.

6.2. Stage II: Identification of prototypical behaviours

The qualitative analysis of the Stage I data led to the development of lists of behaviours that formed the basis for the survey administered at Stage II of the study (Appendix C). The purpose of Stage II was to reduce the lists of behaviours nominated at Stage I to a manageable number of the most prototypical behavioural acts which were to be included in the Stage III survey as the proposed measures of individual attitudes toward change. As noted above, the Stage I analysis produced three sets of behaviours. This section describes the analytical process of reduction of each of those sets. Also included is an examination of how job type (managers and non-managers) impacts prototypicality ratings.

6.2.1. Selection of commitment to change behaviours

In Stage II survey, respondents were asked to indicate the extent to which they agreed or disagreed that each of the 19 commitment to change behaviours obtained in Stage I described how they behaved when they felt committed to a change. The higher the mean, the greater the consensus that a particular behaviour described how employees who were committed to a change behaved. The analysis proceeded as follows.

First, the responses to these items given by the total sample were examined for means over 5.0. As can be seen in Appendix I, almost two thirds of the 19 commitment to change items had means that were above 5.0. To reduce the number of key items further we turned to our second data reduction technique and identified the biggest difference between adjacent mean values. Typically a large difference between adjacent means reflects a break point in the data where the degree of consensus diminishes. Several possible cut-off scores were identified using this technique. To maximize the number of relevant items retained in the analysis, we started at the bottom of the list of items (i.e., the lowest mean above 5.0) rather than the top. Ultimately, the cut-off score of 5.13 was chosen as the difference of .10 between 5.13 and the following mean of 5.03 was the largest. All behaviours with means above 5.13 (9 items in total) were considered prototypical of commitment to change and included in the measure to be tested in Stage III of the study.

Two additional checks on the data were performed to ensure that no prototypical behavior had been omitted using this procedure. First, we broke the data set down into subsamples based on gender and job type and used the same procedures as noted above. The rationale for this step was to see if there were any behaviours that were very important to a specific group that were not included in the measure because the mean for the total sample fell below the cut-off. Over and above the commitment behaviours already included in the measure, only one behaviour (i.e., “explaining the rationale for the change and its expected impact to co-workers and subordinates”) was highly typical

of managers but not non-managers (mean for managers = 5.85, mean for non-managers = 4.44). This behaviour was added to the measure. There were no gender differences with respect to the rating of prototypical commitment behaviours over and above those already included in the measure.

Ultimately the measure of commitment to change contained 10 behaviours. The list of these behaviours is shown in Table 12 below. The table also includes the means and standard deviations for the total sample as well as subsamples based on gender and job type.

Prior to performing further analysis using the newly developed measure, we checked to see if there were any differences in the prototypicality ratings based on the organization. The analysis showed that all participating organizations were highly unanimous with respect to their rating of the behaviours employees engaged in when they felt committed to the launched change. That is, there were no significant between-group differences in prototypicality ratings. This allowed the researcher to aggregate the data across the participating organizations and treat them as one sample. It also gave us confidence that these behaviours do represent how public servants who are committed to change act.

6.2.2. Selection of resistance to change behaviours

In the Stage II survey, respondents were asked to indicate the extent to which they agreed or disagreed that each of the 25 resistance to change behaviours obtained in Stage I described how they behaved when they felt resistant to a change. A higher mean across

Behaviours people engage in when they are committed to the change:	Total		Mgrs.		Non-mgrs.		Men		Women	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
I invest more time and effort in my work than formally required	5.89	1.20	6.14	1.16	5.73	1.20	5.92	1.15	5.86	1.27
I ask questions and try to learn more about the change initiatives	5.73	1.18	5.88	1.19	5.63	1.17	5.55	1.27	5.98	1.01
I initiate changes myself	5.69	1.09	5.95	0.89	5.51	1.18	5.53	1.22	5.89	0.87
I display a positive attitude by being upbeat and smiling	5.67	1.16	5.66	1.04	5.68	1.24	5.42	1.15	6.00	1.10
I provide recognition when I see people implementing new ways of doing things	5.45	1.24	5.90	0.94	5.15	1.33	5.29	1.34	5.67	1.06
I introduce changes in my daily work to help the organization achieve its change goals	5.44	1.16	5.51	1.14	5.40	1.17	5.35	1.27	5.57	0.97
I make suggestions to the management on how to improve change implementation	5.27	1.57	5.73	1.27	4.97	1.69	5.20	1.74	5.36	1.33
I change my behaviours to model the desired new behaviours	5.16	1.25	5.59	0.74	4.87	1.43	5.07	1.32	5.27	1.15
I encourage others to embrace the change	5.13	1.52	5.90	1.11	4.62	1.55	5.02	1.63	5.27	1.37
I explain the rationale for the change and its expected impact to co-workers and subordinates *	5.00	1.54	5.85	0.76	4.44	1.67	5.05	1.38	4.93	1.74

* behaviour included because highly prototypical of managers

Table 12. Employees' behaviours of commitment to change.

the respondents indicated a greater consensus that a particular behaviour did describe how employees who were resistant to a change behaved. Prototypical resistance behaviours were selected using the same procedures as described earlier in association with the selection of prototypical commitment behaviours.

First, responses given to each of these items by the total sample were examined for means of behaviours over 5.0. As can be seen in Appendix J, there were five behaviours that the majority of respondents agreed they engaged in when they resisted certain change

initiatives (i.e., means above 5.0). The small number of behaviours in this consensus category meant that we did not need to use any other data reduction technique. We did, however, look at the difference in means between the fifth and sixth items to confirm our decision. The difference between the cut-off score 5.11 and the following mean of 4.61 was 0.5 indicating a clear break point in the data.

Examination of gender and job type differences in prototypicality ratings identified only one prototypical behaviour to be added over and above those already included in the measure. Managers were more likely than non-managers to identify the behaviour “I share my concerns with those who have initiated the change” as prototypical of their negative attitude toward change (mean for managers = 5.13, mean for non-managers = 4.26). Ultimately the measure of resistance to change contained six behaviours. The list of these behaviours is shown in Table 13 below. The table also includes means and standard deviations for the total sample and subsamples based on gender and job type.

Before performing any further analysis, we checked to see if there were any differences in the prototypicality ratings of resistance behaviours based on organization using the same procedure as before. No significant between-group differences were identified meaning that all participating organizations agreed on the behaviours employees engaged in they felt resistant to a change. This again increases our confidence in the findings.

Behaviours people engage in when they resist change	Total		Mgrs.		Non-mgrs.		Men		Women	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
I seek clarification about the change and its implementation	5.89	1.06	6.05	0.96	5.78	1.12	5.78	1.18	6.02	0.88
I voice my opinion at meetings	5.46	1.28	5.53	1.31	5.41	1.27	5.64	1.18	5.22	1.39
I provide constructive suggestions to people who are in a position to influence the change	5.40	1.28	5.61	1.37	5.26	1.21	5.38	1.35	5.41	1.18
I promote the change anyway if it is for a long-term good of the organization	5.36	1.38	5.59	1.46	5.21	1.31	5.20	1.54	5.58	1.08
I voice my concerns about the change to my immediate supervisor	5.11	1.60	4.89	1.74	5.24	1.50	5.15	1.71	5.05	1.47
I share my concerns with those who have initiated the change *	4.61	1.69	5.13	1.40	4.26	1.79	4.61	1.64	4.61	1.77

* behaviour included because highly prototypical of managers

Table 13. Employees' behaviours of resistance to change.

6.2.3. Selection of indifference to change behaviours

In the Stage II survey, respondents were asked to indicate the extent to which they agreed or disagreed that each of the 15 indifference to change behaviours obtained in Stage I described how they behaved when they felt indifferent to a change. A higher mean score on an item indicated a greater consensus that a particular behaviour did describe how employees who were indifferent to a change behaved. To select the most prototypical behaviours, the same procedure discussed above in the section on commitment and resistance was followed. First, the responses to each of these questions provided by the total sample were examined and items with means of over 5.0 identified. As can be seen in Appendix K, there were only two behaviours that the majority of respondents agreed that they engaged in when they were indifferent towards certain change initiatives. This finding was reinforced by looking at the cut-off score. The difference between the mean

of the item before the cut-off (5.67) and the mean of the item after the cut-off (4.77) was 0.9 indicating a clear break point in the data.

Next, the ratings on the basis of job type and gender were examined. This analysis identified only one additional item to be added to the measure. For managers, there were three behaviours with means exceeding 5.0. Over and above the two behaviours rated as prototypical by the total sample, managers also indicated that they participated in the initiatives to act as a role model for others even if they themselves were indifferent to the particular change (mean for managers = 5.14, mean for non-managers = 4.54). This behaviour was added to the measure.

Behaviours people engage in when they feel indifferent to change	Total		Mgrs.		Non-mgrs.		Men		Women	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
I try to learn more about the change	5.78	1.15	5.94	1.11	5.69	1.17	5.57	1.26	6.08	0.92
I encourage others to participate if the change is good for them	5.67	1.09	6.09	0.92	5.41	1.11	5.62	1.06	5.74	1.13
I participate in the initiatives anyway to act as a role model for others *	4.77	1.51	5.14	1.44	4.54	1.51	4.65	1.38	4.933	1.65

* behaviour included because highly prototypical of managers

Table 14. Employees' behaviours of indifference to change.

The measure of indifference to change consisted of three behaviours. The list of these behaviours is shown in Table 14 above. The table also includes means and standard deviations for the total sample and subsamples based on gender and job type.

6.2.4. Removal of indifference to change measure

The inspection of the three items typifying indifference to change revealed that these behaviours were not unique to this attitude. In Table 15, it can be seen that the indifference behaviours overlap with those typifying commitment and resistance. “I try to learn more about the change” is semantically very close to “I seek clarification about the change and its implementation” which was identified as a behaviour of resistance to change. It was also close to “I ask questions and try to learn more about the change initiatives” which was identified as a commitment behaviour. Furthermore, “I encourage others to participate if the change is good for them” does not differ very much from the resistance behaviour “I promote the change anyway if it is for a long-term good of the organization.” Finally, “I participate in the initiatives anyway to act as a role model for others” is close to “I introduce changes in my daily work to help the organization achieve its change goals” which was identified as a behaviour of commitment. This finding suggests that public servants do not engage in any special behaviours when they feel indifferent to a change. In fact, the finding suggests that indifference sometimes looks like resistance, and other times like commitment. Due to the high overlap between these items and those included in the commitment and resistance measures, it was deemed appropriate to removed them (and therefore the construct of indifference to change) from the analysis.

We do, however, recognize that the two commitment and two resistance behaviours that overlapped with these indifference items may be close to the midpoint of an attitude to change continuum if such a continuum is found to exist.

Indifference to change behaviours	Commitment to change behaviours	Resistance to change behaviours
I try to learn more about the change	I ask questions and try to learn more about the change initiatives.	I seek clarification about the change and its implementation
I encourage others to participate if the change is good for them		I promote the change anyway if it is for a long-term good of the organization
I participate in the initiatives anyway to act as a role model for others	I introduce changes in my daily work to help the organization achieve its change goals	

Table 15. Content analysis of indifference to change measure.

6.3. Stage III: Development and validation of the scales of employees' attitudes toward change

The 16 items reflecting behaviours associated with commitment to change and resistance to change were included in the Stage III survey which was administered in four public sector organizations. The purpose of Stage III analysis was to examine the factor structure as well as to assess the validity and reliability of the newly developed measures. This section is divided into five parts, all of which outline the results from different steps of this analysis. First, the lists of the commitment and resistance behaviours will be analyzed for their underlying dimensions with the help of factor analysis. An interpretation of the obtained scale structure and its meaning will follow. Then, in parts three and four, the factors (rather than the total measure) will be assessed with respect to their reliability and validity. The section will conclude with a summary of the key findings from the scale development and validation process.

6.3.1. Factor analysis of the new measures

Prior to assessing the relationship between the new measures and other related variables, each scale was assessed for its factorability, and then the items of each scale were factor

analyzed to see if they contain any underlying dimensions. The results of these two procedures will be described in the following subsections.

6.3.1.1. Factorability of scales

As explained in Section 4.3.5.2, prior to factor analysis, it is advisable to check the data set for its factorability. To this end, two tests were applied. First, correlation matrices of commitment and resistance items (Appendix L) were assessed with respect to their factorability. Most intercorrelations within each scale were medium high thus justifying a further search for common variances through factor analysis. Furthermore, the presence of potential common underlying constructs was also checked with the help of Bartlett's sphericity test. For both scales, the null hypotheses that the variables in the correlation matrix are uncorrelated was rejected (commitment scale: $\chi^2 = 1589$, $df = 45$, $p = .000$; resistance scale: $\chi^2 = 816$, $df = 15$, $p = .000$). Therefore, the research could proceed with factor analysis.

The inspection of the correlation matrices raised some doubts with respect to certain items in the measures. For example, the item on the commitment measure "I make suggestions to the management on how to improve change implementation" ("Comm6") had a stronger correlation with items on the resistance scale than items on the commitment scale and had a high degree of overlap with the resistance item "I provide constructive suggestions to people who are in a position to influence the change" ("Res2") ($r = .568$, $\alpha \leq .01$). To correct this problem, this commitment item was removed from the commitment measure. Similar results were observed with the

resistance item “I promote the change anyway if it is for a long-term good of the organization” (“Res6”) which had a stronger correlation with the items on the commitment scale and had a high degree of overlap with the commitment item “I encourage others to embrace the change” (“Comm4”) ($r = .487$, $\alpha \leq .01$). Again, to resolve this issue, this resistance item was also removed from the resistance measure and not used in further analysis. Ultimately, the revised scales contained nine commitment items and five resistance items. The next step in the measurement development process was to factor analyze these items.

6.3.1.2. Factor analysis

Table 18 below shows the results of factor analysis. All commitment and resistance items were entered together and loaded on three factors. Each item had a high loading on one of the factors. Commitment items loaded on two factors, while all resistance items loaded on a third factor. One item (“I initiate changes myself”) loaded .479. This item was retained in the analysis since the factor loading was very close to .5, and there are many analysts who actually recommend a cut-off score of .4 (e.g., Child, 1973; Mulaik, 1972; Kim & Mueller, 1978b). Moreover, Stevens (1996) suggested that with small sample sizes (around a 100 subjects), higher loadings are necessary; however, with a larger sample size (as in this study), loadings should be at least .4 at significance level of .01. Eigenvalues for all three factors exceeded 1 justifying the retention of these factors. The total variance explained by the three factors was moderate (54%). The reproduced correlation matrix indicated that 45% of nonredundant residuals exceeded the absolute value of 0.05 suggesting the presence of another factor (Tabachnick & Fidell, 1989).

Behaviours of commitment and resistance to change	F 1	F 2	F 3
Implementing the change personally			
I invest more time and effort in my work than formally required		.826	
I ask questions and try to learn more about the change initiatives		.536	
I introduce changes in my daily work to help the organization achieve its change goals		.521	
Spreading the change			
I encourage others to embrace the change	.762		
I change my behaviours to model the desired new behaviours	.703		
I provide recognition when I see people implementing new ways of doing things	.689		
I display a positive attitude by being upbeat and smiling	.680		
I explain the rationale for the change and its expected impact to co-workers and subordinates	.619		
I initiate changes myself	.479		
Voicing concerns about the change			
I provide constructive suggestions to people who are in a position to influence the change			.743
I voice my opinion at meetings			.730
I share my concerns with those who have initiated the change			.707
I seek clarification about the change and its implementation			.687
I voice my concerns about the change to my immediate supervisor			.626
Eigenvalue	4.952	1.558	1.025
Variance explained	21.649	20.966	11.200
Cumulative variance explained	21.649	42.615	53.815
Cronbach's alpha	.80	.56	.78

Table 16. Factor loadings of commitment and resistance behaviours.

Nevertheless, when the items were forced to load on four factors (i.e., an additional factor was introduced), the fourth factor did not have any loadings above .4. This indicates that the three-factor structure shown in Table 16 can be considered the optimal solution. Further analysis of the survey data was performed using extracted factors rather than the two original scales.

6.3.2. Scale structure and meaning

Factor 1 is made up of commitment items which all pertain to spreading the change throughout the organization. According to this factor, public sector employees who feel committed to change show their commitment by acting as role models, initiating new changes, explaining the rationale for changes to others, encouraging others to participate, and providing recognition when they see others implementing the change. These behaviours suggest that employees who are committed to change work proactively to communicate (by words and actions) their support for the change. To reflect this, this commitment factor was named: “Spreading the change.”

Factor 2 was named “Implementing the change personally” to reflect the fact that this form of commitment appeared to be less public and less active in nature. In this case employees who were committed to the change worked on changing themselves, not convincing others to change. Public servants demonstrated this form of commitment by trying to learn more about the changes, introducing them in their daily work, and investing more time and effort in their work than formally required.

Factor 3 included behaviours that public servants engaged in when they resisted the change. Public servants demonstrate their resistance to change by expressing their concerns about its implementation, voicing their opinion at meetings and to their supervisors, providing constructive suggestions to those who are in a position to influence the change, and seeking clarification about the change. In other words, they demonstrated resistance by communicating concerns about the change. These items were

given the label “Voicing concerns about the change.” The fact that commitment and resistance items loaded on quite different factors suggests that resistance (manifested through expressing concerns) and commitment factors (implementing the change personally and spreading it) represent different underlying constructs.

6.3.3. Reliability of the measures of employees’ attitudes toward change

Cronbach’s alpha reliability coefficients were calculated for all three factors of attitudes toward change. Table 17 below summarizes all these coefficients. Factors pertaining to behaviours of spreading the change ($\alpha = .80$) and voicing concerns about it ($\alpha = .78$) prove that both new scales are internally consistent and all their items measure the same underlying dimension. Therefore, the scale composition can be regarded reliable. The reliability of the factor pertaining to behaviours of implementing the change personally may, however, raise some concerns since its coefficient (alpha = .56) is somewhat below the acceptable level of .70 (as recommended by Davis, 1996 and Nunnally, 1978). Again, we are reassured by Cascio (1991) who noted that there is no fixed value below which reliability is unacceptable, and in practice, measures with reliabilities even lower than .70 may sometimes be useful for research purposes.

Measures	Coefficients
Factor 1: Spreading the change	.80
Factor 2: Implementing the change personally	.56
Factor 3: Voicing concerns about the change	.78

Table 17. Reliability coefficients of the measures of employees’ attitudes toward change.

6.3.4. Validity of the measures of employees' attitudes toward change

This section demonstrates the validation results for the new measures of employees' attitudes toward change. First, content validity will be briefly discussed. Then construct-related validity will be examined. This will be followed by the data analysis to establish the predictive validity of the measures. At the end, the face validity of the measures will be discussed.

6.3.4.1. Content validity

Content validity depends primarily on the adequacy with which the content is sampled. According to the literature, an inherent feature of the AFA is the content validity of the constructed measurement scales due to the act nomination process and the prototypicality ratings by the actors in the given context. Therefore, the measures developed in this study are considered valid based upon their content-related evidence.

6.3.4.2. Predictive validity

To establish the predictive or criterion-related validity of the new measures, they were correlated with job stress and perceived organizational support (POS). For the measure to have predictive power, both commitment factors were expected to correlate positively with POS and negatively with job stress. The resistance factor (or voicing concerns), on the other hand, was expected to be negatively associated with POS and positively associated with job stress. Table 18 below shows the resulting correlation matrix. The p-values of correlation coefficients are given in the brackets.

	Spreading the change	Implementing the change	Voicing concerns
POS	.344 (.000)	.224 (.000)	.151 (.000)
Job stress	-.137 (.001)	.000 (.997)	-.033 (.422)

Table 18. Correlation matrix of attitudes toward change and outcome variables.

As seen in the table, both commitment factors correlated positively and significantly with the POS variable as expected ($r = .344$, $p = .000$ and $r = .224$, $p = .000$ respectively). Furthermore, the factor “Spreading the change” also correlated negatively and significantly to job stress as predicted ($r = -.137$, $p = .001$). The second commitment factor, “implementation of the change personally”, on the other hand, was not associated with job stress at all ($r = .000$, $p = .997$). The following conclusions can be drawn from this analysis: “spreading the change” is a valid measure of commitment to change, and “implementing the change” is partially validated.

Contrary to expectations, the resistance factor correlated positively and significantly with the POS variable ($r = .151$, $p = .000$) and was not related to job stress ($r = -.033$, $p = .422$). This suggests that the resistance factor is not as conceptualized in our model (i.e., positively associated with job stress and negatively associated with POS).

6.3.4.3. Face validity

Inspection of the two scales of employees’ attitudes toward change indicated that the behaviours loading on these measures seemed to measure what they were supposed to. In other words, our review of the literature would suggest that employees who are

committed to change implement the change initiatives personally and spread the change by encouraging others to participate. This indicates that the commitment scale has high face validity.

On the other hand, the behaviours loading on the resistance to change measure (i.e., voicing concerns about the change) did not reflect active resistance as it is described in the literature. It should be noted, however, that most of this literature deals with change in private sector organizations. Seeking clarification about change implementation and voicing concerns about the change can be seen as a mild form of resistance to change. These results suggest that perhaps resistance to change is manifested in the public sector in a different fashion. This interpretation will be discussed in Chapter 13.

6.4. Summary of the findings

This chapter presented the development (using the AFA methodology) and validation of two measures of employees' attitudes toward change (i.e., commitment and resistance).

Interviews conducted at the first stage allowed the researcher to generate three lists of behaviours that organizational members engaged in when they were 1) committed to change, 2) resistant to change, and 3) indifferent to change.

Stage II of the AFA allowed us to identify ten behaviours that typify how public servants act when they are committed to change and six behaviours that typify how they behave when they resist change. Since the most prototypical indifference behaviours overlapped

with commitment and/or resistance behaviours, they were removed from the analysis and it was concluded that indifference to change is not a distinct point on the attitude toward change continuum, at least with respect to the behaviour of public servants.

In Stage III of the AFA, a final survey was administered in four public sector organizations to solicit respondents' opinions on how they behave when confronted with transformational change. Factor analysis of the Stage III data allowed us to identify three factors. The nine commitment behaviours loaded on two independent factors based on clearly identifiable constructs: 1) implementing change personally (three behaviours) and 2) spreading the change (six behaviours). The five resistance behaviours all loaded on one factor that represented a construct which was labeled voicing concerns about the change.

The development phase of the measure of employees' attitudes toward change concluded with the validation process. Four types of validity were assessed. First, the AFA technique ensured high content validity of all the nominated behaviours. Next, the results of testing predictive and face validities provided a partial validation of the measures. The study showed that in the public sector, attitudes toward change are not that straightforward. While behaviours that public servants engage in when they feel committed to change constituted a reliable and valid measure, resistance and indifference required more interpretation.

Chapter 7: Developing measures of perceived organizational readiness/unreadiness for change (PORC/POURC)

This chapter describes the results of the data analysis that allowed the researcher to develop and validate two measures: 1) PORC and 2) POURC. To describe the research, the chapter is further divided into four major sections that follow the Act Frequency Approach (AFA) framework. First, the nomination of behavioural acts associated with 1) PORC and 2) POURC will be described. Second, the prototypicality rating of the nominated acts will be presented. The third section will demonstrate the reliability and validity of the newly developed measures with the help of statistical analysis performed on the Stage III survey data. The chapter will conclude with a discussion of the developed measures.

7.1. Stage I: Nomination of behavioural acts

Stage I of the AFA methodology involved interviews where study participants were asked to identify organizational actions that they associated with 1) organizational readiness for change and 2) organizational unreadiness for change.

These interviews generated two lists of organizational actions:

- 253 behaviours describing how organizations that employees perceive to be ready for change act, and
- 172 behaviours describing how organizations that employees perceive as not being ready for change act.

These lists were edited for non-act statements and redundancies, and in some cases items were re-phrased in order to obtain grammatically consistent statements. For the convenience of editing, content analysis was used to group these actions into themes based on our review

Theme	Organizations ready for change	Organizations not ready for change
Senior leadership behaviours	11	7
Change agent behaviours	16	6
Immediate manager behaviours	1	1
Behaviours that all managers regardless of level engage in	14	8
Impact on employees	1	1
Communication	25	20
Planning and design of change	3	2
Expectations, accountabilities, and responsibilities	3	2
Resources and tools	3	3
Process of implementation	8	3
Involvement and participation	5	6
Treatment of people	6	4
Rewards and recognition	2	2
Alignment of organizational practices	2	3
Total	100	68

Table 19. Grouping of nominated organizational actions.

of the literature. Grouping was done by two researchers familiar with the area. There was an 80% agreement with respect to groupings of all the behaviours. The discrepancies were discussed and complete agreement reached. The items associated with each of the themes are presented in Appendix M. Table 19 summarizes the number of actions that

were grouped into each theme. The process of editing yielded the following two groups of 168 unique organizational actions:

- 100 actions describing how organizations that employees perceive to be ready for change act,
- 68 actions describing how organizations that employees perceive not to be ready for change act.

The qualitative analysis of organizational actions showed that some themes were represented to a higher degree than others. As seen in Table 19, one quarter of all the actions that employees identified as indicating an organization that was ready for change and almost one third of the actions that employees identified as indicating an organization that was not ready for change pertained to communication. The second most frequently mentioned set of actions was related to behaviours of the change agents (16 actions characterizing organizations that employees perceived to be ready for change and 6 actions characterizing organizations that employees perceived not to be ready for change). This was followed in terms of frequency by actions that all managers (regardless of their level), engaged in (14 and 8 actions accordingly) and actions of senior leadership (11 and 7 actions accordingly). The act nomination stage data indicate that actions with respect to communication and management/leadership behaviours are the two most important areas that determine employees' perceptions of organizational readiness for change.

7.2. Stage II: Identification of prototypical organizational actions

The qualitative analysis of the Stage I data led to the development of two lists of organizational actions which were incorporated into the survey administered in Stage II of the study (Appendix C). The purpose of Stage II was to reduce the lists of actions nominated in Stage I to a manageable number of the most typical items to be further utilized as measures of PORC/POURC. There were two sets of actions involved in this analysis: 1) describing organizations that employees perceive to be ready for change and 2) describing organizations that employees perceive to be not ready for change. Our identification of these two measures proceeded in a similar manner as described in Chapter 6 with respect to attitudes toward change.

7.2.1. Selection of actions describing PORC

In the Stage II survey, respondents were asked to indicate the extent to which they agreed or disagreed that each of the 100 organizational actions identified in the act nomination stage described organizations that were perceived to be ready for change. The higher the mean score reported for each item, the greater the consensus that a particular action did represent PORC.

The first step was to examine the means of each of the 100 items included in the initial measure and retain only those items with means of 5.0 or greater. As seen in Appendix N, only 20 of the 100 actions included in the Stage II survey were awarded ratings of 5.0 or higher. In other words, 20% of the nominated actions would be retained using this cut-off score. This number of items was also close to the selection criterion used by the AFA

introducers Buss and Craik (1980, 1983) who reported that the top quartile of the list usually represented the most typical acts. Therefore, it was considered appropriate to include all 20 of these organizational actions in the measure of PORC to be tested in Stage III and not use any additional data reduction technique.

Two additional checks on the data were performed. Following the procedure applied to identify prototypical actions in the total sample as described above, means of all organizational actions were examined for job type and gender differences. The purpose of this procedure was to see if there were any actions that were very important to a specific group that were not included in the measure due to between-group differences in the data. Managers were more likely than non-managers to rate the organizational actions included in the Stage II survey as important. In the manager subsample, 60 out of a 100 items had means of 5.0 and higher as opposed to 4 out of a 100 items in the non-manager subsample. The number of items in the manager subsample was further reduced by selecting the top quartile (i.e., 25 items). Then the largest difference between means of adjacent items was identified starting from the bottom of the list. This occurred between item 10 and item 11 (difference of .03). The 10 retained items as well as the four items from the non-manager subsample were then examined to see if they were already included in the set of the 20 items from the total sample. This analysis indicated no new actions that should be included in the measure.

The analysis by gender indicated that the items rated as most prototypical by the men in the sample (i.e., means of 5.0 or greater) were already in the list of items to be included in

Behaviours of organizations that are perceived to be ready for change	Total		Mgrs.		Non-mgrs.		Men		Women	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Senior leadership behaviours										
There is a champion of change at the most senior level of the organization	5.36	1.84	5.67	1.45	4.76	2.24	5.22	1.69	5.52	1.93
Change messages on where the organization is going and why come directly from the executive team	5.34	1.86	5.37	1.93	5.21	1.71	4.94	1.89	5.77	1.71
Leaders themselves have bought into the change and promote it by behaving in a manner consistent with the change	5.22	2.06	5.43	2.05	4.73	2.13	4.82	2.07	5.64	2.06
Senior management is decisive with respect to organizational goals, priorities and strategies concerning the change	5.13	2.18	5.33	2.17	4.70	2.14	4.84	2.15	5.45	2.16
Requests from the senior management conform to the new paradigm of thinking	5.13	1.89	5.27	1.80	4.85	1.99	4.80	1.93	5.52	1.75
The senior management team acts as a cohesive unit with respect to the change	5.12	1.98	5.28	2.03	4.79	1.83	4.86	2.04	5.43	1.85
Leaders focus their attention on changes that are within their realm of control	5.11	1.77	5.02	1.86	5.21	1.69	4.80	1.83	5.45	1.72
Senior management defines the course of change and stays the course for several years	5.01	2.00	5.15	2.03	4.94	1.95	4.74	2.01	5.48	1.91
Change agent behaviours										
People who lead the change act professionally and ethically	5.43	1.88	5.68	1.70	4.91	2.17	5.28	1.83	5.59	1.99
Change agents are competent to answer employee questions about the change	5.18	2.01	5.53	1.74	4.52	2.32	4.98	1.97	5.43	2.05
Change agents have considered different options of change implementation	5.16	1.60	5.22	1.62	5.03	1.65	4.98	1.58	5.39	1.66
There is a change management team that has been designated to lead the change	5.15	1.77	5.10	1.74	5.12	1.88	5.04	1.74	5.23	1.85
Change agents invite external experts' advice with respect to managing the change	5.14	1.32	5.25	1.10	4.97	1.59	5.26	1.17	5.07	1.44

(Table to be continued on the next page)

Behaviours of organizations that are perceived to be ready for change	Total		Mgrs.		Non-mgrs.		Men		Women	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Change agents have done research to select the right type of change that addresses the underlying causes of organizational problems rather than just symptoms	5.09	1.88	5.37	1.59	4.61	2.25	4.86	1.88	5.41	1.85
Change agents provide valid arguments to justify the change	5.07	2.01	5.32	1.83	4.58	2.28	4.86	2.01	5.32	2.02
Change agents try to get the buy-in of the key players before they formally announce the change	5.00	1.87	5.42	1.69	4.34	1.69	4.60	1.92	5.45	1.70
Behaviours of immediate manager										
The immediate supervisors encourage their staff to participate in the change process	5.18	2.00	5.52	1.81	4.58	2.21	4.84	2.00	5.61	1.93
Behaviours of all managers										
Managers acknowledge the impact the change may have on their staff	5.13	1.89	5.32	1.83	4.85	2.02	4.86	1.90	5.52	1.86
Managers are held accountable for passing information on the change on to their staff *	4.99	2.13	5.18	2.02	4.61	2.34	4.40	2.14	5.68	1.96
Communication										
Change messages are communicated frequently through various communication channels	5.09	1.89	5.38	1.76	4.58	2.11	4.94	1.95	5.32	1.88
Change implementation process										
The change process is seen as fair and ethical	5.02	2.13	5.47	1.79	4.27	2.44	4.86	2.15	5.30	2.06

* Behaviour included because highly prototypical for women.

Table 20. Organizational actions that are prototypical of PORC.

the Stage III measure. There was, however, one action that was rated as prototypical by the women in the sample but not by the men: "Managers are held accountable for passing information on the change on to their staff" (mean of 5.68 for women and 4.40 for men).

This action was added to the proposed measure.

To summarize, the final list of organizational actions that make people believe their organization is ready to implement change successfully consisted of the 21 actions which are shown in Table 20 below. The table also includes means and standard deviations for the total sample and subsamples based on gender and job type. These prototypical actions are grouped in this table according to the themes introduced in Stage I. This grouping shows that the actions of managers at all levels are key to public servants' perceptions of the organization's readiness for change.

Prior to performing further analysis of the newly developed measure, the data was examined to determine to what extent the organizational actions which are prototypical of readiness for change vary by organization. The analysis showed that all participating organizations were highly unanimous with respect to their typicality rating of actions describing organizations that were perceived to be ready for change. That is, there were no significant between-group differences associated with organization of employment. This supports the decision to aggregate the data across the participating organizations. It also increased our confidence in the generalizability of the findings.

7.2.2. Selection of actions describing POURC

In the Stage II survey, respondents were asked to indicate the extent to which they agreed or disagreed that each of the 68 organizational actions identified in the act nomination stage described organizations that were perceived to be not ready for change. The higher the mean score reported for each item, the greater the consensus that a particular action did represent POURC.

The first step was to examine the means of each of the 68 items included in the initial measure and retain only those items with means of 5.0 or greater. As seen in Appendix O, 45 of the 68 organizational actions included in the Stage II survey were awarded ratings of 5.0 or higher. In such a case when too many items passed the selection criterion, Buss and Craik's (1980, 1983) principle of the top quartile of the list was used as discussed earlier. As a result, the top 17 organizational actions were included in the measure of POURC to be tested in Stage III.

Similarly to the procedure used to select organizational actions associated with readiness for change, two additional checks on the data were performed on subsamples based on job type and gender. All groups gave approximately half of the actions ratings of 5.0 or higher. To further reduce the number of typical actions, the principles used with the total sample (i.e., top quartile and the largest difference between means of adjacent items) were used. There were two organizational actions that managers rated as more typical than non-managers: "Change initiators do not understand what the long-term impact of the change on the organization will be" (mean of 5.75 for managers and 5.37 for non-managers) and "People are discouraged from saying "no" to work – even when the assigned task is not a priority" (mean of 5.70 for managers and 5.34 for non-managers).

These actions were added to the measure. There were no unique actions that non-managers rated as more typical than managers. There were also no gender differences in the ratings of these organizational actions.

In sum, the final list of actions that describe organizations that employees perceive to be not ready for change consisted of the 19 actions which are shown in Table 21 grouped according to the themes introduced in Stage I. The table also includes the means and standard deviations for the total sample and subsamples based on gender and job type.

Behaviours of organizations that are perceived not to be ready for change	Total		Mgrs.		Non-mgrs.		Men		Women	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Senior leadership behaviours										
There is a disconnect between the senior management and working levels with respect to the change priorities and interpretation of the change	5.99	1.45	5.48	1.95	6.06	1.31	6.05	1.40	5.92	1.57
The change is implemented in a top-down autocratic manner	5.76	1.61	5.08	2.15	6.09	1.17	5.85	1.49	5.70	1.71
Behaviours of change agents										
Change initiators do not understand what the long-term impact of the change on the organization will be*	5.46	1.68	5.75	1.82	5.37	1.61	5.46	1.69	5.75	
Behaviours of all managers										
Management does not admit it has made any mistakes with respect to managing the change and therefore does not learn from its mistakes	5.68	1.37	5.54	1.67	5.78	1.22	6.00	1.28	5.38	1.40
Impact of change on employees										
Employees do not see how they will personally benefit from the change	5.59	1.45	5.29	1.78	5.72	1.29	5.63	1.28	5.53	1.66
Communication										
The expected impact of the change on daily work processes is not well explained	5.82	1.17	5.87	1.39	5.77	1.09	5.83	1.12	5.77	1.26
Information on the change is communicated in too general terms to be meaningful	5.75	1.33	5.86	1.36	5.71	1.35	5.87	1.30	5.63	1.40
The change process does not involve the phasing out of old duties, and the employee is expected to do both the old and the new duties	5.73	1.54	5.67	1.79	5.77	1.46	5.54	1.66	5.97	1.42

(Table to be continued on the next page)

Behaviours of organizations that are perceived not to be ready for change	Total		Mgrs.		Non-mgrs.		Men		Women	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
The outcomes and benefits of the change are not well explained	5.69	1.41	5.78	1.57	5.63	1.37	5.90	1.03	5.43	1.75
There is no vision for the change that everybody in the organization understands	5.63	1.50	5.54	2.08	5.70	1.20	5.63	1.43	5.67	1.64
The ways in which the change will be implemented are not well explained	5.56	1.48	5.61	1.59	5.54	1.47	5.66	1.39	5.44	1.64
The reasons for the change are not well explained	5.49	1.58	5.58	1.69	5.46	1.55	5.68	1.35	5.29	1.82
Resources and tools										
Workloads do not permit people to get involved in the change initiatives	5.55	1.58	5.50	1.79	5.60	1.51	5.50	1.48	5.64	1.73
Change implementation process										
The implemented change is not allowed to stabilize before the next change starts (i.e., too many changes are happening too frequently)	5.89	1.28	6.00	1.22	5.89	1.31	5.85	1.39	6.00	1.15
The progress of the change is not monitored on a regular basis (i.e., there are no measurement tools in place to assess costs associated with the change and the impact of the change on the organization and employees)	5.73	1.27	5.71	1.37	5.75	1.25	5.71	1.38	5.78	1.17
Employee involvement and participation										
Consultation with the staff in regard to the upcoming change is done after the fact	5.54	1.49	5.46	1.67	5.58	1.45	5.61	1.41	5.47	1.63
People who do the actual work are not involved in making decisions concerning changes in their work area	5.90	1.46	5.67	1.74	6.09	1.26	6.15	1.17	5.75	1.66
Employees do not have control over the change processes and outcomes in their area	5.49	1.37	5.43	1.44	5.58	1.28	5.56	1.27	5.51	1.40
Treatment of people										
People are discouraged from saying "no" to work – even when the assigned task is not a priority *	5.44	1.46	5.70	1.29	5.34	1.54	5.49	1.29	5.40	1.68

* Behaviours included because highly prototypical of managers.

Table 21. Organizational actions that are prototypical of POURC.

It can be seen from these data that only four of the POURC actions are associated with management. This suggests that this construct has more to do with how change is implemented and how people are treated (i.e., communication process, employee involvement, availability of resources and tools) while PORC is more associated with leadership behaviours.

Prior to further analysis, the data was examined to determine to what extent the organizational actions which are prototypical of unreadiness for change vary by organization. Again there were no significant between-group differences associated with organizations. This again supports the decision to aggregate the data and to make the employee the unit of analysis.

7.3. Stage III: Development and validation of the scale of PORC

The 21 actions employees believe typify organizations that are ready for change were included in the Stage III survey (Appendix D) which was administered in four public sector organizations. The respondents were asked to indicate their agreement or disagreement with the statements as they characterized their own organizations. The Stage III data were then factor analyzed to see if PORC was a unidimensional measure or contained a number of subscales. The measures (i.e., total scale and subscales) were then assessed with respect to their reliability and validity. This section will talk about the results from the factor analysis of the measure in part one. The factors will be interpreted

in part two and the results from the validity and reliability testing will be covered in part three.

7.3.1. Factor analysis of the new measure

Prior to any other analysis with these data, the 21-item scale was factor analyzed to see if it contained any subscales. As explained in Section 4.3.5.2, it is advisable to check the data set for its factorability before performing factor analysis. To this end, two tests were applied. First, the correlation matrix of items describing PORC (Appendix P) was assessed with respect to its factorability. All intercorrelations within the scale were medium high thus justifying a further search for common variances through factor analysis. The presence of potential common underlying constructs was also checked with the help of Bartlett's sphericity test. The null hypothesis that the variables in the correlation matrix are uncorrelated was rejected ($\chi^2 = 7349$, $df = 231$, $p = .000$) further supporting the use of factor analysis.

Since the researcher did not have any prior theory with respect to the number of factors present, exploratory factor analysis was performed (i.e., the program was allowed to select the optimal solution). To improve the interpretability of the results, orthogonal (varimax) rotation was applied as explained in section 4.3.5.2. All 21 items had a high (above .5) unique loading on one of three factors (see Table 22). The three factor structure was further supported by the fact that all eigenvalues exceeded 1, the reliability coefficients

	F1	F2	F3
Commitment of senior management to the change			
Senior management is decisive with respect to organizational goals, priorities and strategies concerning the change.	.774		
Leaders themselves have bought into the change and promote it by behaving in a manner consistent with the change	.741		
Requests from the senior management conform to the new paradigm of thinking.	.695		
Senior management defines the course of change and stays the course for several years.	.674		
There is a champion of change at the most senior level of the organization.	.667		
The senior management team acts as a cohesive unit with respect to the change.	.643		
Change messages on where the organization is going and why come directly from the executive team.	.601		
Leaders focus their attention on changes that are within their realm of control.	.585		
Competence of change agents (implementation of change)			
Change agents invite external experts' advice with respect to managing the change.		.735	
Change agents have done research to select the right type of change that addresses the underlying causes of organizational problems rather than just symptoms.		.733	
Change agents provide valid arguments to justify the change.		.721	
Change agents have considered different options of change implementation.		.715	
Change agents are competent to answer employee questions about the change.		.631	
Change agents try to get the buy-in of the key players before they formally announce the change.		.610	
There is a change management team that has been designated to lead the change.		.560	
The change process is seen as fair and ethical.		.546	
People who lead the change act professionally and ethically.		.533	
Support of immediate managers during the change			
Managers are held accountable for passing information on the change on to their staff.			.760
Managers acknowledge the impact the change may have on their staff.			.755
The immediate supervisors encourage their staff to participate in the change process.			.702
Change messages are communicated frequently through various communication channels.			.570
Eigenvalues	9.957	1.345	1.179
Variance explained:	22.743	22.189	14.504
Cumulative variance explained	22.743	44.932	59.437
Cronbach's alpha	.90	.90	.78

Table 22. Factor loadings of PORC items.

for all the factors were high ($\alpha \leq .90$, .90, and .78 respectively), and the three factors together accounted for 59% of the total variance. This factor structure was retained, and further analysis of the measure of PORC was performed using the extracted factors.

7.3.2. Scale structure and meaning

The extracted factors were given labels describing the substantive meaning that the items loading on each factor shared. The three factors are outlined in Table 22 and described below.

7.3.2.1. Factor 1: Commitment of senior management to the change

Factor 1 included eight items that all deal with how senior management acted during transformational change. The factor was labeled “Commitment of senior management to the change.” Employees were more likely to think that the organization was ready for change when their senior managers demonstrated strong leadership and personal commitment to change. In organizations that employees believed to be ready for change there was a champion of change at the most senior level and a cohesive senior management team that supported the change. Furthermore, employees were more likely to perceive their organization was ready for change if they had leaders who demonstrated their commitment to change through their behaviours, focused on changes that were within their realm of control, and made requests of others that conformed to the new paradigm of thinking. Finally, employees were more likely to perceive that an organization that had a senior management team who were decisive with respect to

organizational goals, priorities, and strategies concerning change, who defined the course of change and did not digress from it, and who communicated the change messages directly to the employees, was ready for change.

In sum, leaders' commitment to change was associated with decisiveness, good communication, and their ability to act as role models. In this research, the commitment of senior management to the change factor explained 23% of the variance in employees' perceptions of organizational readiness for change. These are behaviours that have also been strongly associated with transformational leadership in the literature (Bass, 1985, 1988). They are also consistent with the literature that relates the change leadership capability of senior management to organizational readiness for change (Jones & Bearley, 1996; Stewart, 1994; Trahan & Burke, 1996). The same idea was also expressed by Conner (1998), Davidson (1996), Goleman (1998), Harris (2002), Quirke (1996), all of whom viewed the senior leadership as the most important success factor for transformational change.

7.3.2.2. Factor 2: Competence of change agents

All nine items loading on Factor 2 are related to the actions and behaviours of those who had been charged with implementing the change – change agents. As such, the factor was labeled “Competence of change agents (implementation of change).” Public servants thought their department was ready for change when those in charge of implementing the change (i.e., change agents) were professional and ethical, had done research to select the right types of change, considered different options with respect to implementing the

change, had sought advice from external experts, had tried to get the buy-in of the key players before the change was formally announced, had provided valid arguments to justify the change, and could answer employee questions about the change. Employees were also more likely to report high PORC when the change was led by a designated change management team, and the change process was seen as fair and ethical.

Items associated with the change agents' competence factor explained 22% of the variance in employees' perceptions of organizational readiness for change. These items are consistent with the fact that the change management literature supports the idea that change leadership should come not only from the executive team (e.g., Bass, 1985; Buchanan & Badham, 1999; Ulrich, 1996). It has also been proposed that the day-to-day leadership provided by the change agents throughout the organization can affect organizational readiness for change (Dawson, 2003; Stewart, 1994).

7.3.2.3. Factor 3: Support of immediate manager

The four items which loaded on Factor 3 all pertained to the support employees received from their immediate manager during the change process. The factor was labeled "Support of immediate managers during the change." An examination of the items loading on this factor indicates that employees perceive their organization to be ready for change when their immediate manager encourages their staff to participate in the change initiatives, acknowledges the impact of the change on people, and shares information on the change they received from the upper management with their staff. The support of immediate managers factor explained 14.5% of the variance in employees' perceptions of

organizational readiness for change. This is consistent with the literature that emphasizes the role of the immediate supervisor in shaping employees' perception of organizational change as they interact on a daily basis (e.g., Duck, 1997; Judson, 1991; Kotter, 2002; Quirke, 1996).

7.3.3. Reliability of the measure of PORC

To establish the reliability of the newly developed measure, Cronbach's coefficient alpha was calculated for the total scale and the three factors. Table 23 below summarizes all these coefficients. The coefficient for the PORC scale on the whole is .95. The coefficients for the three factors are .90, .90, and .78 respectively. These data indicate that our total measure of PORC as well as its three subscales are internally consistent (i.e., all items measure the same underlying dimension). From these data we can conclude that the scale can be regarded as reliable.

Measures	Coefficients	
	Whole Scale	Factors
PORC	.95	
• Factor 1: Commitment of senior management		.90
• Factor 2: Competence of change agents		.90
• Factor 3: Support of immediate managers		.78

Table 23. Reliability coefficients of the measure of PORC.

7.3.4. Validity of the measure of PORC

This section demonstrates the validation procedures of the new measure of PORC. Content validity will be examined first. This will be followed by an examination of

predictive validity and face validity.

7.3.4.1. Content validity

According to the literature, an inherent feature of the AFA is the content validity of the constructed measurement scales due to the act nomination and their prototypicality ratings by the actors in the given context. Therefore, the measure of PORC developed in this study can be considered valid based upon its content-related evidence.

7.3.4.2. Predictive validity

To establish the predictive or criterion-related validity of the new measure, it was correlated with job stress and perceived organizational support (POS), two outcome variables that have been hypothesized to relate to PORC (Cropanzano et al., 1997; Eby et al., 2000; Holt, 1982; Lau & Woodman, 1995; Pool, 1999). For the measure to have predictive power, the three PORC subscales (factors) were expected to correlate positively with POS and negatively with job stress. Table 24 below summarizes the results of the correlation analysis. The p-values of the correlation coefficients are given in parentheses.

	Commitment of sr. mgmt.	Competence of change agents	Support of immediate mgr.
POS	.551 (.000)	.623 (.000)	.565 (.000)
Job stress	-.243 (.000)	-.291 (.000)	-.269 (.000)

Table 24. Correlation matrix of PORC subscales and outcome variables.

As expected, the POS measure correlated positively and significantly with the measure of commitment of senior management ($r = .551, p = .000$), competence of the change agents ($r = .623, p = .000$), and support provided by immediate managers ($r = .565, p = .000$). Furthermore, the job stress measure was negatively and significantly correlated with the commitment of senior management ($r = -.243, p = .000$), competence of the change agents ($r = -.291, p = .000$), and support provided by immediate managers ($r = -.269, p = .000$) measures. These findings indicate a possible association between public servants' perceptions of their organization's readiness for change and a supportive organizational climate and lower job stress. These correlations between the three factors and both criterion variables provide further validation of the measure of PORC.

7.3.4.3. Face validity

The three PORC subscales (factors) seemed to adequately represent the construct as envisioned in the literature. The idea that employees are more likely to believe that their organization is capable of implementing change successfully when senior management itself is committed to the changes, immediate managers are supportive and caring about their staff, and change agents act competently makes intuitive sense. Moreover, these three factors are often associated with change implementation in the change management literature. The crucial role of senior management in the successful implementation of change has been emphasized by such authors as Armenakis and Harris (2002), Duck (2001), Kotter (2002), and Shaw (1995). Furthermore, Bass (1985), Buchanan and Badham (1999), and Ulrich (1996) all suggest that the manner in which the change agents actually attempt to implement change affects the success of change implementation.

Finally, Duck (1997), Judson (1991), Kotter (2002), and Quirke (1996) noted that immediate managers who interact with their staff on a daily basis strongly influence employees' perception of organizational change. Taken as a whole, then, it can be concluded that the subscales of the PORC scale have high face validity.

7.4. Stage III: Development and validation of the scale of POURC

The 19 actions employees perceive to typify organizations that are not ready for change were included in the Stage III survey (Appendix D) which was administered in four public sector organizations. The respondents were asked to indicate their agreement or disagreement with the statements as they characterized their own organizations. The Stage III data were then factor analyzed to see if the newly developed measure was unidimensional or contained a number of subscales. The measures (i.e., total scale and subscales) were then assessed with respect to their reliability and validity. Part one of this section will report the results from the factor analysis of the measure. The factors will be interpreted in part two, and the results from the reliability and validity testing will be covered in part three.

7.4.1. Factor analysis of the new measure

The steps undertaken in our analysis of the items of POURC are the same as those undertaken with the measure of PORC (see Section 7.3.1). Prior to factor analysis, the data set was first checked for its factorability. Both tests rendered positive results. First, as seen in Appendix P, all intercorrelations within the scale were medium high thus justifying a further search for common variances through factor analysis. Furthermore,

Bartlett's sphericity test showed that the null hypothesis that the variables in the correlation matrix are uncorrelated had to be rejected ($\chi^2 = 6914$, $df = 171$, $p = .000$). Therefore, the research could proceed with factor analysis.

In this case, the initial factor analysis did not result in an interpretable structure. There were two problems with the first analysis. First, one item "Change is implemented in a top-down autocratic manner" did not load highly on either of the two factors extracted. Second, it could be seen that one of the two factors contained two logical groupings of items. These problems were addressed as follows. First, the item with low loading was dropped from further analysis. Second, when searching for the optimal factor solution, the researcher followed the advice of Tabachnick and Fidell (1989) (see Section 4.3.5.2) and ran the factor analysis several times. Each time a different number of factors was specified. Ultimately, a three factor solution proved to be optimal. This factor structure is presented in Table 25.

In the final solution, each item had a high loading (above .5) on just one of the three factors. Although the eigenvalues of two factors exceeded "one," the third eigenvalue fell below it (eigenvalue = .819). Nevertheless, as Rummel (1970) has explained, a mechanical employment of the cut-off value of "one" might be misleading as eigenvalues close to "one" might also be important. Therefore, the third factor was retained. This decision is supported by the fact that the third cluster of variables was highly meaningful and consistent with the literature that emphasizes the crucial role of employee involvement in the change processes (e.g., Butler, 2001; Hultman, 1979; Judson, 1991;

Kotter & Schlesinger, 1979, etc.). The given factors jointly accounted for an acceptable amount of the total variance (64%), and each subscale had high internal consistency (Cronbach's alpha = .93, .81, and .86 respectively).

Behaviours describing perceived organizational unreadiness for change	F1	F2	F3
Poor communication of change			
The outcomes and benefits of the change are not well explained.	.813		
The ways in which the change will be implemented are not well explained.	.798		
The reasons for the change are not well explained.	.756		
The expected impact of the change on daily work processes is not well explained.	.717		
There is no vision for the change that everybody in the organization understands.	.707		
Information on the change is communicated in too general terms to be meaningful.	.661		
There is a disconnect between the senior management and working levels with respect to the change priorities and interpretation of the change.	.543		
Change initiators do not understand what the long-term impact of the change on the organization will be.	.530		
Employees do not see how they will personally benefit from the change.	.520		
Management does not admit it has made any mistakes with respect to managing the change and therefore does not learn from its mistakes.	.519		
Adverse impact of the change on work			
The change process does not involve the phasing out of old duties, and the employee is expected to do both the old and the new duties.		.762	
Workloads do not permit people to get involved in the change initiatives.		.716	
People are discouraged from saying "no" to work – even when the assigned task is not a priority.		.706	
The progress of the change is not monitored on a regular basis (i.e., there are no measurement tools in place to assess costs associated with the change and the impact of the change on the organization and employees).		.566	
The implemented change is not allowed to stabilize before the next change starts (i.e., too many changes are happening too frequently).		.520	
Lack of employee involvement in the change process			
People who do the actual work are not involved in making decisions concerning changes in their work area.			.777
Employees do not have control over the change processes and outcomes in their area.			.735
Consultation with the staff in regard to the upcoming change is done after the fact.			.718
Eigenvalue	9.629	1.112	.819
Variance explained:	28.887	18.561	16.726
Cumulative variance explained	28.887	47.448	64.174
Cronbach's alpha	.93	.81	.86

Table 25. Factor loadings of organizational unreadiness items.

7.4.2. Scale structure and meaning

Items describing organizations that are perceived to be not ready for change loaded on three distinctive factors. Each factor was given a label which described the substantive meaning of the items loading on this factor (see Table 25). All three factors are described below.

7.4.2.1. Factor 1: Poor communication of change

The ten items included in Factor 1 provide a list of what can be considered the worst practices in terms of communicating change. The factor was labeled “Poor communication.” Public servants believed the organization was not ready to implement change successfully when information of the change was communicated in too general terms to be meaningful and there was a disconnect between the senior management and the working levels with respect to the change priorities and interpretation of the change. Furthermore, the organization was not perceived to be ready for change when employees were not provided a vision for the change, the reasons behind the change, the expected outcomes and benefits of the change, how the change was to be implemented, and impact of the change on people’s daily work. Finally, employees who perceived that their managers did not recognize or admit that they had made mistakes managing the change and that change agents did not understand what the long-term impact of the change on the organization would be were more likely to feel the organization was unready for change. Poor communication practices accounted for 29% of the variance in employees’ perceptions that their organization was not ready for change. These research results

further reinforce the propositions from the literature that communication plays a crucial role in change management. (Jones & Bearley, 1996; Quirke, 1996; Richardson & Denton, 1996; Stewart, 1994; Trahan & Burke, 1996).

7.4.2.2. Factor 2: Adverse impact of the change on work

Factor 2 included five items associated with the negative effects organizational change is perceived to have on people's work. The factor was labeled "Adverse impact of the change on work." Public servants saw their organization as not being ready for change when too many changes were happening too often, new duties were added on top of the old ones, people were discouraged from saying "no" to work, and their workloads increased. In addition, employees did not believe the organization was ready to implement change successfully when change was not monitored properly (i.e., the impact of the change on the organization and employees were not measured). The adverse impact of the change on work factor explained 18.5% of the variance in POURC. Although the literature does not offer a direct link between adverse impact of change on work and negative feelings toward change and the organization, it suggests that certain work practices and increased workloads may trigger resistance to change (Brown & Duguid, 1991; Jellison, 1993). Hence, it may be inferred that negative work practices would also adversely affect perceptions of an organization's readiness for change. The findings from the present research reinforce this association and add to our understanding of this phenomenon.

7.4.2.3. Factor 3: Lack of employee involvement in the change process

All of the items loading on Factor 3 pertain to the feeling that employees were excluded from the change process. The factor was labeled “Lack of employee involvement in the change process” to reflect this fact. Public servants believed the organization could not be considered ready for change when front-line employees were not meaningfully involved in the change management decision making process, were not given control over changes in their area, and were not consulted on the upcoming changes until after the fact. Lack of employee involvement in the change processes accounted for 17% of the variance in employees’ perceptions that their organization was not ready for change. These findings are in agreement with the change management literature which suggests that sharing power with employees, giving them control over decisions in their work area, and involving them in change processes are effective means of implementing change (e.g., Conner, 1998; Scott & Jaffe, 1995; Wetlaufer, 1999). They are also consistent with such authors as Jones and Bearley (1996), Stewart (1994), and Trahan and Burke (1996) who argued that employee involvement in decision making in their area of work is a feature of organizations that are ready for change.

7.4.3. Reliability of the measure of POURC

Cronbach’s reliability coefficient alpha was calculated for the scale on the whole and for its three factors separately. Table 26 below summarizes these coefficients. The coefficient for the scale describing organizations that employees perceive not to be ready for change on the whole is .94. The coefficients for the three subscales are .93, .81, and

.86 respectively which reflects high internal consistency. The scale composition can therefore be regarded as reliable.

Measures	Coefficients	
	Whole Scale	Factors
POURC	.94	
• Factor 1: Poor communication of change		.93
• Factor 2: Adverse impact of the change on work		.81
• Factor 3: Lack of employee involvement		.86

Table 26. Reliability coefficients of the measure of POURC.

7.4.4. Validity of the measure of POURC

This section demonstrates the validation procedures of the new measure of POURC. Content validity will be examined first. This will be followed by an examination of predictive validity and face validity.

7.4.4.1. Content validity

As noted previously, the AFA technique typically ensures high content validity of the constructed measurement scales. This would suggest that the measure of POURC developed in this study using the AFA can also be considered to have high content validity.

7.4.4.2. Predictive validity

The predictive or criterion-related validity of the new measure was established by correlating it with job stress and perceived organizational support (POS) (see Section

7.3.4.2). Table 27 below shows the resulting correlation matrix. The p-values of correlation coefficients are given in the brackets.

	Poor communication	Adverse impact on work	Lack of employee involvement
POS	-.562 (.000)	-.447 (.000)	-.529 (.000)
Job stress	.268 (.000)	.343 (.000)	.202 (.000)

Table 27. Correlation matrix of subscales of POURC and outcome variables.

As expected, the POS measure correlated negatively and significantly with poor communication ($r = -.562$, $p = .000$), adverse impact of the change on work ($r = -.447$, $p = .000$), and lack of employee involvement in the change process ($r = -.529$, $p = .000$). Furthermore, the job stress measure was positively and significantly correlated with poor communication ($r = .268$, $p = .000$), adverse impact of the change on work ($r = .343$, $p = .000$), and lack of employee involvement in the change process ($r = .202$, $p = .000$). These findings indicate a strong association between the perception that the organization is not supportive of employees and the perception that the organization is unready for change. They also indicate that higher perceptions of organizational unreadiness for change are associated with higher job stress levels. Although the direction of causality is not clear, these results provide further support that the measure of POURC is valid.

7.4.4.3. Face validity

The three POURC subscales (factors) seem to adequately represent the construct. Intuitively, it makes sense that employees who feel that the organization is doing a poor job of communicating the what, why and how aspects of the change, that the change will

have an adverse impact on their work, and that they were not meaningfully involved in the change processes, would not perceive their organization to be ready to implement change successfully. The literature also links unsuccessful change implementation to inadequate communication (e.g., Quirke, 1996; Richardson & Denton, 1996), perceptions that organizational change would have a negative affect on employees (e.g., Jellison, 1993), and failure to involve people in the change processes (e.g., Conner, 1998; Scott & Jaffe, 1995; Wetlaufer, 1999). Taken as a whole, these results suggest that the three subscales of POURC have high face validity.

7.5. Summary of the findings

Interviews conducted at the first stage of the AFA (i.e., act nomination phase) allowed the researcher to generate two lists of organizational actions that employees perceive to typify 1) organizational readiness for change and 2) organizational unreadiness for change.

In the second stage of the AFA, these two groups of actions were rated with respect to their prototypicality by a sample of 98 and 80 public servants respectively. Prototypicality ratings generated a list of 21 organizational actions that employees perceived typified an organization that was ready for change and 19 actions that typified an organization that was not ready for change. The final lists were based on the ratings by the total sample, but they also incorporated several actions that were deemed to be prototypical by one of the subgroups considered in this analysis (i.e., gender and job

type). Data using the two proposed measures were collected from 583 public servants with the help of the Stage III survey.

The prototypicality rating of organizational actions at Stage II indicates a strong link between PORC and the behaviours of senior management, change agents and employees' immediate managers. On the other hand, employees felt their organization was not ready for change if they had poor communication processes with respect to change, poor leadership at all levels, employees were not involved in the change processes, and had to manage change on top of their regular work. This suggests that POURC is a more complex phenomenon than PORC which appears to be very strongly linked to leadership and management of change.

The Stage III survey was administered in four public sector organizations to solicit respondents' opinions about the way change had been implemented in their organizations. The first step of Stage III analysis was to explore both sets of organizational actions for their underlying dimensions. This was accomplished with the help of factor analysis. As a result, PORC actions loaded on three independent factors based on clearly identifiable constructs: 1) commitment of senior management to the change (eight actions), 2) competence of the change agents (nine actions), and 3) support of immediate managers during the change (four actions). POURC actions also loaded on three factors: 1) poor communication practices (ten actions), 2) adverse impact of the change on work (five actions), and 3) lack of employee involvement in the change

process (three actions). These were the same sets of actions observed from the Stage II data.

Cronbach's alpha coefficients demonstrated that the factors of both measures were reliable (i.e., each scale was internally consistent in measuring their underlying constructs). The AFA technique itself ensured high content validity of all the nominated actions. Correlations between the six subscales and related outcome variables provided evidence of predictive validity. Evidence from the literature and an examination of the items within the measures indicated that all the subscales had high face validity. In summary, the measurement validation process supports the following conclusion: the measures of PORC and the measures of POURC are well-defined, reliable, and valid measures of these two constructs. This would suggest that the change agents may use these scales to assess the extent to which employees believe the organization is or is not ready for change. Such measures should also provide recommendations to organizations who seek advice on what things they should do/not do to maximize the chances the change will be successfully implemented.

Chapter 8: Continuums of attitudes toward change and PORC/POURC

As indicated in Section 4.4.1, the literature represents two views on attitudes toward change. On the one hand, resistance and commitment are seen as two separate constructs. On the other hand, they are viewed as two poles on the same attitude continuum. Research Question #3 addressed this dilemma by inquiring about the best way to conceptualize resistance and commitment to change: as two separate constructs or as two poles on the same attitude continuum.

Similar issues arise with respect to PORC/POURC. There is a theoretical proposition in the literature (Eby et al., 2000) that perceptions of organizational readiness and unreadiness for change might be two poles on the same continuum, but this proposition had not been empirically tested. Accordingly, Research Question #4 sought clarification of this issue by asking about the best way to conceptualize perceived organizational readiness for change and perceived organizational unreadiness for change: as two separate constructs or as two poles on the same continuum.

To answer these questions, two types of analysis were undertaken (see Section 4.4.1): content analysis and inspection of the correlation coefficients. This chapter is divided into two parts corresponding to the research questions noted above. Analysis associated with Research Question #3 (attitudes toward change) will be presented first followed by analysis pertaining to Research Question #4 (PORC/POURC).

8.1 Commitment and resistance to change

The first step in answering Research Question #3 involved content analysis of the interview material (AFA Stage I results) for patterns in employee behaviours that manifested their commitment and resistance to change.¹ Using these two lists, the researcher tried to identify pairs of nominated behaviours that were semantically similar but espoused in opposite ways (see Table 28). The full lists that were examined can be seen in Appendix H (i.e., tables of commitment and resistance behaviours for the total sample).

The results identify 11 resistance behaviours that are opposite to the behaviours public servants engaged in when they felt committed to a change. For example, “I speak favourably about the change to my peers” versus “I complain about the change to my co-workers.” The existence of such pairs of behaviours suggests that commitment and resistance might represent two poles of a continuum. However, when the most typical behaviours were selected in the prototypicality rating stage (AFA Stage II), none of the resistance behaviours that were the negative equivalents to the commitment behaviours was selected as the result of prototypicality rating (see Table 28). Based on the Stage II results then, behaviours that public servants use in response to transformational change do not form a continuum, although the Stage I data suggest that such a continuum might exist.

¹ It will be recalled that indifference toward change was not represented by any unique behaviours and was therefore excluded from further analysis (see Section 6.2.4).

Behaviours of commitment	Behaviours of resistance
I invest more time and effort in my work than formally required	I just do my job and try to survive (i.e., I only do the minimum required just to get by)
I introduce changes in my daily work to help the organization achieve its change goals	I do not get involved in anything to do with the change initiative for as long as possible I use a lack of time as an excuse not to participate in the change process
I display a positive attitude by being upbeat and smiling	I get angry and take it out on those around me
I change my behaviours to model the desired new behaviours	I deny that the change is going to happen
I initiate changes myself	I implement the change only when told so by the supervisor
I speak favourably about the change to my peers	I complain about the change to my co-workers
I give positive feedback about the change to my superiors	I keep my opinion about the change to myself
I defend the change if I hear other people speaking unfavourably of it	I speak negatively about the change to everybody in the organization
I am more willing to participate in the social events of the organization	I shut myself off and do not engage with others
I speak favourably about the change initiatives to people outside the organization	I complain about the organization to outsiders

Table 28. Pairs of commitment and resistance behaviours. (Shaded items included in the measure tested in Stage III.)

Correlation analysis with Stage III data (see Table 29) provided a further insight into the relationship between both attitudes toward change. As explained in Section 4.4.1 and

	Spreading the change	Implementing the change	Voicing concerns
Spreading the change	1		
Implementing the change	0.528 (.000)	1	
Voicing concerns	0.485 (.000)	0.421 (.000)	1

Table 29. Intercorrelations among the measures of employees' attitudes toward change.

Figure 12. Conditions when two constructs are dichotomous or two poles on the same continuum.

graphically demonstrated in Figure 10, for resistance and commitment to change to be dichotomous, they need to be unrelated (Figure 10a). To form an attitude continuum on the other hand, their end points need to be highly negatively related (Figure 10b). As can be seen in Table 29, the resistance factor (i.e., voicing concerns about the change) correlated highly positively and significantly with spreading the change ($r = .485$, $p = .000$) and implementing the change personally ($r = .421$, $p = .000$). This finding shows that the final measures of attitudes toward change in the public sector produced using the AFA did not correspond to either the dichotomy or the continuum of change as originally postulated. Instead, the significant overlap between the three subscales suggests that to a great extent, they are all measuring the same construct (Figure 10c). To check this possibility, scale reliability test was run with the three factors entered simultaneously. The high reliability coefficient (Cronbach's $\alpha = .85$) indicates that all the items consistently measure the same underlying construct.

8.2. PORC/POURC

The first step in analysis was content analyzing organizational actions nominated at the interview stage (AFA Stage I). After the two lists of actions representing organizational readiness and unreadiness for change were edited, all the actions were clustered into logical groupings by two researchers using their judgment as described earlier in Section 7.1. The full list of groupings with their corresponding items can be found in Appendix M.

To answer the research question at hand, all the groupings and their items describing organizations that were perceived to be ready for change were compared to those describing organizations that were perceived to be not ready for change. Table 30 summarizes these items and groupings. It can be seen that actions of both lists were grouped into the same clusters and a large number of nominated items also formed pairs of actions that were similar but espoused in opposite ways. For example, “There is a champion of change at the most senior level of the organization” versus “There is no one at the top of the organization who is able to provide a strong leadership role with respect to the change.” This suggests that perceptions of organizational readiness and unreadiness for change are two poles on the same perceptual continuum.

When the most typical organizational actions were selected with the help of the Stage II survey, some clusters were retained in the final list, but others were not. Table 31 below

PORC items	POURC items
Senior leadership behaviours	
There is a champion of change at the most senior level of the organization.	There is no one at the top of the organization who is able to provide a strong leadership role with respect to the change.
Change messages on where the organization is going and why come directly from the executive team.	Senior management does not provide front-line and middle managers with timely information to enable them to explain change initiatives to their staff.
Leaders create excitement and enthusiasm about change in the staff.	Senior management does not inspire enthusiasm about change.
Senior management is decisive with respect to organizational goals, priorities and strategies concerning the change.	The senior management is not decisive with respect to change goals and priorities.
Senior management defines the course of change and stays the course for several years.	Senior management defines the course of change and stays the course for several years.
Senior management makes themselves available so that staff can ask them questions on the change in person.	Change is implemented in a top-down autocratic manner.
	There is a disconnect between the senior management and working levels with respect to change priorities and interpretation of the change.
Behaviours of change agents	
There is a change management team that has been designated to lead the change.	The team of change agents is not a cohesive unit.
Change leaders have gained credibility with their actions in the past.	Change leaders are not considered credible because of their actions in the past.
People who lead change act professionally and ethically.	Change is motivated by the personal agenda of the change leaders – not what is good for the organization.
Change agents have done research to select the right type of change that addresses the underlying causes of organizational problems rather than just symptoms.	Change leaders have misdiagnosed the type of change necessary to solve the existing organizational problems.
	Change initiators do not understand what the long-term impact of change on the organization will be.
Behaviours of all managers	
Management practices around change are transparent.	Management's practices around change are not transparent.
Management provides clear directives with respect to change and reinforces them without exceptions.	Managers fail to translate the high level goals of change into detailed objectives and guidelines for the staff at the operational level.
Managers at all levels lead by example.	There is a disconnect between managers' words and deeds.
Managers at all levels are the first to get on board with respect to the change.	Managers do not follow through on the change policies adopted by the upper management.

(Table to be continued on the next page)

PORC items	POURC items
Management sets clear expectations and accountabilities for the staff with respect to the change.	Managers have not set clear roles and responsibilities for the staff.
Management sets clear roles and responsibilities for the staff with respect to the change	
Managers acknowledge the impact change may have on their staff.	Managers do not acknowledge the impact the change may have on their staff.
Sufficient training is provided to managers at all levels of the organization to enable them to communicate and lead change.	Managers have not been given any training on how to lead change.
Impact on employees	
Employees feel that they will personally benefit from the change.	Employees do not see how they will personally benefit from change.
Communication	
Change is driven by a clear vision that everybody understands.	There is no vision for the change that everybody in the organization understands.
The expected outcomes and benefits of change are well explained.	The outcomes and benefits of change are not well explained.
Specific change decisions are well explained.	Information on the change is communicated in too general terms to be meaningful.
Information on the change is communicated to the external stakeholders.	
Change messages are communicated frequently through various communication channels.	
Important information is passed directly to the people who need it for doing their work.	The ways in which the change will be implemented are not well explained.
Operational details how the change will be implemented are provided to the staff.	
The expected impact of the change on work processes is well explained.	The expected impact of the change on daily work processes is not well explained.
Regular staff meetings are held to inform people about change plans and progress .	Information on certain change events is disseminated only among the "chosen few".
The major communication channel used to provide information on the change is face-to-face meetings.	Impersonal communication channels are overused (i.e., all staff e-mails, memos, newsletters, etc.).
Information about change is disseminated in writing to ensure consistency.	Change messages are not documented in writing.
People can exchange their experiences with respect to the change through informal lateral interaction.	People have no opportunity to exchange their experiences with respect to change through informal lateral communication.
Meetings are called and/or messages sent only when there is meaningful and/or new information to communicate.	People are overloaded with change messages irrelevant to their job.
A formal staff feedback mechanism is implemented to ensure upward feedback on the change.	There is no formalized mechanism in place to ensure upward feedback on the change.
Planning and design of change	
Bottom-up initiatives are encouraged and acted upon.	Bottom-up initiatives are not encouraged and acted upon .
The situation with respect to change has been diagnosed before the change is implemented.	Change is started without a proper investigation of the present situation.

(Table to be continued on the next page)

PORC items	POURC items
Accountabilities and responsibilities	
Employees at all levels are held accountable for the implementation of change in their functional area .	Employees at all levels are not held accountable for the implementation of change in their functional area.
Performance agreements include information on expectations with respect to implementation of the change.	Performance agreements do not include information on expectations with respect to the implementation of change.
Availability of resources and tools	
Staff are provided with the resources they need to do their work the new way.	Staff are not provided with the resources they need to do their work the new way.
Managers are given sufficient budgets to meet their change objectives.	The limited budgets are not allocated with the change priorities in mind.
The organization gives employees time to actively participate in change initiatives.	Workloads do not permit people to get involved in change initiatives.
Process of change implementation	
One change is implemented completely before the next is started.	Implemented change is not allowed to stabilize before the next change starts.
	The organization gives up on the change too soon – they do not follow through on the change initiatives
Employee involvement in the change process	
People who are directly involved in the activities undergoing change are consulted before change is implemented.	People who do the actual work are not involved in making decisions concerning changes in their work area.
Employees have control over the change outcomes in their area.	Consultation with the staff in regard to upcoming change is done after the fact.
	Employees do not have control over the change processes and outcomes in their area.
External stakeholders have a say in the change process.	External stakeholders do not have a say in the change process.
Unions are involved in and have influence over the change process.	Unions are not involved in and do not have influence over the change process.
Treatment of people	
There are no negative consequences for making errors when doing work in new ways.	People are punished for taking risks and making mistakes when doing work the new way.
People are encouraged to set priorities and say “no” to things that are not priorities.	People are discouraged from saying “no” to work – even when the assigned task is not a priority.
There is a recourse mechanism in place to address people’s concerns about change.	There is no recourse mechanism in place to address people’s concerns about change.
People are given a choice with respect to what change initiatives they wish to participate in.	Change is implemented by means of intimidation: “Change or else...”
Rewards and recognition	
Employees at all levels are provided with tangible rewards for engaging in behaviours that support change.	Employees at all levels are not provided with tangible rewards for engaging in behaviours that support change.
Employees at all levels are provided with positive feedback and verbal reinforcement of the new behaviours.	Employees at all levels are not provided with positive feedback and verbal reinforcement of the behaviours that support change.

(Table to be continued on the next page)

PORC items	POURC items
Alignment of change practices	
All change initiatives are aligned with respect to the mission, vision and values of the organization so that efforts can be applied consistently.	Change initiatives are not aligned with respect to the vision, values, the desired culture, and systems of the organization.
Change in one unit is supported in other parts of the organization	

Table 30. Pairs of actions and groupings of actions describing organizations that are perceived to be ready for change and those that are perceived to be not ready for change. (Shaded items included in the measure tested in Stage III.)

demonstrates the correspondence between the retained clusters of both lists. Also some of the unreadiness items within these clusters that were the negative equivalents to the readiness items were rated as prototypical (see shaded areas in Table 30). These results still suggest that to some extent, the continuum of PORC/POURC might exist.

Themes of PORC	Themes of POURC
Senior leadership behaviours	Senior leadership behaviours
Change agent behaviours	Change agent behaviours
Immediate manager behaviours	
Behaviours that all managers regardless of level engage in	Behaviours that all managers regardless of level engage in
	Impact on employees
Communication	Communication
	Resources and tools
Process of implementation	Process of implementation
	Involvement and participation
	Treatment of people

Table 31. Groupings of actions describing organizations that are perceived to be ready for change and those that are perceived to be not ready for change after they have been rated for their prototypicality (AFA Stage II).

The quantitative analysis of the Stage III survey data provided a further insight into the relationship between perceptions of readiness and perceptions of unreadiness for change. In Stage III of the AFA methodology, all organizational behaviours were clustered with the help of factor analysis. Although the factor analysis regrouped the initial Stage II

solution based on content analysis, and the factors were given labels that were not exactly the same as the themes of clusters, they still represented the same behaviours. Therefore, factor correlation coefficients were inspected to see how the behaviours of both lists related to each other.

Table 32 shows that the factors representing organizations that were perceived to be ready for change all correlated significantly and negatively with those representing

	Commitment of sr. mgmt.	Competence of change agents	Supportive immediate. mgr.
Poor communication	-.691 (.000)	-.748 (.000)	-.611 (.000)
Adverse impact on work	-.518 (.000)	-.582 (.000)	-.459 (.000)
Lack of employee involvement	-.569 (.000)	-.637 (.000)	-.497 (.000)

Table 32. Intercorrelations among the measures of PORC and POURC.

organizations that were perceived to be not ready for change. Thus, poor communication practices correlated negatively with commitment of senior management ($r = -.691$, $p = .000$), competence of the change agents ($r = -.748$, $p = .000$), and support of immediate managers ($r = -.611$, $p = .000$). Furthermore, adverse impact of the change on work correlated negatively with commitment of senior management ($r = -.518$, $p = .000$), competence of the change agents ($r = -.582$, $p = .000$), and support of immediate managers ($r = -.459$, $p = .000$). Likewise, the lack of employee involvement in the change process correlated negatively with commitment of senior management ($r = -.569$, $p = .000$), competence of the change agents ($r = -.637$, $p = .000$), and support of immediate

managers ($r = -.6497$ $p = .000$). Although the coefficients do not indicate a perfect opposition of both groups of actions, they are high enough to suggest that perceptions of organizational readiness and unreadiness for change are two poles on a continuum.

8.3. Summary of the findings

To answer the research questions, two types of analysis were used. First, the behavioural acts nominated at the interview stage and those selected at the prototypicality rating stage were content analyzed. Then, the scores of behaviours and actions obtained from the Stage III survey were correlated to test if the measures within each group formed a continuum or were two separate measures. The findings as they describe the relationship between 1) commitment and resistance to change and 2) perceived organizational readiness and unreadiness for change are summarized below.

The study provided mixed findings that could not fully confirm or completely reject the existence of a continuum of attitudes toward change. Pairs consisting of commitment and resistance behaviours discovered at the interview stage, led us to believe that this research might have found a support for the hypothesized continuum of attitudes toward change. However, further inspection of Stage II and III data did not support this initial conclusion.

The content analysis of the interview material (AFA Stage I) and the Stage II survey as well as the quantitative analysis of the Stage III survey supported the idea proposed by Eby et al. (2000) that perceptions of organizational readiness for change exist on a continuum.

The results of the Stage III survey showed that actions associated with organizations that were perceived to be ready for change represented an opposite domain to that of actions associated with organizations that were perceived to be not ready for change. This suggests that the readiness and unreadiness scales together can be used as one measure to assess the degree to which employees believe their organization is ready for change.

This finding also has implications for how we refer to this construct (as PORC) in the rest of this thesis. PORC can be considered a continuum of perceived organizational readiness to change. Consequently, high scores on the three readiness factors and low scores on the three unreadiness factors can be interpreted to indicate an organization that is perceived to be ready for change (one end of the PORC continuum). Similarly, low scores on the three readiness factors and high scores on the three unreadiness factors point to an organization that is perceived to be not ready for change (the other end of the PORC continuum).

Chapter 9: Relationship between employees' attitudes toward change and PORC

Chapters 6 and 7 outlined how this research satisfied two of the core research objectives posed for this study. They are: 1) the development and validation of measures quantifying employees' attitudes toward change and 2) the development and validation of measures quantifying PORC. The relationships between these two sets of measures will be explored in this chapter. The chapter is divided into three parts. The relationship between these two groups of measures as assessed using correlation analysis (Research Question #5a) will be presented first followed by an examination of the relationship using regression analysis (Research Question #5b). At the end of the chapter, the results as they pertain to both research questions will be discussed.

9.1. Simple association between the constructs

Correlation analysis was used to explore the association between the constructs quantifying employees' attitudes toward change and those quantifying PORC. To avoid inflated significance of the correlation coefficients, they were tested at a corrected alpha level of .004. It was calculated with the help of the interactive statistical analysis table (see Section 4.2) using the mean correlation between the matrix variables of .159 and 18 comparisons. Table 33 below summarizes the results of this analysis. The p-value of each correlation coefficient is shown in brackets.

There was a significant positive correlation between the three organizational readiness factors and both commitment to change factors. "Spreading the change" correlated

positively with commitment of senior management to the change ($r = .308, p = .000$), competence of the change agents ($r = .378, p = .000$), and support of immediate managers ($r = .252, p = .000$). “Implementing the change personally” also correlated positively with commitment of senior management ($r = .201, p = .000$), competence of the change agents ($r = .173, p = .000$), and support of immediate managers ($r = .172, p = .000$).

	Readiness end of continuum			Unreadiness end of continuum		
	Commitment of sr. mgmt.	Competence of change agents	Support of immediate mgr.	Poor communication	Adverse impact on work	Lack of employee involvement
Spreading the change	.308* (.000)	.378* (.000)	.252* (.000)	-.300* (.000)	-.182* (.000)	-.281* (.000)
Implementing the change	.201* (.000)	.173* (.000)	.172* (.000)	-.138* (.001)	-.034 (.412)	-.114 (.006)
Voicing concerns about the change	.064 (.124)	.064 (.122)	.087 (.035)	-.056 (.180)	-.004 (.929)	-.061 (.139)

Coefficient significant at $\alpha \leq .004$

Table 33. Correlations between employees’ attitudes toward change and PORC.

Similarly, there were (with two exceptions) significant negative correlations between both measures of commitment to change and perceptions of organizational unreadiness. Employee willingness to spread the change correlated significantly and negatively with the three subscales of the measure of perceived organizational unreadiness for change: poor communication ($r = -.300, p = .000$), adverse impact of the change on work ($r = -.182, p = .000$), and lack of employee involvement ($r = -.281, p = .000$). Willingness to implement the change personally, on the other hand, had a significant negative association with poor organizational communication practices ($r = -.138, p = .001$). There was no association between this form of commitment to change and two perceived

organizational unreadiness to change factors, adverse impact of the change on work and lack of employee involvement in the change process.

Finally, it is interesting to note that the measure of resistance (“Voicing concerns about the change”) did not correlate significantly with any of the perceived readiness for change factors.

9.2. Causal relationship between the constructs

As explained in Section 4.4.2 of the Methodology chapter, correlation provides only a simple association between two variables. The literature, however, (Armenakis et al, 1993; Eby et al., 2000) has suggested that perceptions of organizational context with respect to change (i.e., PORC) might influence people’s attitudes toward the change (i.e., the association between these two groups of constructs might be causal). To test this proposition, the subscales of employees’ attitudes toward change were treated as dependent variables, while the subscales measuring PORC were treated as independent variables. Regression analysis was also used to determine the relative importance of each of these predictors with respect to predicting the three attitudes toward change. This section will present the results of both types of regression analysis.

Before running the regression analysis, it was necessary to check the data for the presence of multicollinearity. This was done by examining the correlation matrix of the six factors of PORC and identifying high correlations. According to Roberts (2004),

correlations between $|.50|$ and $|.75|$ indicate the presence of a moderate to strong multicollinearity. Fifteen such associations were identified in these data (see Table 34).

	Commitment of sr. mgmt.	Competence of change agents	Support of immediate mgr.	Poor communica- tion	Adverse impact on work
Competence of change agents	.774 (.000)				
Support of immediate mgr.	.628 (.000)	.627 (.000)			
Poor communication	-.691 (.000)	-.748 (.000)	-.611 (.000)		
Adverse impact on work	-.518 (.000)	-.582 (.000)	-.459 (.000)	.727 (.000)	
Lack of employee involvement	-.569 (.000)	-.637 (.000)	-.497 (.000)	.762 (.000)	.661 (.000)

Table 34. Multicollinearity in the set of independent variables.

This high level of multicollinearity required the use of ridge regression (instead of ordinary linear regression) as explained in Section 4.4.2 of the Methodology chapter.

Table 35 presents the results of the ridge regression analysis and the calculation of Pratt's measures. It shows the total variance R^2 for attitude toward change (i.e., dependent variable) jointly explained by all the PORC factors (i.e., independent variables) as well as the relevant beta weights, correlation coefficients (these were taken from Table 33), and the standardized Pratt's measures.

In the first model, the dependent variable was "Spreading the change." Examining the R^2 value, it can be seen that PORC explains just over 14 % of the variation in this attitude toward change. The large value of the constant ($b = 3.445$, $t = 18.894$, $p = .000$) suggests

that the rest of the variance is explained by factors outside the scope of this research. This analysis indicates that there are four key predictors of whether or not an employee will display this form of commitment to change (i.e., spreading the change): perception of the competency of the change agents, perceptions with respect to the commitment of senior management to the change (both positively associated), lack of employee involvement in the change process, and poor communication (both negatively associated). These four factors were not, however, equally important to the prediction. The values of standardized Pratt's measure were used to determine the relative importance of each of the factors. Perceptions of the change agents' competency ($d = .473$) turned out to be just over three times as important in predicting this form of commitment to change as the two next important predictors - senior management's commitment to the change ($d = .144$) and employee involvement in the change processes ($d = .143$) and four times more important a predictor as poor communication practices ($d = .119$). The support of the immediate manager and the perceived impact the change has on one's work have very little impact on the prediction of whether or not an employee is willing to spread the change throughout the organization (i.e., actually commit to the change).

In the second model, the dependent variable was "Implementing the change personally." PORC, as operationalized in this study, has limited ability to predict this form of commitment to change (R^2 of 5%), and a high constant ($b = 3.524$, $t = 20.069$, $p = .000$) indicates that most of the explanatory power is left to factors outside this research. This conclusion is supported by the high value of the constant. Three of the six dimensions

Depend. variable	R ²	F	Sig.	Predictors	Beta weight	t	Sig.	Correl Coeff ^b	Stand. Pratt's Coeff ^d
Spreading the change	.144	15.96	.000	Constant	3.445 ^a	18.894	.000		
				Competence of change agents	.180**	6.038	.001	.378***	.473
				Commitment of sr. mgmt.	.067*	2.233	.05	.308***	.144
				Lack of employee involvement	-.072*	-2.394	.05	-.281***	.143
				Poor communication	-.057	-1.989	.10	-.300***	.119
				Support of immediate mgr.	.037	1.200	.50	.252***	.065
				Adverse impact on work	.045	1.500	.20	-.182***	-.057
Implementing the change	.050	5.02	.000	Constant	3.524 ^a	20.069	.000		
				Commitment of sr. mgmt.	.086*	3.298	.02	.201***	.346
				Support of immediate mgr.	.061*	2.237	.05	.172***	.210
				Competence of change agents	.051	1.989	.10	.173***	.177
				Poor communication	-.024	-.973	.50	-.138***	.066
				Lack of employee involvement	-.017	-.667	.50	-.114	.039
				Adverse impact on work	.065*	2.426	.05	-.034	-.044
Voicing concerns about the change	.010	0.98	.440	Constant	3.775 ^a	21.775	.000		
				Support of immediate mgr.	.045	1.625	.20	.087	.392
				Lack of employee involvement	-.026	-.979	.50	-.061	.159
				Commitment of sr. mgmt.	.016	.598	>.50	.064	.102
				Competence of change agents	.011	.437	>.50	.060	.066
				Poor communication	-.011	-.430	>.50	-.056	.062
				Adverse impact on work	.038	1.394	.20	-.004	-.015

^a For constants, the regression coefficient is unstandardized b. ^b Correlation between the dependent variable and PORC from Table 33.

* Coefficient significant at $\alpha \leq .05$

** Coefficient significant at $\alpha \leq .01$

*** Coefficient significant at $\alpha \leq .004$ (corrected α level for the correlation matrix)

of PORC are significant predictors of this attitude toward change: perceptions with respect to the commitment of senior management to the change, perceptions of the support of the immediate manager, and perceptions of the competence of the change agents. Not all of these factors were of equal importance in predicting whether or not an employee will display behaviours associated with the willingness to implement the change personally. The most important predictor of employees' willingness to implement the change in their own work turned out to be senior management's commitment to the change ($d = .346$). This factor was 1.5 times more important than support of immediate managers ($d = .210$) and two times more important than perceived competence of the change agents ($d = .177$). It is also interesting to note that the beta weight of one other factor, impact of the change on work is statistically significant. Pratt's measure, on the other hand, indicates that this variable is not an important predictor of this form of commitment to change. Work by Cascio (1991) would, therefore, suggest that this factor could be a suppressor variable (Cascio, 1991). Due to its low relative importance in this equation ($d = -.044$), however, the behaviour of this variable was not further analyzed.

In the third model, the dependent variable was "Voicing concerns about the change." The six PORC factors explain only 1% of the variance in this dependent variable. The high value of the constant ($b = 3.775$, $t = 21.775$, $p = .000$) indicates that voicing concerns about the change is likely to be predicted by other explanatory variables in this research or outside it. None of the PORC factors is a significant predictor of employees' voicing concerns about the change.

9.3. Summary of the findings

This section used two statistical procedures (i.e., correlation and ridge regression analyses) to establish the relationship between the constructs of employees' attitudes toward change and PORC. The constructs were operationalized with the help of the two groups of measures developed in this study. First, a simple association between the measures was explored using correlation analysis among the factors of both groups of measures. The correlations demonstrated that there is 1) a strong positive association between the three PORC readiness factors (i.e., committed senior management, competence of the change agents, and supportive immediate manager) and both measures of employees' commitment to change (i.e., spreading the change and implementing it personally), 2) a strong negative association between one of the three PORC unreadiness components (i.e., poor communication) and both measures of employees' commitment to change (i.e., spreading the change and implementing it personally), 3) a strong negative association between perceptions that change would have an adverse impact on work and one form of commitment to change (i.e., employees' willingness to spread the change), and 4) no association between PORC and the measure of employees' resistance to change (i.e., employees' voicing concerns about the change).

The second type of analysis used in this thesis explored the possibility that perceptions of organizational readiness for change might predict employees' attitudes toward change. To this end, ridge regression analysis was performed with employees' attitudes toward change as the dependent variables and PORC factors as the independent variables. Data

analysis indicates that a substantive percent of the variance in “Spreading the change” could be explained by our measures of PORC (i.e., 14%). The amount of variance in our other two attitudes toward change measures (i.e., “Implementing the change personally” and “Voicing concerns about the change”) explained by PORC was not, however, large (i.e., 5% and 1% respectively). The high value of the constant in the regression equations suggests that many relevant factors have not been included in this thesis.

It was also determined from this analysis that not all the designated explanatory variables are equally important predictors of employees’ attitudes toward change. Of the factors included in this study, competence of the change agents accounted for most of the variance in employees’ willingness to spread the change, followed by committed senior management, lack of employee involvement in the change processes, and poor communication practices. PORC played a less important role in determining employees’ willingness to implement changes personally (i.e., explained only 5% of the variance in this attitude toward change). Finally, PORC was not a significant predictor of whether or not an employee would voice his/her concern about the change (i.e., it accounted for only 1% of the variance in this attitude toward change).

Chapter 10: Impact of job type on variables in the model

This research posed three questions pertaining to the relationship between job type (operationalized as managers and non-managers) and other variables in the model.

Specifically, this research seeks answers to the following questions:

- What is the association between job type and employees' manifested attitudes toward change ? (Research Question #6)
- What is the association between job type and PORC? (Research Question #7)
- What is the association between job type and individual dispositions? (Research Question #8)

To analyze the research results and answer these questions, this chapter is divided into four parts. To answer Research Question #6, the association between job type and employees' attitudes toward change (i.e., commitment and resistance) will be examined in part one. Part two will address the association between job type and PORC in the public sector thereby answering Research Question #7. The answer to Research Question #8 which explores the relationship between job type and individual dispositions will be covered in part three. The chapter will conclude with a summary of key findings.

10.1. Association between job type and employees' attitudes toward change

It was hypothesized that managers may differ from non-managers with respect to their attitudes toward organizational change. This question was answered by examining between-group differences in the commitment and resistance mean scores obtained using

the Stage III data set. Table 36 shows the means, standard deviations, t statistic, and significance levels for each of the attitude toward change factors. The alpha level for these tests was corrected to take into consideration the intercorrelations among the factors (see Table 29 in Chapter 8). The parameter used in the Bonferroni adjustment calculation was a mean correlation of .478, and the number of tests equaled 3 (see Section 4.2). The alpha for each test was lowered to .03.

	Mgrs.		Non-Mgrs.		Between-group differences		
	mean	SD	mean	SD	t	df	p
Spreading the change	4.05	.570	3.83	.554	4.594*	580	.000
Implementing the change personally	4.21	.596	4.00	.591	4.092*	580	.000
Voicing concerns about the change	4.04	.572	3.90	.582	2.806*	580	.002

* Coefficient significant at $\alpha \leq .03$ (Bonferroni adjustment).

Table 36. Job type and attitudes toward change.

Examination of these data indicate that job type significantly affects how public servants behave when they are committed or resistant to change. Managers were much more likely than non-managers to implement changes personally in their daily work ($p = .000$), spread changes throughout the organization ($p = .000$), and also voice their concerns about the change ($p = .002$).

10.2. Association between job type and PORC

It was hypothesized that managers may differ from non-managers with respect to their perceptions of organizational readiness and unreadiness for change. Again between-group differences were explored using the Stage III data set.

The mean scores of the three PORC readiness subscales (i.e., commitment of senior management, competence of the change agents, and support of immediate managers) and the three PORC unreadiness subscales (poor communication, adverse impact of change on work, and lack of employee involvement in the change process) were examined for significant job type differences. Relevant data (i.e., means, standard deviations, t statistics, and significance levels) are shown in Table 37. The alpha level for these tests was corrected using the methodology outlined by Uitenbroek (1998). The parameters included a mean correlation of .629 and the number of tests equaled 6. Accordingly, the alpha for each test was lowered to .03.

	Mgrs.		Non-Mgrs.		Between-group differences		
	mean	SD	mean	SD	T	df	p
Commitment of sr. mgmt	3.23	.862	3.09	.806	1.901	580	.058
Competence of change agents	3.18	.747	3.06	.711	1.896	580	.058
Support of immediate mgr.	3.30	.820	3.22	.840	1.101	580	.272
Poor communication	3.40	.867	3.57	.780	-2.497*	466	.013
Adverse impact on work	3.73	.796	3.70	.743	.415	580	.678
Lack of employee involvement	3.61	.965	3.78	.913	2.111	580	.035

* Coefficient significant at $\alpha \leq .03$ (Bonferroni adjustment).

Table 37. Job type and PORC.

At the significance level of $\alpha \leq .03$, there were no job type differences with respect to public servants' perceptions of commitment of senior management, competence of change agents, and support provided by immediate managers. Neither did managers and non-managers differ in their perceptions of the extent to which the change had an adverse impact on work and that employees were not involved in the change process. Non-

managers were, however, significantly more likely than managers to believe that communication practices in their organization were poor ($p = .013$).

10.3. Association between job type and individual dispositions

The Stage III survey also included measures of four individual dispositions: tolerance for ambiguity, locus of control, positive affectivity, and negative affectivity. The relationship between job type and individual dispositions can be seen by examining the data in Table 38. Again the alpha level for these tests was corrected. In the calculation, the parameter of a mean correlation of .214 and the number of tests equaling 4 were used. Accordingly, the alpha for each test was lowered to .02.

	Mgrs.		Non-Mgrs.		Between-group differences		
	mean	SD	mean	SD	t	df	p
Tolerance	3.22	.511	3.11	.573	2.317*	580	.021
Locus of control	2.50	.393	2.68	.417	-5.229*	580	.000
Positive affectivity	3.65	.726	3.39	.779	4.064*	580	.000
Negative affectivity	1.84	.693	2.01	.765	-1.146	580	.252

* Coefficient significant at $\alpha = .02$ (Bonferroni adjustment).

Table 38. Job type and individual dispositions.

The results indicate that managers reported significantly higher tolerance for ambiguity ($p = .021$), positive affectivity ($p = .000$) and internal locus of control ($p = .000$) than non-managers. In other words, managers are more likely than non-managers to be comfortable with uncertainty, have a positive world view, and believe that they can control the external environment. The two groups did not differ, however, with respect to negative affectivity (neither group had high scores on this disposition).

10.4. Summary of the findings

This chapter sought answers to research questions that related job type (operationalized as managers and non-managers) to other variables in the model. The results from this analysis indicate that there are significant job type differences with respect to attitudes toward change and individual dispositions.

When asked to indicate the extent to which public servants actually engaged in behaviours typifying commitment or resistance to change, managers were more likely than non-managers to indicate that they implemented changes personally, proactively promoted them throughout the organization, and voiced their concerns about the change.

In this study, there was only one job type difference with respect to PORC. Non-managers were more likely than their counterparts in managerial positions to perceive that their organization did a poor job of communicating the change.

The Stage III data also indicate that public service managers are significantly more tolerant of ambiguity, have a more positive world outlook (i.e., scored higher on the positive affectivity measure), and feel that they are much more in control of events and the external environment (i.e., scored lower on the external locus of control measure) than non-managers.

Chapter 11: Impact of individual dispositions on variables in the model

The literature has suggested that perceptions people have with respect to organizational change processes may vary based on their personality dispositions. Two research questions were posed in this thesis to increase our understanding of the relationship between dispositions and attitudes toward change and PORC:

- What is the association between individual dispositions and employees' attitudes toward change? (Research Question #9)
- What is the association between individual dispositions and PORC? (Research Question #10)

The answer to Research Question #9 was obtained by examining the relationship between individual dispositions and employees' attitudes toward change (i.e., commitment and resistance). To answer Research Question #10, the relationship between individual dispositions and PORC was examined.

The chapter is divided into three parts. In the first part, the analysis of association between individual dispositions and employees' commitment and resistance to change will be presented. The relationship between individual dispositions and PORC will be addressed in the second part of the chapter. The chapter will conclude with a summary of the key findings with respect to these issues.

11.1. Individual dispositions and employees' attitudes toward change

To test if there is a relationship between individual dispositions included in this study and employees' attitudes toward change, two types of analysis were used. First, the simple association between each individual disposition and each attitude toward change factor was tested using correlation analysis. Second, regression analysis was run to explore the proportion of variance the individual dispositions explained in each of our three measures of attitude toward change. The relative importance of each individual disposition in predicting employees' attitude toward change was also calculated. The results of these two statistical procedures are described in the two subsections below.

11.1.1. Simple association between individual dispositions and attitudes toward change

The four individual dispositions (i.e., tolerance for ambiguity, positive and negative affectivity, and locus of control) were correlated with our three measures of attitudes toward change: spreading the change, implementing the change personally, and voicing concerns about the change. Correlations were first run with the whole sample and then repeated with two subsamples based on job type. Table 39 below shows the correlation coefficients with the associated significance levels shown in brackets. The alpha level for these tests was adjusted taking into account the parameters of mean correlations between all variables (.202 in the total sample, .180 in the managers' subsample, and .195 in the non-managers' subsample) and the number of tests (12) performed (as outlined earlier in Section 4.2). The alpha was lowered to .007 in all cases.

		Tolerance	Positive affectivity	Negative affectivity	Locus of control
Overall	Spreading the change	.189* (.000)	.369* (.000)	-.192* (.000)	-.374* (.000)
	Implementing the change	.120* (.004)	.290* (.000)	-.063 (.130)	-.223* (.000)
	Voicing concerns about the change	.032 (.434)	.249* (.000)	-.126* (.002)	-.198* (.000)
Managers	Spreading the change	.144 (.028)	.388* (.000)	-.209* (.001)	-.276* (.000)
	Implementing the change	.119 (.068)	.288* (.000)	-.188* (.004)	-.175* (.007)
	Voicing concerns about the change	.002 (.972)	.162 (.013)	-.138 (.035)	-.071 (.278)
Non-managers	Spreading the change	.195* (.000)	.325* (.000)	-.173* (.001)	-.397* (.000)
	Implementing the change	.098 (.069)	.261* (.000)	.035 (.510)	-.204* (.000)
	Voicing concerns about the change	.031 (.568)	.279* (.000)	-.107 (.046)	-.239* (.000)

Shaded cells indicate cases where the correlation was significant for one job type only.

* Coefficients significant at $\alpha \leq .007$ (Bonferroni adjustment).

Table 39. Correlation coefficients between individual dispositions and employees' attitudes toward change.

Correlation analysis using the whole sample shows that, with two exceptions, there is a strong association between the four individual dispositions considered in this analysis and employees' attitudes toward change. The following observations can be drawn with respect to the association between these two constructs. First, significant positive correlations between tolerance for ambiguity and both commitment factors (i.e., spreading the change, $r = .189$, $p = .000$ and implementing the change personally, $r = .120$, $p = .004$) show that individuals who are more tolerant of ambiguity are also more likely to implement the change in their daily work and spread it throughout the organization. There is no correlation between tolerance for ambiguity and voicing

concerns about the change indicating that this form of resistance to change is not associated with this disposition.

A more positive world outlook (i.e., high positive affectivity) is associated with the tendency to engage more in spreading the change ($r = .369$, $p = .000$), implementing it personally ($r = .290$, $p = .000$) as well as voicing concerns about it ($r = .249$, $p = .000$).

Negative affectivity, on the other hand, does not seem to be related to members' decision to implement change in their own work area. It is, however, significantly related to an employee's willingness to engage in a more proactive set of behaviours linked to spreading the change ($r = -.192$, $p = .000$) and voicing his/her concerns about it ($r = -.126$, $p = .002$). In both cases, people with higher levels of negative affectivity were less likely to spread the change and actively voice their concerns about it.

Finally, significant negative correlations between locus of control and spreading the change ($r = -.374$, $p = .000$), implementing it personally ($r = -.223$, $p = .000$), and voicing concerns about it ($r = -.198$, $p = .000$) indicate that employees who feel that they are in control of their environment and circumstances are more likely to spread the change, implement it personally and voice concerns about it (i.e., demonstrate commitment and resistance) than those with a more external locus of control.

As findings in Chapter 10 showed, individual dispositions were associated with job type. It was found that managers were more tolerant of ambiguity, had a more positive outlook

and a higher internal locus of control than non-managers. These findings mean that in order to understand the role dispositions play in the formation of attitudes toward change, it is necessary to control for job type in our analysis of these relationships. This was done by dividing the sample into two groups (managers and non-managers) and looking at the correlations within each group. Table 39 shows the correlation coefficients for this analysis.

There were no job type differences in eight out of twelve possible relationships. In five of these cases, the relationship between attitudes and dispositions was still significant regardless of job type (i.e., positive affectivity and locus of control were both positively associated with spreading the change and implementing it personally, and negative affectivity was negatively associated with spreading the change). This finding indicates that there is a link between these attitudes and dispositions that does not depend on the characteristics of the sample.

In two out of the eight relationships with no job type differences, the association had gone from significant in the total sample to insignificant in both subsamples (i.e., tolerance for ambiguity was unrelated to implementing the change and negative affectivity unrelated to voicing concerns about the change when job type had been controlled for). Tolerance for ambiguity was still unrelated to voicing concerns about the change. In all these cases the finding indicates that these attitudes and dispositions are not related.

In four out of the twelve relationships, however, job type affected the association between attitudes toward change and individual dispositions. In three of the four cases, the same pattern was observed: 1) tolerance for ambiguity and spreading the change, 2) positive affectivity and voicing concerns about the change, and 3) locus of control and voicing concerns about the change. There was a significant relationship between the disposition and the attitude toward change with the total sample, but when split into subsamples, the relationship was still significant for non-managers, but not significant for managers. Further examination of these three relationships indicates other points of commonality. In all three cases: 1) managers reported a higher score on tolerance or ambiguity, positive affectivity, and internal locus of control than non-managers (see Section 10.3), and 2) managers were more likely to engage in the behaviours in question than were non-managers (see Section 10.1). This suggests that the link between the disposition and the attitude toward change is linked to the score on the disposition, not job type. People with higher levels of the disposition are more likely to engage in the behaviours regardless of job type.

The impact of job type on the association between a certain disposition and attitude toward change may also be due to different data ranges in these variables. In other words, non-managers display more diversity with respect to tolerance for ambiguity, positive affectivity, and locus of control than managers, and non-managers with higher levels of the disposition (i.e., levels that approach those reported by managers) are more likely to engage in certain behaviours in question. These findings are further interpreted in the Discussion chapter.

Finally, the association between negative affectivity and implementing the change personally that was insignificant for the total sample overall, is significant for managers ($r = -.188$, $p = .004$), but insignificant for non-managers. It should be, however, noted that in previous analysis, it was found that negative affectivity scores were very low for both groups, and the between-group difference was insignificant (see Section 10.3). Therefore, the difference in this case might not be practically significant.

11.1.2. Causal relationships between individual dispositions and attitudes toward change

Regression analysis in this analysis was used for two purposes. First, it was done to establish the proportion of variance explained by the set of independent variables in each attitude toward change thereby providing a measure of the strength of the association between these sets of variables. Second, it was used to assess the relative importance of each independent variable in predicting each attitude toward change. Before running the ordinary least squares regressions, the independent variables were checked for the presence of multicollinearity. The correlation matrix can be seen in Table 40. None of the coefficients exceeded the value of .500 that would indicate moderate multicollinearity (Roberts, 2004).

Three multiple regressions were run each using a different subscale of attitudes toward change (i.e., spreading the change, implementing it, and voicing concerns about it) as the dependent variable. The findings in Section 10.3 showed that job type correlated

significantly with most of the individual dispositions (see Table 38 in Chapter 10) suggesting that in this regression analysis, job type may act as a confounding variable.

	Tolerance	Positive affectivity	Negative affectivity
Positive affectivity	.147 (.000)		
Negative affectivity	-.023 (.587)	-.257 (.000)	
Locus of control	-.117 (.005)	-.402 (.000)	.335 (.000)

Table 40. Intercorrelations among the individual dispositions.

To control for the effects of job type on individual dispositions, it was included as an independent variable (along with the individual dispositions) in the regression analysis. Table 41 shows the results of the regression analysis. The following statistics are shown on this table: the total variance in the dependent variable jointly explained by all the independent variables (R^2), goodness of fit of the model (F statistic and its significance level), the relative importance (beta weight) of each predictor within the given model, its t statistic and significance level, the coefficient of correlation between each predictor and the dependent variable (from Table 39), and the values of the standardized Pratt's measure d.

The analysis shows that when controlled for job type, individual dispositions account for 22% of the variance in spreading the change, for 11% of the variance in implementing the change personally, and for 8% of the variance in voicing concerns about the change. The proportion of variance explained by the independent variables and the large values of

Dependent variable	R ²	F	Sig.	Predictors	Beta weight	t	Sig.	Correl. coeff.	Pratt's d
Spreading the change	.220	32.52	.000	Constant	3.898 ^a	15.979*	.000		
				Locus of control	-.234	-5.603*	.000	-.374**	.398
				Positive affectivity	.231	5.642*	.000	.369**	.388
				Tolerance for ambiguity	.119	3.172*	.002	.189**	.102
				Job type	-.085	-2.233*	.026	-.186*	.072
				Negative affectivity	-.047	-1.192	.234	-.192**	.041
Implementing the change	.114	14.87	.000	Constant	3.690 ^a	13.434*	.000		
				Positive affectivity	.228	5.205*	.000	.290**	.580
				Locus of control	-.116	-2.571*	.010	-.223**	.227
				Job type	-.103	-2.544*	.011	-.169**	.153
				Tolerance for ambiguity	.064	1.605	.109	.120**	.067
				Negative affectivity	.041	.974	.330	-.063	-.023
Voicing concerns about the change	.081	10.15	.000	Constant	3.962 ^a	13.638*	.000		
				Positive affectivity	.191	4.279*	.000	.249**	.587
				Locus of control	-.092	-1.997*	.046	-.198**	.225
				Job type	-.079	-1.925	.055	.131**	.128
				Negative affectivity	-.043	-.998	.319	-.126**	.067
				Tolerance for ambiguity	-.015	-.364	.716	.032	.006

^a For constants, the regression coefficient is unstandardized b.

* Coefficient significant at $\alpha \leq .05$

** Coefficient significant at $\alpha \leq .007$ (Bonferroni adjustment)

Table 41. Results of regression analysis: employees' attitudes toward change and individual dispositions controlled for job type.

constants in all three models (3.851, 3.630, and 3.916 respectively, all $p = .000$) suggest that variables other than individual dispositions influence employees' attitudes toward change. Nevertheless, the substantive R^2 in all three equations also mean that personality is a noteworthy predictor of employees' attitudes toward change.

The values of Pratt's measure show that locus of control ($d = .398$) and positive affectivity ($d = .388$) are the two most important predictors of employees' willingness to spread the change. These two dispositions are almost four times more important predictors of this attitude toward change than the next substantive predictor, tolerance for ambiguity ($d = .102$). Job type ($d = .072$) while a significant predictor of this attitude toward change in its own right (i.e., outside the impact of personal dispositions) is a less important determinant of spreading the change than three of the four dispositions.

Positive affectivity ($d = .580$) is the single most important predictor of employees' willingness to implement the change in their work. It is 2.5 times more important a predictor of this attitude toward change than is locus of control ($d = .227$). Job type (when dispositions are controlled for) is the third most important predictor of implementing the change ($d = .153$). This suggests that position within the organization does influence the attitude toward change in ways other than through differences in dispositions.

Finally, voicing concerns about the change is also best predicted by positive affectivity ($d = .587$) and locus of control ($d = .225$), with positive affectivity being almost three times

more important a predictor than locus of control. Again, job type is the third most important predictor of this attitude toward change ($d = .128$)

Although the job type variable by itself is not interpreted in the regression analysis, the value of Pratt's measure indicates its relative importance as a predictor of attitudes toward change. To have a better insight in the ways job type might affect the relationship between individual dispositions and attitudes toward change, regression analysis was repeated with subsamples of managers and non-managers separately. Tables 42 and 43 show all the parameters obtained from these two sets of regressions.

The separate regression analyses indicate that for non-managers, individual dispositions may be stronger predictors of their attitudes toward change than for managers. Dispositions account for 18.5% of the variance in managers' willingness to spread the change, and for 21% of the variance in that of non-managers. Managers do not differ from non-managers in terms of the proportion of variance explained in their willingness to implement the change personally (10% for both groups). However, dispositions account for 10% of the variance in non-managers' voicing concerns about the change, while they explain only 3.5% of the variance in managers' voicing concerns.

Managers									
Dependent variable	R ²	F	Sig.	Predictors	Beta weight	t	Sig.	Correl. coeff.	Pratt's d
Spreading the change	.185	13.05	.000	Constant	3.553 ^a	9.014*	.000		
				Positive affectivity	.298	4.504*	.000	.388**	.625
				Locus of control	-.145	-2.233*	.027	-.276**	.216
				Negative affectivity	-.083	-1.289	.199	-.209**	.094
				Tolerance for ambiguity	.083	1.367	.173	.144*	.065
Implementing the change	.104	6.67	.000	Constant	3.677 ^a	8.506	.000		
				Positive affectivity	.219	3.148*	.002	.288**	.606
				Negative affectivity	-.108	-1.611	.109	-.188**	.195
				Locus of control	-.064	-.936	.350	-.175**	.107
				Tolerance for ambiguity	.080	1.258	.210	.119	.067
Voicing concerns about the change	.035	2.099	.082	Constant	3.870 ^a	8.992*	.000		
				Positive affectivity	.137	1.895	.059	.162*	.634
				Negative affectivity	-.097	-1.385	.167	-.138*	.382
				Locus of control	-.002	-.034	.973	-.071	.004
				Tolerance for ambiguity	-.018	-.264	.792	.002	.001

^a For constants, the regression coefficient is unstandardized b.

* Coefficient significant at $\alpha \leq .05$

** Coefficient significant at $\alpha \leq .007$ (Bonferroni adjustment)

Table 42. Results of regression analysis: managers' attitudes toward change and individual dispositions.

Non-managers									
Dependent variable	R ²	F	Sig.	Predictors	Beta weight	t	Sig.	Correl. coeff.	Pratt's d
Spreading the change	.209	22.59	.000	Constant	4.059 ^a	13.114*	.000		
				Locus of control	-.300	-5.436*	.000	-.397**	.570
				Positive affectivity	.185	3.486*	.001	.325**	.288
				Tolerance for ambiguity	.140	2.876*	.004	.195**	.131
				Negative affectivity	-.015	-.288	.774	-.173**	.012
Implementing the change	.103	9.779	.000	Constant	3.589 ^a	10.198*	.000		
				Positive affectivity	.226	3.995*	.000	.261**	.573
				Locus of control	-.158	-2.680*	.008	-.204**	.313
				Tolerance for ambiguity	.064	1.237	.217	.098	.061
				Negative affectivity	.148	2.688*	.008	-.035	-.050
Voicing concerns about the change	.097	9.172	.000	Constant	3.949 ^a	11.373*	.000		
				Positive affectivity	.218	3.841*	.000	.279**	.627
				Locus of control	-.151	-2.564*	.011	-.239**	.372
				Negative affectivity	-.003	-.056	.956	-.107*	.003
				Tolerance for ambiguity	-.010	-.193	.847	.031	.003

^a For constants, the regression coefficient is unstandardized b.

* Coefficient significant at $\alpha \leq .05$

** Coefficient significant at $\alpha \leq .007$ (Bonferroni adjustment)

Table 43. Results of regression analysis: non-managers' attitudes toward change and individual dispositions.

The relative importance of certain individual dispositions in predicting attitudes toward change also varies for managers and non-managers. The differences are summarized in Table 44. The table includes the total variance explained by all individual dispositions in each of the attitudes toward change and Pratt's measures d for individual dispositions whose beta weights are significant (see Tables 42 and 43).

	Managers	Non-managers
Spreading the change	$R^2 = .185$ Positive affectivity $d = .625$ Locus of control $d = .216$	$R^2 = .209$ Locus of control $d = .570$ Positive affectivity $d = .288$ Tolerance for ambiguity $d = .131$
Implementing the change	$R^2 = .104$ Positive affectivity $d = .606$	$R^2 = .103$ Positive affectivity $d = .573$ Locus of control $d = .313$
Voicing concerns about the change	$R^2 = .035$	$R^2 = .097$ Positive affectivity $d = .677$ Locus of control $d = .372$

Table 44. Summary of the key findings with respect to relative importance of individual dispositions in manager and non-manager subsamples.

For managers, high positive affectivity is the most important predictor of their willingness to spread the change ($d = .625$) and implement the change personally ($d = .606$). In this subsample, locus of control is the second most important predictor of spreading the change ($d = .216$). It is, however, three times less important a predictor than positive affectivity. No personality disposition is an important predictor of voicing concerns about the change in the manager group.

Results for the non-manager sample are slightly different. For non-managers, willingness to spread the change is most strongly determined by their locus of control ($d = .570$) followed by positive affectivity ($d = .288$) and tolerance for ambiguity ($d = .131$). Locus

of control is two times as important a predictor of spreading the change than positive affectivity and more than four times as important a predictor of this form of commitment than tolerance for ambiguity. Positive affectivity ($d = .573$) is the strongest determinant of non-managers' implementing the change personally. It is twice as important as locus of control ($d = .313$), the second most important predictor of implementing the change personally. Similarly, positive affectivity ($d = .627$) and locus of control ($d = .372$) encourage non-managers to also voice their concerns about the change.

In sum, the results show that the effect of personality on attitudes toward change is somewhat stronger for non-managers than managers. The differences in R^2 between both groups support this contention. Individual dispositions account for 20.9% of the variance in spreading the change for non-managers and almost for 18.5% in the variance for managers (difference = 2.4%). Also, individual dispositions explain 9.7% of the variance in non-managers' voicing concerns, and for 3.5% in this attitude toward change for managers (difference = 6.2%). Positive affectivity is the disposition that predicts attitudes toward change most effectively for both groups (except voicing concerns for managers). Locus of control is also an important predictor of non-managers' attitudes toward change.

11.2. Individual dispositions and PORC

The previous section addressed the relationship between individual dispositions and employees' attitudes toward change. This section will explore how individual dispositions affect the degree to which people perceive their organization to be ready/not ready to implement change successfully when job type is controlled for. Again,

correlation and regression analyses were used to examine these relationships. Correlation results will be discussed first followed by the findings obtained using regression analysis.

11.2.1. Simple association between individual dispositions and PORC

The four individual dispositions (i.e., tolerance for ambiguity, positive/negative affectivity, and locus of control) were correlated with the six PORC factors. Results using the total sample are examined first followed by findings obtained using the manager and non-manager subsamples. All the results are shown in Table 45. Significance levels are given in brackets. To reduce the possibility of spurious results, the alpha level was corrected using a Bonferroni adjustment (see Section 4.2). The calculation took into account the mean correlation (.246 for the total sample, .226 for manager subsample, and .255 for non-manager subsample) and the number of comparisons in the matrix (24). The alpha level was reduced to .005 for all three matrices.

The correlation analysis for the whole sample shows that three individual dispositions (positive affectivity, negative affectivity, and locus of control) correlated significantly with all six PORC factors suggesting a strong link between personality and how one views change readiness. Positive affectivity correlated positively with the three perceived organizational readiness factors - commitment of senior management ($r = .313, p = .000$), competence of the change agents ($r = .305, p = .000$), and support of immediate managers ($r = .295, p = .000$), but negatively with the three organizational unreadiness for change factors - poor communication ($r = -.292, p = .000$), adverse impact of the change on work ($r = -.306, p = .000$), and lack of employee involvement in the change processes ($r = -$

.225, $p = .000$). This suggests that organizational members whose world outlook is positive are more likely to see their organization to be ready for change.

		Commit- ment of sr. mgmt.	Compe- tence of change agents	Support of immediate mgr.	Poor communi- cation	Adverse impact on work	Lack of employee involv.
Overall	Tolerance for ambig.	-.039 (.343)	.073 (.077)	-.049 (.241)	-.002 (.969)	-.095 (.021)	-.015 (.709)
	Positive affectivity	.305* (.000)	.313* (.000)	.295* (.000)	-.292* (.000)	-.306* (.000)	-.225* (.000)
	Negative affectivity	-.315* (.000)	-.318* (.000)	-.317* (.000)	.309* (.000)	.313* (.000)	.313* (.000)
	Locus of control	-.309* (.000)	-.402* (.000)	-.326* (.000)	.332* (.000)	.373* (.000)	.276* (.000)
Mgrs.	Tolerance for ambig.	.002 (.975)	.068 (.301)	-.090 (.168)	.007 (.919)	-.023 (.728)	-.122 (.062)
	Positive affectivity	.342* (.000)	.345* (.000)	.226* (.000)	-.268* (.000)	-.227* (.000)	-.238* (.000)
	Negative affectivity	-.320* (.000)	-.270* (.000)	-.253* (.000)	.273* (.000)	.230* (.000)	.269* (.000)
	Locus of control	-.314* (.000)	-.420* (.000)	-.312* (.000)	.280* (.000)	.188* (.004)	.345* (.000)
Non- mgrs.	Tolerance for ambig.	-.079 (.140)	.071 (.189)	-.032 (.557)	-.005 (.921)	-.014 (.799)	-.066 (.221)
	Positive affectivity	.266* (.000)	.278* (.000)	.332* (.000)	-.297* (.000)	-.234* (.000)	-.311* (.000)
	Negative affectivity	-.321* (.000)	-.347* (.000)	-.364* (.000)	.359* (.000)	.376* (.000)	.305* (.000)
	Locus of control	-.294* (.000)	-.386* (.000)	-.335* (.000)	.379* (.000)	.355* (.000)	.320* (.000)

* Coefficients significant at $\alpha \leq .005$ (Bonferroni adjustment).

Table 45. Correlation coefficients between individual dispositions and PORC factors.

In contrast, negative affectivity correlated negatively with three factors of organizational readiness for change: commitment of senior management ($r = -.318, p = .000$), competence of the change agents ($r = -.315, p = .000$), and support of immediate managers ($r = -.317, p = .000$), but positively with factors that typify perceived organizational unreadiness for change such as poor communication ($r = .309, p = .000$), adverse impact of the change on work ($r = .313, p = .000$), and lack of employee involvement in the change processes ($r = .313, p = .000$). This suggests that members with a negative world outlook are less likely to observe the organizational actions in a way that indicates readiness for change and more likely to observe actions that they interpret as indicating unreadiness for change. Since dispositions were not associated with organizational membership, this finding suggests that individuals in the same organization will interpret the same organizational actions in different ways depending on their personality.

The third individual disposition that had a strong association with perceived organizational readiness for change was locus of control. It correlated negatively with the factors of organizational readiness for change which include commitment of senior management ($r = -.402, p = .000$), competence of the change agents ($r = -.309, p = .000$), and support of immediate managers ($r = -.326, p = .000$). It correlated positively with the factors of organizational unreadiness for change: poor communication ($r = .332, p = .000$), adverse impact the change had on work ($r = .373, p = .000$), and lack of employee involvement in the change processes ($r = .276, p = .000$). These associations suggest that employees with an external locus of control (i.e., those who believe they have little

control over events) are more likely to see organizational readiness in a negative light and criticize the organization for its counter-productive actions. On the other hand, those with an internal locus of control (i.e., those who see themselves as being in control of events) are more likely to perceive that the organization is engaging in actions that facilitate successful change implementation and to a lesser degree is exhibiting counter-productive actions.

The correlations noted above can also be observed in the manager and non-manager subsamples (see Table 45). In fact, there were no differences in correlations based on job type. This suggests that although managers and non-managers differ in terms of levels of individual dispositions, there is enough variance in the disposition data that prevents job type from acting as a confounding variable in the analysis (i.e., enough non-managers have high positive affectivity, locus of control, etc., and enough managers have low positive affectivity, locus of control, etc. that the association between disposition and job type is not perfect).

In sum, high positive affectivity and internal locus of control appear to be strongly associated with a more positive view on organizational readiness for change, while high negative affectivity and external locus of control are linked to a more negative view. An employee's job type does not affect this relationship.

11.2.2. Causal relationship between individual dispositions and PORC

Regression analysis allowed us to further explore the relationship between individual dispositions and PORC. Regression results show the predictive power of individual dispositions and the relative importance of predictors within each model. Although no job type differences were found using correlation analysis, we checked these findings by including job type as a control in the regression analysis. This was done by including it in the set of independent variables along with the individual dispositions. Moreover, to explore the impact of job type in greater detail, a second set of regressions was run with manager/non-manager subsamples. Table 46 below shows the results of the regression analysis with the total sample. The following data are shown in this table: the total variance R^2 in the dependent variables jointly explained by all the explanatory variables, goodness of fit of the model (F statistic and its significance level), the relative importance (beta weight) of each predictor within the given model, its t-test value and significance level, its correlation with the dependent variable (from Table 45), and the values of Pratt's measure d.

The coefficients of multiple determination (i.e., R^2) show that the proportion of variance individual dispositions alone accounted for in each factor of perceived organizational readiness for change was notable. Individual dispositions jointly explained 18% of the variance in perceived commitment of senior management to the change, 22% of the variance in perceived competence of the change agents, and 19% of the variance in perceived support of the immediate manager. Furthermore, individual dispositions also explained a significant proportion of the variance in factors describing organizations that

Dependent variable	R ²	F	Sig.	Predictors	Beta weight	T	Sig.	Correl. coeff.	Pratt's d
Commitment of sr. mgmt.	.182	25.69	.000	Constant	4.207 ^a	11.546*	.000		
				Negative affectivity	-.210	-5.197*	.000	-.315**	.364
				Positive affectivity	.195	4.644*	.000	.305**	.327
				Locus of control	-.169	-3.900*	.000	-.309**	.287
				Tolerance for ambiguity	-.093	-2.441*	.015	-.039	.020
				Job type	-.009	-.241	.810	-.079	.004
Competence of change agents	.217	31.97	.000	Constant	4.146 ^a	13.273*	.000		
				Locus of control	-.283	-6.68	.000	-.402**	.524
				Negative affectivity	-.177	-4.465*	.000	-.318**	.256
				Positive affectivity	.153	3.734*	.000	.313**	.221
				Tolerance for ambiguity	.018	.484	.628	.073	.006
				Job type	.015	.407	.684	-.080	-.006
Support of immediate mgrs.	.188	26.73	.000	Constant	4.535 ^a	12.466*	.000		
				Locus of control	-.202	-4.677*	.000	-.326**	.350
				Negative affectivity	-.207	-5.128*	.000	-.317**	.349
				Positive affectivity	.180	4.312*	.000	.295**	.282
				Tolerance for ambiguity	-.101	-2.644*	.008	-.049	.026
				Job type	.027	.708	.479	-.046	.007
Poor communication	.188	26.71	.000	Const.	2.326 ^a	6.586*	.000		
				Locus of control	.213	4.929*	.000	.332**	.376
				Negative affectivity	.203	5.042*	.000	.309**	.324
				Positive affectivity	-.161	-3.849*	.000	-.292**	.250
				Job type	.028	.723	.470	.105*	.016
				Tolerance for ambiguity	.045	1.189	.235	-.002	-.0005

(Table to be continued on the next page)

Dependent variable	R ²	F	Sig.	Predictors	Beta weight	T	Sig.	Correl. coeff.	Pratt's d
Adverse impact of change on work	.146	19.73	.000	Constant	2.797 ^a	8.174*	.000		
				Negative affectivity	.230	5.574*	.000	.313**	.493
				Locus of control	.173	3.914*	.000	.373**	.442
				Positive affectivity	-.112	-2.612*	.015	-.306**	.252
				Job type	-.082	-2.063*	.040	-.017	.01
				Tolerance for ambiguity	.019	.476	.634	-.095*	-.012
Lack of employee Involvement	.172	23.92	.000	Constant	2.906 ^a	7.028*	.000		
				Locus of control	.212	4.856*	.000	.276**	.340
				Negative affectivity	.171	4.357*	.000	.313**	.322
				Positive affectivity	-.153	-3.628*	.000	-.225**	.202
				Tolerance for ambiguity	-.043	-1.124	.262	-.015	.004
				Job type	.004	.111	.912	.087*	.002

^a For constants, the regression coefficient is unstandardized b.

* Coefficient significant at $\alpha \leq .05$

** Coefficient significant at $\alpha \leq .01$

*** Coefficient significant at $\alpha \leq .005$ (Bonferroni adjustment)

Table 46. Results of regression analysis: individual dispositions and PORC factors controlled for job type¹.

¹ Relationships between individual dispositions and the PORC factors were also tested controlling for each participating organization. Since organization did not affect the relationship between the two constructs, these findings are not reported in this thesis.

were perceived to be not ready for change. Dispositions explained 19% of the variance in the perceptions of poor communication, 15% of the variance in perceived adverse impact of the change on work, and 17% of the variance in perceived lack of employee involvement in the change processes. At the same time, high regression coefficients of the constants in all the equations indicate that there are factors other than individual dispositions that affect employees' perceptions of organizational readiness or unreadiness for change.

Examination of the values of Pratt's measure let us compare the relative importance of each individual disposition in predicting the perceptions of organizational readiness/unreadiness for change when job type was controlled for in the analysis. Negative affectivity ($d = .364$), positive affectivity ($d = .327$), and locus of control ($d = .287$) turned out to be much more important than tolerance for ambiguity ($d = .020$) in determining employees' perceptions of commitment of senior management to the change. Although the relative importance of tolerance for ambiguity based on Pratt's measure appeared to be very low, its beta weight was statistically significant ($b = -.093$, $t = -2.441$, $p = .015$) suggesting that this disposition plays some role in predicting perceptions of senior management's commitment to change. According to the signs of the respective beta weights, higher scores on positive affectivity and lower scores on negative affectivity as well as higher internal locus of control predicted more positive employees' perceptions of senior management's commitment to the change.

Tolerance for ambiguity, in its turn, demonstrated an unexpected relationship with this PORC factor. The negative sign of its beta weight indicates that lower tolerance predicted more positive perception of senior management's commitment suggesting that people with lower tolerance for ambiguity have a greater need for strong senior management in times of change.

Positive perceptions of the competence of the change agent were best predicted by lower external (i.e., higher internal) locus of control ($d = .524$) followed by lower negative affectivity ($d = .256$), and higher positive affectivity ($d = .221$). These last two dispositions were half as important as locus of control as a predictor of this dimension of PORC.

The results obtained with respect to support of immediate manager are similar to those reported for the change agents. Lower external locus of control ($d = .350$), lower negative affectivity ($d = .349$), and higher positive affectivity ($d = .282$) all predicted more positive feelings about the support employees receive from their immediate managers. In addition, there is an indication that lower tolerance for ambiguity ($d = .026$, $b = -.101$, $t = -2.644$, $p = .008$) also predicted more positive perceptions of immediate managers' support.

With one exception (tolerance for ambiguity), the three factors quantifying actions that typify perceived organizational unreadiness for change were affected by all the individual dispositions examined in this analysis. Perceptions of poor organizational communication

practices were best determined by higher external locus of control ($d = .376$) and negative affectivity ($d = .324$) followed by lower positive affectivity ($d = .250$).

Prediction of perceived adverse impact of the change on work and lack of employee involvement in the change processes follow a very similar pattern to that of poor communication. Perceptions of adverse impact of the change on work could be first predicted by higher negative affectivity ($d = .493$) followed by higher external locus of control ($d = .442$) and to a lesser extent, lower positive affectivity ($d = .252$). Perceived lack of employee involvement in the change processes, in its turn, was best predicted by higher external locus of control ($d = .340$) and negative affectivity ($d = .322$) followed by lower positive affectivity ($d = .202$). These results suggest that those members who felt they were not in control of events and who scored higher on negative affectivity and lower on positive affectivity, were more likely to perceive that their organization was not communicating the change properly, was not involving employees in the change processes, and that the change had an adverse impact on their work.

As demonstrated in the previous section, correlations between individual dispositions and the PORC factors did not differ significantly for managers and non-managers. This finding has been reinforced by the regression results which show that job type was not an important predictor of PORC (see Table 46 for job type parameters in the regression analysis). To confirm these findings, regressions were run with subsamples of managers and non-managers. Tables 47 and 48 show all the parameters of both sets of regressions.

Managers									
Depend. variable	R ²	F	Sig.	Predict.	Beta weight	t	Sig.	Correl. Coeff.	Pratt's d
Commitment of sr. mgmt.	.198	14.24	.000	Constant	3.931 ^a	6.648*	.000		
				Positive affectivity	.229	43.482*	.001	.342**	.396
				Negative affectivity	-.197	-3.089*	.002	-.320**	.318
				Locus of control	-.182	-2.838*	.005	-.314**	.289
				Tolerance for ambiguity	-.042	-.692	.490	.002	-.0004
Competence of change agents	.235	17.66	.000	Constant	4.117 ^a	8.225*	.000		
				Locus of control	-.317	-5.044*	.000	-.420**	.567
				Positive affectivity	.197	3.070*	.002	-.345**	.289
				Negative affectivity	-.122	-1.953*	.052	.270**	.140
				Tolerance for ambiguity	.017	.282	.778	.068	.005
Support of immediate mgrs.	.149	10.04	.000	Constant	4.967 ^a	8.563**	.000		
				Locus of control	-.236	-3.570**	.000	-.312**	.494
				Negative affectivity	-.141	-2.153*	.032	-.253**	.239
				Positive affectivity	.125	1.849	.066	.226**	.190
				Tolerance for ambiguity	-.122	-1.952	.052	-.090	.074
Poor communication	.141	9.405	.000	Constant	2.505 ^a	4.069*	.000		
				Locus of control	.177	2.666*	.008	.280**	.352
				Negative affectivity	.172	2.601*	.010	.273**	.333
				Positive affectivity	-.163	-2.401*	.017	-.268**	.310
				Tolerance for ambiguity	.040	.632	.528	.007	.002
Adverse impact of change on work	.087	5.503	.000	Constant	3.495 ^a	6.000*	.000		
				Negative affectivity	.159	2.338*	.020	.230**	.420
				Positive affectivity	-.149	-2.118*	.035	-.227**	.389
				Locus of control	.092	1.335	.183	.188**	.199
				Tolerance for ambiguity	.002	.035	.972	-.023	-.0005
Lack of employee involvement	.168	11.62	.000	Constant	2.511 ^a	3.722*	.000		
				Locus of control	.262	4.003*	.000	.345**	.538
				Negative affectivity	.175	2.705*	.007	.269**	.280
				Positive affectivity	-.077	-1.156	.249	-.238**	.109
				Tolerance for ambiguity	-.099	-1.611	.108	-.122	.072

^a For constants, the regression coefficient is unstandardized b.

* Coefficient significant at $\alpha \leq .05$

** Coefficient significant at $\alpha \leq .005$ (Bonferroni adjustment)

Table 47. Results of regression analysis: PORC factors and individual dispositions for managers.

Non-managers									
Dependent variable	R ²	F	Sig.	Predictors	Beta weight	t	Sig.	Correl. Coeff.	Pratt's d
Commitment of sr. mgmt.	.175	18.13	.000	Constant	4.426 ^a	9.623*	.000		
				Negative affectivity	-.233	-4.408*	.000	-.321**	.427
				Locus of control	-.162	-2.869*	.004	-.294**	.272
				Positive affectivity	.159	2.943*	.003	.266**	.242
				Tolerance for ambiguity	-.129	-2.593*	.010	-.079	.058
Competence of change agents	.212	22.96	.000	Constant	4.223 ^a	10.649*	.000		
				Locus of control	-.255	-4.622*	.000	-.386**	.464
				Negative affectivity	-.228	4.412*	.000	-.347**	.373
				Positive affectivity	.119	2.251*	.025	.278**	.156
				Tolerance for ambiguity	.015	.312	.756	.071	.005
Support of immediate mgrs.	.224	24.65	.000	Constant	4.321 ^a	9.293*	.000		
				Negative affectivity	-.260	-5.067*	.000	-.364**	.423
				Positive affectivity	.213	4.047*	.000	.332**	.316
				Locus of control	-.167	-3.048*	.002	-.335**	.250
				Tolerance for ambiguity	-.088	-1.840	.067	-.032	.013
Poor communication	.221	24.30	.000	Constant	2.169 ^a	5.020*	.000		
				Locus of control	.238	4.348*	.000	.379**	.408
				Negative affectivity	.243	4.726*	.000	.359**	.395
				Positive affectivity	-.149	-2.826*	.005	-.297**	.200
				Tolerance for ambiguity	.052	1.085	.279	-.005	-.001
Adverse impact of change on work	.204	21.88	.000	Constant	2.180 ^a	5.234*	.000		
				Negative affectivity	.278	5.357*	.000	.376**	.512
				Locus of control	.228	4.110*	.000	.355**	.397
				Positive affectivity	-.080	-1.512	.131	-.234**	.092
				Tolerance for ambiguity	.037	-.770	.442	-.014	-.003
Lack of employee involvement	.176	18.25	.000	Constant	3.154 ^a	6.054*	.000		
				Positive affectivity	-.195	-3.594*	.000	-.311**	.345
				Negative affectivity	.198	3.750*	.000	.305**	.343
				Locus of control	.169	2.998*	.003	.320**	.307
				Tolerance for ambiguity	-.014	-.288	.774	-.066	.005

^a For constants, the regression coefficient is unstandardized b.

* Coefficient significant at $\alpha \leq .05$

** Coefficient significant at $\alpha \leq .005$ (Bonferroni adjustment)

Table 48. Results of regression analysis: PORC factors and individual dispositions for non-managers.

The results of both regression analyses show that individual dispositions are

- slightly more powerful predictors of perceptions of senior management's commitment to the change (R^2 of .198 for managers vs. .175 for non-managers for a ΔR^2 of .023) and perceptions of the change agents' competence (R^2 of .235 for managers vs. .212 for non-managers for a ΔR^2 of .023) for managers than for non-managers,
- slightly more powerful predictors of perceptions of support of immediate manager (R^2 of .224 for non-managers vs. .149 for managers for a ΔR^2 of .075), poor communication (R^2 of .221 for non-managers vs. .141 for managers for a ΔR^2 of .080) and adverse impact of the change on work (R^2 of .204 for non-managers vs. .087 for managers for a ΔR^2 of .117) for non-managers than for managers, and
- equally powerful predictors of perceptions of lack of employee involvement in the change process for managers and non-managers.

Also of interest is the fact that the Pratt's coefficients indicate that job type had little impact on the relative importance of locus of control, positive and negative affectivity as predictors of various factors of PORC. Finally, it is interesting to note that tolerance for ambiguity was not a significant predictor for any of the factors of PORC for either sample.

In sum, the proportion of the variance in the perceptions of organizational readiness/unreadiness for change explained by individual dispositions suggests a strong link between these two constructs. The fact that in three of the six models, individual

dispositions accounted for a higher proportion of the variance in the perceptions of non-managers than those of managers suggests that personality might have more of an impact at lower levels of the organization. Overall, the results show that positive and negative affectivity and locus of control are important predictors of PORC. Tolerance for ambiguity, on the other hand, does not seem to be associated with this construct.

11.3 Summary of the findings

This section explored the link between four individual dispositions (i.e., tolerance for ambiguity, positive and negative affectivity, and locus of control) and two of the key constructs in our conceptual model: employees' attitudes toward change and PORC. Two types of analysis were performed: correlation and regression.

In general, individual dispositions were found to be associated with employees' attitudes toward change. Overall, in both types of analysis, the following significant associations were identified:

- positive affectivity, internal locus of control, and tolerance for ambiguity were positively associated with stronger commitment to change (i.e., willingness to implement it personally and spread it throughout the organization),
- positive affectivity, lower negative affectivity, and internal locus of control were positively associated with voicing concerns about the change,
- positive affectivity and locus of control were significant predictors of employees' commitment to the change and voicing their concerns about the change.

Some associations were found to be more important for non-managers only:

- voicing their concerns about the change had a stronger association (i.e., both correlation and regression) with locus of control and positive affectivity for non-managers than for managers,
- tolerance for ambiguity had a stronger association (i.e., both correlation and regression) with spreading the change for non-managers than managers,
- personality factors seemed to predict only non-managers' willingness to voice concerns about the change, and
- overall, personality was a stronger determinant of attitudes toward change for non-managers than managers.

Individual dispositions were also found to be associated with the PORC factors. Employees with a more positive world outlook (i.e., high on positive affectivity and low on negative affectivity) and with an internal locus of control were more likely to also perceive that their organizations were ready for the change. Moreover, these dispositions not only were associated with the PORC factors, but could also predict them, regardless of job type. These findings underscore the importance of personality in shaping people's perceptions of organizational readiness or unreadiness for change.

Chapter 12: Prediction of attitudes toward change

The findings earlier in this research indicated the following relationships among the variables in our model (see Figure 1):

- PORC predicts employees' attitudes toward change (see Section 9.2),
- Individual dispositions predict employees' attitudes toward change (see Section 11.1.2),
- Individual dispositions predict PORC (see Section 11.2.2),
- Job type is associated with employees' attitudes toward change (see Section 10.1),
- Job type is associated with individual dispositions (see Section 10.3), but
- Job type is not associated with PORC (see Section 10.2).

The ultimate goal of this thesis is to validate a model describing the relationship between PORC and attitudes toward change. As seen above, the findings of this study indicate that job type and individual dispositions are related to the core constructs of PORC and attitudes toward change. They are also related to each other. The question then arises: what roles do dispositions and job type play in the relationship between PORC and attitudes toward change. Theoretically and empirically it is possible that job type/dispositions:

- moderate the relationship between PORC and attitudes,
- predict the attitudes and/or PORC directly,
- predict the attitudes through PORC (i.e., PORC mediates the relationship between job type/individual dispositions and attitudes toward change),

- have no impact on attitudes toward change, PORC, or the relationship between these two constructs.

This chapter presents data analysis done in this thesis to elucidate the role of job type and individual dispositions in our model. As such it provides answers to Research Questions #11a & #11b (role of individual dispositions in the model) and #12a & #12b (role of job type in the model). Analysis was also done to look at the relative importance of all three sets of viable predictors of attitudes toward change (i.e., dispositions, job type, and PORC) at the same time. This provides an answer to Research Question #13 that asked about the relative importance of PORC, individual dispositions, and job type in the prediction of attitudes toward change.

This chapter is divided into four parts to answer the above research questions. Part one will describe the findings with respect to the role of individual dispositions in the model. The impact of job type will be presented in part two. The relative importance of individual dispositions, job type, and PORC in predicting attitudes toward change will be examined in part three. The chapter will conclude with a summary of key findings with respect to the prediction of attitudes toward change.

12.1. The role of individual dispositions in the relationship between PORC and attitudes toward change

This section is divided into two subsections. The first will explore the possibility that individual dispositions may play the role of a moderator in the relationship between

PORC and attitudes toward change. The second subsection will seek to determine if PORC acts as a mediator of the relationship between individual dispositions and attitudes toward change.

12.1.1. Individual dispositions as moderators of the relationship between PORC and attitudes toward change

The purpose of this analysis was to see if the ability of PORC to predict attitudes toward change depends on one's individual dispositions. Analysis was accomplished in two steps. Analysis was done first to determine if the moderation effect is present in the overall model. This was done using ridge regression as outlined in Section 4.4.5.1. Two sets of ridge regression analyses were run in this thesis. Each set of regressions consisted of three equations. In both sets, the three scales of attitudes toward change were used as the dependent variables. In all equations of the first set, the six PORC factors and the four individual dispositions were used as the independent variables, and job type was controlled to partial out its effect on the other variables in the regression. In the second set of regressions, 24 interaction terms (i.e., the product of each PORC factor and each individual disposition) were added to the equations. Moderation was identified by comparing the R^2 obtained in the first set of regressions (i.e., those using PORC and individual dispositions only) with the R^2 obtained in the second set of regressions (i.e., those using PORC, individual dispositions, and the interaction terms). Findings from these analyses are summarized in Table 49.

In all cases, the addition of the interaction terms did not have a significant impact on the prediction of attitudes toward change. These findings indicate that adding interaction terms to the models did not change the ability of the independent variables to predict attitudes toward change. From this it can be concluded that dispositions do not moderate the relationship between PORC and attitudes toward change.

DV	IV	R ²	F	p	ΔR^2	F	p
Spreading the change	PORC + Ind. dispos.	.259	18.091	.000			
	PORC + Ind. dispos.+ interactions	.272	5.820	.000	.013	.406	> .10
Implementing the change	PORC + Ind. dispos.	.129	7.687	.000			
	PORC + Ind. dispos.+ interactions	.167	3.136	.000	.038	1.039	> .10
Voicing concerns about the change	PORC + Ind. dispos.	.081	4.573	.000			
	PORC + Ind. dispos.+ interactions	.105	1.834	.003	.024	.610	> .10

Table 49. Results of regression analysis when testing for moderator effects of individual dispositions on the relationship between PORC and attitudes toward change.

Although no moderation effect was found in the model overall, the second step of analysis was undertaken to gather further information on the moderation relationship. At this step, each of the 24 independent variable by moderator interaction terms was inspected separately. The unstandardized regression coefficients *b*, *t* statistic, and significance levels for each of these interactions are shown in Appendix R. The results show that there are no significant interaction terms in any of the models at the alpha level of .01. These results confirm the conclusion reached in the first step of the analysis that

the six factors of PORC included in this study affected employees' willingness to spread the change, implement the change in their own work, and voice concerns about it regardless of the employees' personality characteristics (i.e., individual dispositions).

In sum, the data analysis shows that although individual dispositions have been found in this study to be associated with both PORC and attitudes toward change, overall, they do not moderate the causal relationship between PORC and employees' attitudes toward change.

12.1.2. PORC as a mediator of the relationship between individual dispositions and attitudes toward change

Although individual dispositions do not moderate the relationship between PORC and attitudes toward change as described above, it is still possible that dispositions can predict attitudes through their impact on PORC. In other words, PORC might mediate the relationship between individual dispositions and attitudes toward change. The first part of this subsection presents analysis done to see if PORC fully mediated the relationship between individual dispositions and attitudes toward change. When this analysis indicated that PORC did not act as a full mediator, follow-up analysis was done to see if PORC partially mediated any of the relationships between independent and dependent variables. The follow-up analysis is presented in the second part of this subsection.

12.1.2.1. Full mediation

In the proposed mediation model, the four individual dispositions were designated as the independent variables, the six PORC factors were used as the mediators, and the three attitudes toward change factors served as the dependent variables (see Figure 11 in Chapter 4). As explained in Section 4.4.6, to establish the presence of a full mediation effect, four criteria of association (i.e., predictions) had to be met. These associations were tested using four regression equations. The testing results were as follows:

1. The independent variables (i.e., individual dispositions) significantly predicted each of the six PORC factors (see Table 46 in Chapter 11). All R^2 values were significant at $\alpha \leq .001$ (senior management's commitment to change: $R^2 = .182$, $F = 25.69$, $p = .000$, competence of the change agents: $R^2 = .217$, $F = 31.97$, $p = .000$, support of immediate managers: $R^2 = .188$, $F = 26.73$, $p = .000$, poor communication: $R^2 = .188$, $F = 26.71$, $p = .000$, adverse impact of the change on work: $R^2 = .146$, $F = 19.73$, $p = .000$, lack of employee involvement in the change processes: $R^2 = .172$, $F = 23.92$, $p = .000$).
2. The mediator variables (i.e., the PORC factors) significantly predicted both commitment scales (i.e., spreading the change: $R^2 = .144$, $F = 15.96$, $p = .000$ and implementing the change: $R^2 = .050$, $F = 5.02$, $p = .000$), but did not predict voicing concerns about the change (see Table 35 in Chapter 9).
3. The independent variables (i.e., individual dispositions) significantly predicted each of the dependent variables: spreading the change ($R^2 = .22$, $F = 32.52$, $p = .000$), implementing the change ($R^2 = .114$, $F = 14.87$, $p = .000$), and voicing

concerns about the change ($R^2 = .081$, $F = 10.15$, $p = .000$) (see Table 41 in Chapter 11).

4. In ridge regression analysis, the independent variables (i.e., individual dispositions) significantly predicted the dependent variables (i.e., attitudes toward change) after the mediator variables (i.e., PORC) were controlled for. The changes in R^2 between the model with only PORC as the independent variable and the model where individual dispositions were controlled for PORC were significant as can be seen in Table 50 below. For spreading the change, the change in R^2 was .108 ($p = .000$), for implementing the change personally, it was .076 ($p = .000$), and for voicing concerns about the change, it was .072 ($p = .000$).

DV	IV	R^2	F	p	ΔR^2	F	p
Spreading the change	PORC	.144	16.170	.000			
	PORC + Ind. dispos.	.252	19.298	.000	.108	20.61	.000
Implementing the change	PORC	.049	4.994	.000			
	PORC + Ind. dispos.	.118	7.684	.000	.069	11.201	.000
Voicing concerns about the change	PORC	.010	.988	.432			
	PORC + Ind. dispos.	.076	4.700	.000	.066	10.185	.000

Table 50. Results of ridge regression analysis when testing for mediator effects of PORC on the relationship between individual dispositions and attitudes toward change.

According to the checklist provided in Section 4.4.6, overall, PORC did not fully mediate the relationship between individual dispositions and attitudes toward change. In other words, PORC alone was not as effective a predictor of attitudes toward change as it was when combined with individual dispositions. In the two models dealing with commitment to change (i.e., spreading the change and implementing it personally were the dependent

variables), the first three predictions were significant thus meeting the first three criteria of full mediation. However, the last criterion was violated as individual dispositions turned out to significantly predict attitudes toward change after PORC was controlled for. For full mediation, this prediction was expected to be insignificant. Nevertheless, as the first three criteria were fulfilled, there was a possibility that PORC might be a partial mediator of the relationship between individual dispositions and both commitment to change factors. This possibility is explored in the next part of this subsection.

The findings were quite different for the third attitude toward change examined in this analysis. In the model with voicing concerns about the change as the dependent variable, not only was the last criterion violated, but the second criterion was also not met (i.e., the mediator, PORC, did not predict the dependent variable). These results led to the following conclusion: PORC does not mediate the relationship between individual dispositions and employees' voicing concerns about the change.

12.1.2.2. Partial mediation

As noted above, there was a possibility that PORC might partially mediate the relationship between individual dispositions and two of the attitudes toward change: spreading the change and implementing it personally. To test this possibility, the methodology outlined in Section 4.4.6 was followed. Regressions were run with all possible combinations of the four individual dispositions as the independent variables, the two scales of PORC as the mediators, and the two attitudes toward change as the dependent variables. It should be noted that in this analysis two measures of PORC (i.e.,

the measure of perceived organizational readiness for change and the measure of perceived organizational unreadiness for change) were used rather than the six subscales. This decision was done to simplify the analysis and can be justified as follows. First, the intercorrelations among the factors within each group were moderate to high (see Table 32 in Chapter 8). Second, factors within each group related to other variables in the model in a similar way (see Tables 24 and 27 in Chapter 7 and Table 33 in Chapter 9). It appears, therefore, reasonable to believe that using all the six factors would not add any meaningful information over and above that obtained using two combined scales.

Key parameters of this analysis (i.e., unstandardized regression coefficients, their standard errors, t statistics with significance level) can be seen in Appendix S. An examination of these results indicate that only half of all possible variable combinations qualified for the Sobel test. It will be recalled that the Sobel test is appropriate in those cases where there is a significant causal relationship between 1) the IV and the DV, 2) the

IV	MV	DV	Sobel z	p
PA.	Readiness	Spreading the change	5.323	.000
PA	Readiness	Implementing the change	2.695	.007
PA	Unreadiness	Spreading the change	4.124	.000
NA	Readiness	Spreading the change	-6.023	.000
NA	Unreadiness	Spreading the change	-4.915	.000
LOC	Readiness	Spreading the change	-5.306	.000
LOC	Readiness	Implementing the change	-3.004	.002
LOC	Unreadiness	Spreading the change	-3.927	.000

PA – positive affectivity
 NA – negative affectivity
 LOC – locus of control

Readiness – perceived organizational readiness for change
 Unreadiness - perceived organizational unreadiness for change

Table 51. Summary of PORC as a partial mediator of the relationship between individual dispositions and attitudes toward change.

IV and MV (mediator variables) (where the mediator was treated as the DV), and 3) the mediator (where the mediator was treated as the IV) and the DV while controlling for the IV. The cases that qualified for Sobel test are summarized in Table 51.

It can be seen from the data in this table that in all these cases, partial mediation was established. Partial mediation is interpreted as follows in this thesis. Personality to some extent directly determined employees' attitudes toward change, but their attitudes, especially their willingness to spread the change could also be affected by the degree to which they perceived the organization itself to be ready for the change.

It can be noted that positive affectivity, negative affectivity, and locus of control influenced the more active form of commitment, spreading the change, through its impact on both scales of PORC (i.e., measures describing organizations that were perceived to be ready for change and perceived to be not ready for change). Positive affectivity and locus of control also influenced employees' willingness to implement the change personally, the more passive form of commitment. However, in this case personality only mediated the readiness end of the PORC continuum, not the unreadiness end (i.e., relationships only with the measure describing actions organizations engage in when perceived to be ready for change).

Finally, it should be noted that no variable combination where tolerance for ambiguity was designated as the dependent variable qualified for further analysis as this disposition

was not a significant predictor of PORC. In other words, tolerance for ambiguity does not mediate the relationship between PORC and attitudes toward change in any way (i.e., no full mediation, no partial mediation).

12.2. The role of job type in the relationship between PORC and attitudes toward change

Job type was another variable in our model that was related to the core constructs of PORC and attitudes toward change. This section explores two possible roles job type can play in the relationship between PORC and attitudes toward change. The section is divided into two subsections. The first section will examine whether job type moderates the relationship between PORC and attitudes toward change. The second section will look at whether or not PORC mediates the relationship between job type and attitudes toward change (i.e., job type predicts attitudes through its effect on PORC).

12.2.1. Job type as a moderator of the relationship between PORC and attitudes toward change

For the proposed moderation effect to hold true, job type had to be related to PORC in the first place (see Section 4.4.5). The data analysis in this study, however, did not support this relationship (see Section 10.2) indicating that there was no interaction between job type and PORC. It can therefore be concluded that job type in this research does not moderate the relationship between PORC and attitudes toward change. This suggests that although an employee's position in the organization affects his/her attitude toward change, job type does not influence the extent to which employees' perceptions of

organizational readiness for change determine their commitment to the change or propensity to voice concerns about it.

12.2.2. PORC as a mediator of the relationship between job type and attitudes toward change

To establish the mediation effect, the associations among the variables involved should meet four criteria (see Section 4.4.6). While PORC was found to predict employees' attitudes toward change (see Section 9.2), and job type was also associated with all the attitudes toward change factors (see Section 10.1), no association was found in this study between job type and PORC (see Section 10.2). Thus, for PORC to mediate the relationship between job type and attitudes toward change, one of the necessary criteria was not met. These findings suggest that an individual's position in the organization directly affects his/her attitudes toward change. Job type does not, however, affect the degree to which one perceives the organization to be ready for change.

12.3. Relative importance of PORC, individual dispositions, and job type in predicting employees' attitudes toward change

The role of PORC as a partial mediator between individual dispositions and attitudes toward change provided further support for the idea that employees' personality and organizational context jointly influence employees' attitudes toward change. Job type was also found to directly affect the attitudes. As a last step in our analysis we performed regression analysis to increase our understanding of the relative importance of these three

sets of measures to the prediction of attitudes toward change. This provided an answer to Research Question #13.

Three regressions were run, each with a different attitudes toward change factor as the dependent variable. There were ten independent variables in each of these models: the four individual dispositions, the six factors of PORC, and job type. Since multicollinearity among the factors of PORC was observed in earlier steps of this research, ridge regression was used in this stage of the analysis (see Section 4.4.2). Table 52 shows the results from this analysis.

Combining PORC and individual dispositions as predictors in one regression model slightly improved the coefficients of multiple determination R^2 over those obtained in models where these two groups of variables were entered separately. The proportion of the variance explained in employees' willingness to spread the change increased to .259 (an increase in R^2 of .115 over the model with PORC only and an increase in R^2 of .039 over the model with individual dispositions only). It could be seen that adding individual dispositions to the PORC only model increased the variance to a greater degree than adding PORC to the individual dispositions only model. This suggested that employees' individual dispositions might be a somewhat stronger predictor of spreading the change than PORC.

Similarly, the proportion of the variance in willingness to implement the change personally explained when both sets of predictors were included increased to .129, an

Depend. variable	R ²	F	Sig.	Predictors	Beta weight	t	Sig.	Correl coeff	Pratt's d
Spreading the change	.259	18.09	.000	Constant	3.444 ^a	14.266**	.000		
				Locus of control	-.154	-5.082**	.01	-.374**	.222
				Positive affectivity	.153	5.552**	.01	.369**	.218
				Competence of change agents	.131	4.714**	.01	.376**	.190
				Tolerance for ambiguity	.098	3.672**	.01	.189**	.072
				Commitment of sr. mgmt.	.057	2.028*	.05	.308**	.068
				Job type	-.072	-2.676*	.02	-.186**	.052
				Adverse impact on work	.044	1.551	.10	-.296**	-.050
				Poor communication	-.040	-1.502	.10	-.297**	.046
				Lack of employee involvement	-.032	-1.120	.20	-.182**	.022
				Support of immediate mgr.	.014	.508	>.50	.252**	.014
				Negative affectivity	-.019	-.689	.50	-.192**	.014
Implementing the change	.129	7.687	.000	Constant	3.363 ^a	13.997**	.000		
				Positive affectivity	.142	5.390**	.01	.292**	.321
				Locus of control	-.075	-2.894*	.02	-.221**	.128
				Commitment of sr. mgmt.	.079	3.124**	.01	.203**	.124
				Job type	-.075	-2.890*	.02	-.169**	.098
				Support of immediate mgr.	.049	1.875*	.05	.174**	.066
				Tolerance for ambiguity	.059	2.270*	.02	.120**	.055
				Competence of change agents	.026	1.037	.50	.176**	.035
				Adverse impact on work	.062	2.393*	.05	-.034	-.016
				Poor communication	-.014	-.584	>.50	-.141**	.015
				Negative affectivity	.028	1.075	.50	-.057	.012
				Lack of employee involvement	.007	.290	>.50	-.115**	.006
Voicing concerns about the change	.081	4.573	.000	Constant	3.948 ^a	16.518**	.000		
				Positive affectivity	.135	5.000**	.01	.250**	.417
				Job type	-.059	-2.200*	.05	-.131**	.226
				Locus of control	-.083	-3.080**	.01	-.197**	.202
				Negative affectivity	-.046	-1.702	.10	-.124**	.070
				Support of immediate mgr.	.022	.800	.50	.088*	.024
				Competence of change agents	-.010	-.394	>.50	.065	.008
				Poor communication	.006	.245	>.50	-.057	-.004
				Lack of employee involvement	-.004	-.137	>.50	-.062	.003
				Commitment of sr. mgmt.	-.002	-.091	>.50	.065	.002
				Adverse impact on work	.043	1.619	.10	-.004	-.002
				Tolerance for ambiguity	-.001	-.043	>.50	.032	.0003

^a For constants, the regression coefficient is unstandardized b.* Coefficient significant at $\alpha \leq .05$ ** Coefficient significant at $\alpha \leq .01$ **Table 52.** Results of ridge regression analysis: employees' attitudes toward change, individual dispositions, and factors of PORC.

increase in R^2 of .079 over the model with PORC as the only independent variable and an increase in R^2 of .015 over the dispositions only model. These sets of data provide further support for the idea that individual dispositions are more important predictors of commitment to change than PORC.

Different findings were observed with the third model where both individual dispositions and PORC were used to predict employees' tendency to voice concerns about the change (i.e., resistance). In this case, the R^2 was .081 which was .071 higher than the R^2 obtained with the model which included PORC only. The R^2 of the PORC plus dispositions model was, however, virtually the same as observed in the model that included only dispositional variables. This is an interesting finding in that it suggests that PORC does not influence whether or not an employee will voice his/her concerns about the change. Rather, it would appear from these data that voicing one's concerns about the change is more of a function of an employee's personality, not the organizational context.

The above conclusions are supported by the values of Pratt's measure in each of these equations. Both commitment to change factors were predicted by a combination of PORC factors, individual dispositions, and job type. Voicing concerns about the change, on the other hand, was predicted by job type, positive affectivity and locus of control. None of the PORC factors were significant predictors, and the corresponding Pratt's measures were very low.

Further information on the key predictors of the two attitudes toward change can be obtained by looking at Pratt's measure, d . These data show that employees were more willing to spread the change when their external locus of control was lower ($d = .222$) and positive affectivity higher ($d = .218$). That being said, the competence of the change agents ($d = .190$) and the commitment of senior management to the change ($d = .068$) also played an important role in the prediction of this construct. In other words, although the two personality factors were the strongest predictors of spreading the change, the way the change agents went about implementing change and the level of commitment senior management demonstrated to the change were also important to an employee's level of active commitment to change.

Similarly, employees with higher positive affectivity ($d = .321$) were more likely to demonstrate the second form of commitment to change identified in this study - implement the change in their own work. Other predictors of implementing the change personally, though not as important as positive affectivity, included measures of individual dispositions and PORC. On the disposition end, lower external locus of control ($d = .128$) and tolerance for ambiguity ($d = .055$) were significant. On the PORC end, commitment of senior management ($d = .124$) and support of immediate managers ($d = .066$) were also significant predictors of this form of commitment. Taken as a whole, these data indicate that organizational members with a more positive outlook, an internal locus of control, and a higher tolerance for ambiguity would be more likely to implement the change in their own work if senior management and their immediate management supported the change. The data also indicate that while the immediate managers' support

is important to this form of commitment, it would be insufficient to encourage employees to implement the change in their own work if they did not see that senior management itself was committed to the launched changes.

The relative importance of job type as a predictor of attitudes toward change suggested that a deeper insight into its impact on the relationship between attitudes toward change and all the predictors was called for. For this purpose, the data set was split into manager and non-manager subsamples, and all the regressions were run again. Table 53 (managers) and Table 54 (non-managers) show all the parameters of the two sets of regressions.

Comparing the R^2 values in both sets of analysis (job type subsamples), it could be seen that both sets of predictors in one regression explained a slightly higher proportion of variance in the commitment behaviours for managers than for non-managers. For managers, the explained proportion of variance in spreading the change was 26.2%, for non-managers it was 23.8%. In the other form of commitment, implementing the change personally, both sets of predictors explained 12.9% of the variance for managers and 10.3% for non-managers. The reverse is true, however, for voicing concerns about the change. In this case, the combination of PORC and disposition factors explained 10.5% of the variance in non-managers' resistance to change (i.e., voicing concerns) versus 3.8% for managers.

There were some interesting differences in the relative importance of predictors associated with job type. With respect to the first form of commitment, spreading the change, it could be noted that:

- positive affectivity was the most important predictor for managers while locus of control was the most important predictor for non-managers,
- positive affectivity and the behaviour of change agents were important predictors regardless of job type,
- support of immediate manager was important for managers, but not for non-managers,
- Tolerance for ambiguity was somewhat important for non-managers, but not significant for managers,
- PORC related factors were of greater importance to managers than non-managers
- Dispositional characteristics were more important to non-managers than managers.

With respect to the second form of commitment to change (i.e., implementing the change in one's own work), the following can be noted in the data:

- Positive affectivity was an important predictor regardless of job type,
- Locus of control was an important predictor of this form of commitment for non-managers, but not managers,
- PORC related factors (i.e., actions of immediate manager, senior management and change agents) were important predictors for managers, but not non-managers,

Managers									
Dependant variable	R ²	F	Sig.	Predictors	Beta weight	t	Sig.	Correl coeff	Pratt's d
Spreading the change	.262	7.952	.000	Constant	2.706 ^a	7.120**	.000		
				Positive affectivity	.184	4.199**	.01	.388**	.273
				Competence of change agents	.171	3.957**	.01	.425**	.163
				Support of immediate mgr.	.100	2.206*	.05	.327**	.125
				Locus of control	-.059	-1.342	.50	-.276**	.062
				Commitment of sr. mgmt	.042	.957	.50	.350**	.057
				Adverse impact on work	.067	1.500	.20	-.168**	-.043
				Tolerance for ambiguity	.079	1.852	.10	.144*	.043
				Poor communication	-.036	-.854	.50	-.306**	.042
				Negative affectivity	-.045	-1.027	.50	-.209**	.036
				Lack of employee involvement	-.006	-.128	.50	-.265**	.006
Implementing the change	.129	7.687	.000	Constant	2.890 ^a	7.808**	.000		
				Positive affectivity	.128	3.086**	.01	.288**	.243
				Support of immediate mgr.	.107	2.611*	.05	.265**	.187
				Commitment of sr. mgmt	.094	2.442*	.05	.280**	.173
				Competence of change agents	.065	1.731	.10	.255**	.109
				Negative affectivity	-.063	-1.518	.20	-.188**	.078
				Tolerance for ambiguity	.069	1.693	.10	.119	.054
				Locus of control	-.026	-.625	.50	-.175**	.03
				Adverse impact on work	.068	1.678	.20	-.063	-.028
				Poor communication	.027	.750	.50	-.151*	-.027
				Lack of employee involvement	-.001	-.014	>.50	-.152*	.001

(Table to be continued on the next page)

Dependant variable	R ²	F	Sig.	Predictors	Beta weight	t	Sig.	Correl coeff	Pratt's d
Voicing concerns about the change	.038	.885	.548	Constant	3.634 ^a	9.610**	.000		
				Positive affectivity	.084	1.918	.10	.162*	.358
				Negative affectivity	-.065	-1.475	.20	-.138*	.236
				Support of immediate mgr.	.043	.983	.50	.111	.126
				Commitment of sr. mgmt	.023	.560	>.50	.107	.065
				Competence of change agents	.022	.558	>.50	.100	.058
				Adverse impact on work	.025	.583	>.50	-.030	.020
				Poor communication	.010	.254	>.50	-.064	.017
				Lack of employee involvement	.006	.131	>.50	-.055	.009
				Locus of control	-.002	-.048	>.50	-.071	.004
				Tolerance for ambiguity	-.004	-.098	>.50	.002	.0002

^a For constants, the regression coefficient is unstandardized b.

* Coefficient significant at $\alpha \leq .05$

** Coefficient significant at $\alpha \leq .01$

Table 53. Results of ridge regression analysis run with the manager subsample: employees' attitudes toward change, individual dispositions, and factors of PORC.

Non-managers									
Dependent variable	R ²	F	Sig.	Predictors	Beta weight	t	Sig.	Correl coeff	Pratt's d
Spreading the change	.238	10.48	.000	Constant	3.693 ^a	12.184**	.000		
				Locus of control	-.192	-5.238**	.01	-.397**	.320
				Positive affectivity	.132	3.646**	.01	.180**	.180
				Competence of change agents	.113	3.033*	.02	.333**	.158
				Tolerance for ambiguity	.111	3.154**	.01	.195**	.091
				Lack of employee involvement	-.057	-1.532	.20	-.275**	.066
				Commitment of sr. mgmt	.059	1.580	.20	.262**	.065
				Poor communication	-.033	-.910	.50	-.276**	.038
				Support of immediate mgr.	-.037	-.983	.50	.196**	.030
				Adverse impact on work	.027	.736	.50	-.204**	.023
				Negative affectivity	-.003	-.079	>.50	-.173**	.002
Implementing the change	.103	3.875	.000	Constant	3.431 ^a	11.226**	.000		
				Positive affectivity	.145	4.176**	.01	.261**	.367
				Locus of control	-.102	-2.929*	.02	-.204**	.202
				Commitment of sr. mgmt	.060	1.779	.10	.130*	.076
				Tolerance for ambiguity	.055	1.590	.20	.098	.052
				Poor communication	-.035	-1.107	.50	-.107*	.036
				Negative affectivity	.083	2.378	.05	.035	.028
				Support of immediate mgr.	.018	.528	>.50	.105*	.018
				Lack of employee involvement	.018	.526	>.50	-.066	-.012
				Adverse impact on work	.050	1.482	.20	-.020	.01
				Competence of change agents	.004	.133	>.50	.101	.004

(Table to be continued on the next page)

Dependent variable	R ²	F	Sig.	Predictors	Beta weight	t	Sig.	Correl coeff	Pratt's d
Voicing concerns about the change	.105	3.935	.000	Constant	3.960 ^a	13.183**	.000		
				Positive affectivity	.160	4.622**	.01	.279**	.298
				Locus of control	-.130	-3.749**	.01	-.239**	.296
				Negative affectivity	-.039	-1.126	.50	-.107	.04
				Adverse impact on work	.057	1.692	.20	.011	.006
				Competence of change agents	-.025	-.756	.50	.025	.006
				Support of immediate mgr.	.008	.228	>.50	.065	.005
				Lack of employee involvement	-.011	-.337	>.50	-.048	.005
				Poor communication	.014	.460	>.50	-.030	.004
				Commitment of sr. mgmt	-.020	-.596	>.50	.018	.003
				Tolerance for ambiguity	-.002	-.060	>.50	.031	.0006

^a For constants, the regression coefficient is unstandardized b.

* Coefficient significant at $\alpha \leq .05$

** Coefficient significant at $\alpha \leq .01$

Table 54. Results of ridge regression analysis run with the non-manager subsample: employees' attitudes toward change, individual dispositions, and factors of PORC.

- For non-managers, this form of commitment was largely a function of individual dispositions whereas for managers, dispositional factors were not enough. Managers also had to perceive that the key players (i.e., senior management and the immediate manager) in the organization were on side.

Finally, there are also a number of job type differences in the prediction of voicing concerns about the change that are worthy of note:

- Positive affectivity and locus of control were the most important predictors of this form of resistance to change for non-managers,
- Voicing concerns about the change was largely a function of personality for those in non-managerial positions. Neither personality nor PORC factors predicted this form of resistance to change for managers.

12.4. Summary of the findings

This chapter reported results of three types of analysis that integrated all the relationships among the variables involved in this research. The role individual dispositions played in the causal relationship between PORC and attitudes toward change determined earlier in this thesis, was explored first. This was followed by an examination of the role of job type in this relationship. Finally, the relative importance of PORC, individual dispositions, and job type in predicting attitudes toward change was assessed.

There were two possible roles individual dispositions/job type could play in this relationship were analyzed: 1) moderation of the relationship between PORC and attitudes

toward change and 2) prediction of the attitudes toward change through their impact on PORC (i.e., PORC could act as a mediator of the relationship between individual dispositions/job type and attitudes toward change).

It was found that individual dispositions did not moderate the relationship between PORC and attitudes toward change. Nor did PORC fully mediate the relationship between individual dispositions and the attitudes. Nevertheless, it did act as a partial mediator between certain individual dispositions and commitment to change. Specifically, it was found that PORC mediated the relationship between two of the dispositions (i.e., positive affectivity and locus of control) and one of the measures of commitment to change (i.e., spreading the change). PORC did not mediate any of the relationships where tolerance for ambiguity was the independent variable. Nor did PORC act as a mediator in the prediction of voicing concerns about the change. Both analyses suggest that employees' personality characteristics can predict their attitudes toward change directly as well as indirectly through the degree to which they perceive the organization to be ready for change.

Job type was found not to act as a moderator of the relationship between PORC and attitudes toward change. This would indicate that the job type differences in attitudes toward change noted previously cannot be attributed to different perceptions of organizational readiness for change. We also concluded that PORC did not mediate the relationship between job type and attitudes toward change. This analysis suggests,

therefore, that job type does not determine attitudes toward change through its impact on PORC, but rather can act as a predictor of attitudes toward change on its own.

Third, regression analysis was used to look at the relative impact of PORC, individual dispositions, and job type as predictors of attitudes toward change. It was found that while employees' willingness to spread the change was determined by a combination of individual dispositions and organizational actions, two individual dispositions (i.e., positive affectivity and locus of control) were slightly stronger predictors of this form of commitment to change than the perceptions of organizational actions. Tolerance for ambiguity was also an important predictor of this form of commitment. The two PORC factors associated with spreading the change were competence of the change agents and senior management's commitment to the change.

Findings with respect to predicting employees' willingness to personally implement change were similar in that this attitude was determined by a combination of organizational and personal factors. Key predictors were also similar to what we had seen before. Again, positive affectivity and locus of control were the most important predictors of this form of commitment to change followed by two organizational factors: committed senior management and supportive immediate managers

Positive affectivity and locus of control alone determined if members would voice their concerns about the change regardless of the perceptions of organizational policies and practices (i.e., organizational context).

As job type was also an important predictor of attitudes toward change, the above analysis was repeated with subsamples of managers and non-managers to gain a deeper insight in the extent to which the predictive ability of PORC and individual dispositions was dependent on job type. The findings show that their positive affectivity determined both managers' and non-managers' commitment to change. However, non-managers were also more likely to implement the change personally and spread it throughout the organization when they felt in control of events (i.e., had lower external locus of control). Higher tolerance for ambiguity and more positive perceptions of the competence of the change agents encouraged non-managers to spread the change while a positive world view (i.e., high positive affectivity) and greater perceptions of personal control (i.e., internal locus of control) increased the likelihood they would voice their concerns about the change.

Managers, on the other hand, were more likely to demonstrate their commitment to change when their perceptions of the management's behaviours were more positive. None of the factors included in this study affected managers' voicing concerns about the change.

Chapter 13: Discussion of the findings

Thirteen research questions were posed in this thesis. Each of these questions was associated with one of the four objectives presented in Chapter 3. Chapters 6 through 12 of this dissertation described the analysis used to seek answers to these questions. The present chapter brings together all the findings of this study. The goal of this chapter is to put the findings into perspective using existing research in the area and to discuss their implications for theory building and change management practitioners in the public sector organizations.

This chapter is divided into thirteen parts which correspond to the research questions posed in this study. The newly developed measures of employees' attitudes toward change and PORC will be presented in parts one and two. Part three will address the issue of whether commitment and resistance to change are two separate constructs or two poles on the same continuum. Part four will provide a similar examination of the PORC construct. Part five will address the issue of the relationship between the newly developed measures of PORC and attitudes toward change. Parts six through eight will present conclusions with respect to job type. Addressed in this section will be the impact job type has on 1) attitudes toward change, 2) PORC, and 3) individual dispositions. The impact of individual dispositions on employees' attitudes toward change and PORC will be addressed in parts nine and ten respectively. Parts eleven and twelve will present the conclusions regarding the impact of individual dispositions (11) and job type (12) on the ability of PORC to predict employees' attitudes toward change. Finally, the relative

importance of PORC and individual dispositions in predicting attitudes toward change will be discussed in part thirteen.

13.1. Measures of employees' attitudes toward change

Research Question #1 inquired about the behaviours organizational members engage in when they are committed, resistant or indifferent to a transformational change. The purpose of this question was to meet the second objective of this research: to develop a behaviourally-based measure of attitudes toward change. This study provided a partial answer to this question. Two scales measuring commitment to change and one scale of measuring resistance to change were developed. No behaviours were identified that could uniquely measure employees' indifference to change (i.e., not overlap with either resistance or commitment behaviours). The measures of the three attitudes toward change are discussed in the subsections below.

13.1.1. Behaviours of commitment to change

The data collected in this thesis suggests that when public servants feel committed to change, they engage in two types of behaviours. First, they implement the change by trying to learn more about the change initiatives and investing more time and effort incorporating the change initiatives in their own work routines. The second set of behaviours represents a more active support of the change. In this case, public servants go a step further and engage in behaviours to spread the change throughout the organization. They themselves actively initiate changes and encourage others to embrace the change by explaining to them the rationale and impacts of change, providing recognition when

others implement changes, and acting as a role model. This gradation of commitment is consistent with Coetsee's (1999) model of attitudes toward change where the intensity of acceptance of change may range from a very weak acceptance (i.e., just "taking note") to "passionate attachment" or commitment.

Consistent with the change management literature, the analysis shows that people tend to be more committed to change (i.e., spread it and implement it personally) when they feel the organization and managers are supportive of them, value their contributions, and care about their needs, interests, and well-being (i.e., high levels of commitment are associated with high POS). In addition, public servants' willingness to spread the change is associated with lower job stress levels. Implementation of the change personally, on the other hand, is not related to levels of job stress. As suggested in the literature (e.g., Haynes, LaCroix, & Lippin, 1987; Work habits, 1997), when people feel more in control - and active involvement in spreading the change can be one of the manifestations of control - their stress levels diminish. Alternatively, these data may reflect the fact that employees who feel less stressed on their jobs, are more willing to go the extra mile to promote change. These findings would suggest that public sector organizations that want to facilitate commitment to change should consider steps to provide more support to all organizational members and reduce their job related stress. The fact that the more passive form of commitment to change, implementing the change personally, is not associated with job stress is interesting in that it suggests this form of commitment to change does not impact stress one way or the other. While employees do not benefit from this type of

passive commitment, they do not suffer from the increased job stress one often sees in workplaces undergoing change (Pritchett, 1996; Taylor & Brown, 1988).

The Cronbach's alpha coefficient calculated for this scale indicates that "spreading the change" is a highly reliable measure of commitment to change. The scale also proved to have good content, predictive, and face validity. "Implementing the change personally" is a similarly valid commitment measure based on its content, predictive, and face related evidence. Its reliability is also acceptable.

13.1.2. Behaviours of resistance to change

The scale of resistance to change developed in this study does not seem to measure active resistance to change as conceptualized in the literature. Public servants who displayed this form of resistance reported that they provided constructive suggestions to people who could influence the change and voiced concerns about the change to the immediate supervisor, to those who had initiated the change, and at meetings. These "resistance" behaviours are not what we expected from our review of the literature in that they are passive and constructive rather than overt and destructive.

The validity and reliability data further confuse the picture. On the one hand, the Cronbach's alpha coefficient of "voicing concerns about the change" indicated high reliability of the resistance measure meaning that this scale is internally consistent, and all its items measure the same construct. The scale has also good content validity. On the other hand, inspection of the resistance items indicates that behaviours associated with

this attitude toward change are similar to those practiced by employees who are passively committed to the change. The results of the predictive validation process cast more doubt on the validity of the construct of resistance as conceptualized in the literature (at least within the public service context as the resistance and commitment scales both correlated with one of the outcome measures (i.e., POS) in a very similar way. The positive and significant relationship between the resistance scale and POS suggests that when an organization is perceived as supportive, employees not only are more committed to the change, but they also feel more likely to express their concerns about the change (i.e., engage in passive resistance). Given the highly hierarchical structure of public organizations that is widely acknowledged in the literature (e.g., Bilmes & Neal, 2003; Charic & Rouillard, 1997; Light, 2001), these findings might suggest that public service employees may feel encouraged to express their true attitude toward change only when they perceive the organization to be supportive.

It is also interesting to note that neither passive resistance nor passive commitment is associated with the incidence of job stress. Active commitment, on the other hand, is associated with lower levels of job stress. It is impossible, however to determine the direction of causality of these data. On the one hand, it may be that these findings indicate that employees prefer to “sit on the fence” with respect to transformational change as such actions do not lead to increased job stress. Alternatively, these findings may also mean that employers just need to help employees feel safe (i.e., reduce job stress) before they can expect employees to get actively involved in change (at either the commitment or resistance end). It could also mean that employees who are not coping

well with the demands at work (i.e., higher job stress) are loath to increase their stress levels further by participating in organizational change.

There are several possible explanations of the findings in this research regarding resistance to change in the public sector. First, they may be due to the fact that it is hard to develop behaviourally-based measures of active resistance to change. Second, it might be public service phenomenon that employees do not engage in active resistance behaviours. Third, the traditionally accepted concept of active resistance might be flawed. Further explanation of each of these interpretations is given below.

It is useful to interpret the results from this research with respect to resistance in light of theories proposed in the literature. As has been suggested, resistance to change is often manifested in covert and passive ways which are difficult to recognize (Conner, 1992; Matejka & Julian, 1995). Some examples of these behaviours are mentioned in Table 1 of the Literature Review chapter. In addition, to explain these findings, viewing resistance as consisting of two components, “attitudinal and behavioural responses to change” (Chawla & Kelloway, 2004, p.485) might help. As Judson (1991) pointed out, in many cases the actual behaviours of people who resist change are unrelated to their true attitudes toward change (i.e., they do not manifest their resistance in any overt way). This suggests that a behaviourally-based measure of resistance might not necessarily unveil employees’ true resistance to change which might be more psychological (and therefore not publicly manifested) than explicitly behavioural. This explanation of our findings is consistent with the fact that although interview participants of this study (AFA Stage I)

identified a number of active behaviours that they associated with resisting an undesirable change, these behaviours were not rated as typical of their own manifestations of this attitude toward change.

Comments from the Stage I interviews provide further support for this interpretation. When asked about behaviours that they engaged in when resisting change, a number of interviewees noted that, they did not resist any changes, even those they did not like as they had learnt that their resistance would not affect the outcomes. Instead, they tried to find ways to live with the change which included seeking clarification and voicing concerns about the change initiatives they could not accept. Such behaviour can be explained by research done by Edwards (1992) who found that when there is a discrepancy between a preferred and an actual state, employees implement adjustment processes to resolve the discrepancy. To this end, the author suggested that employees who are faced with stressful organizational situations may seek new sources of information, try to alter the objective reality, or cognitively reconstruct the reality by modifying previously constructed perceptions. It can be argued that when employees are faced with a change they do not like and when they perceive that active resistance is meaningless they perceive the situation to be stressful. This interpretation of the findings is consistent with the fact that the behaviours the respondents of this study engaged in to deal with undesirable change were similar to those mechanisms employees use when coping with stress (i.e., they tried to learn more about the change initiative they did not support in order to understand it better).

Second, the findings of this study suggest that active resistance as described in the literature does not apply in the public sector due to the constraints of its cultural peculiarities. First, it is possible that the hierarchical structure of the public sector has resulted in the perception at the working levels that they do not have much control over change decisions (e.g., Light, 2001). Such individuals might therefore feel they have to accept decisions without objecting to them. Support for this interpretation of the data comes from the interviews and survey comments where a number of respondents pointed out that all decisions in their organization were made by the senior management without input from employees and that staff were informed about the changes after the fact. This supports the idea that public servants at the working levels have no control over the change processes and may explain why they do not actively resist change. This interpretation is supported by a number of researchers (e.g., Dunphy et al., 2003; Lawrence, 1969; Light, 2001) who have warned organizations that employees who are not involved in the change process are more likely to resist this change than those whose input is solicited from the very beginning.

The second reason for the lack of active covert resistance might be related to the previous one. Employees might fear adverse consequences of resisting decisions of the senior management. This proposition can again be supported by the comments of a number of respondents who indicated that organizational members at lower levels do not voice their dissatisfaction with change since bottom-up feedback is not solicited or appreciated in their department. They also noted that the fact that in the past managers had reacted negatively to criticism had created a culture of unconditional acceptance of

organizational decisions. This is again consistent with the literature. In an international survey on work orientations, Norris (2003) found that public servants in the Anglo-American region (i.e., Great Britain, Canada, US, and New Zealand) value job security, but their experience in this respect falls behind their values. Respondents reported quite high job insecurity as well as low advancement opportunities. From these findings it can be inferred that public servants do not go against management decisions for fear of losing their jobs or hurting advancement opportunities.

Third, the recent literature on change management in the public sector (e.g., Bok, 2003; Carnevale, 2003; Light, 2001) has brought up one more reason why public servants may passively resist change. These authors concluded that too many reforms have been tried to keep up with the latest management fads. The reforms have eroded over time without leaving any permanent positive traces. Instead, in many cases, the changes made public servants' work more difficult, especially at lower organizational levels. This contention was supported by our interviews with public servants who reported being tired of constant changes that have not resulted in tangible benefits to the organization and its employees personally. It would be argued, therefore, that this experience has taught public servants the futility of active resistance to change.

Fourth, the literature (e.g., Cobb et al., 1995 in Folger & Skarlicki, 1999) suggests that the way the change is implemented can have a considerable influence on employees' resistance to change. The same idea was expressed in the interviews of this study. Public servants commented that they did not resist change per se, but rather questioned the type

of change that had been selected and the methods of its implementation. Moreover, many respondents expressed the idea that they welcome good change that would make the public sector more responsive to the needs of the society. Unfortunately, the public servants in our sample did not perceive the changes launched in the public sector to be beneficial. This might explain why the public servants in our sample were committed to change in principle, but at the same time, expressed their concern about the actual implementation of specific change initiatives.

Finally, the reason for our findings with respect to lack of active resistance in the public sector might be due to the fact that the very construct of resistance to change is flawed. It might be possible that active resistance to change is more a theoretical construct than an empirical one. The literature also suggests (e.g., Conner, 1992; Matejka & Julian, 1995) that resistance in any setting most often takes place in passive and covert forms which are very difficult to detect. In environments where people want to keep their jobs and their chances for career success alive, they do not explicitly resist change, but rather express concerns about its implementation. This is consistent with propositions expressed in the most recent literature on change management (e.g., Dawson, 2003). At the same time, other researchers still maintain that public servants are notorious for resisting change (e.g., Carnevale, 2003; Rainey, 2003).

Taken together, the findings of this research may lead one to think that lack of explicit resistance in the public sector does not necessarily exclude its presence. The discovery in this thesis of a more indirect, passive forms of resistance to change in the public sector

means that public sector managers need to pay attention to much more subtle cues that people give off to detect their negative attitudes toward change (Dawson, 2003). This realization might encourage senior management to bring resistance in the open through providing a supportive environment, soliciting bottom-up feedback, dealing with job stress, and holding managers at all levels accountable for listening to their staff and addressing their concerns instead of suppressing resistance. Resistance might be easier to deal with if it is known and its sources understood.

13.1.3. Behaviours of indifference to change

The results from this research would suggest that indifference to change is an attitude that is very difficult to recognize. Sometimes indifference looks like weak commitment, while other times it looks like mild resistance. The fact that the three most typical behaviours of indifference overlapped with those of resistance and/or commitment reinforces this argument. This finding is also consistent with the fact that the literature cannot offer much advice on how to identify this attitude toward change from a behavioural point of view.

According to the study participants, there is too much indifference in the public sector. Some suggestions from the literature may explain the causes of this attitude. Having reviewed the history of public service reforms in the USA, Bok (2003) concluded that in the long run, none of the reforms has left a lasting impact. Furthermore, in his empirical study of American federal agencies, Light (2001) found that only 32% of rank and file employees felt they had a say over what happens in their jobs. There are grounds to

believe that the public service environment in Canada is very similar. Such conditions are very likely to foster indifference to change or passive forms of commitment and resistance.

Two other reasons why we could not identify a measure of indifference to change can be suggested. First, it should be noted that the research methodology (i.e., inviting volunteers to respond) might have meant that people who were truly indifferent to the change did not participate in this study. As such, it is more than likely that the study participants did not represent the silent majority that might be highly indifferent to the changes as the participants demonstrated their lack of indifference by volunteering for the study. Second, it may be that indifference to change does not have a unique behavioural component.

13.2. Measures of perceived organizational readiness/unreadiness for change

Research question #2 inquired about organizational actions that are associated with employees' perceptions of organizational readiness and unreadiness for change. The question is associated with the third objective of this research: to develop behaviourally-based measures of PORC. Two reliable and valid scales of perceived organizational readiness and unreadiness for change were developed. Each scale consisted of three subscales. Organizations that employees perceived to be ready for change had:

- senior managers who were committed to the change,
- competent change agents, and
- immediate managers who supported the change and their staff.

Organizations that employees perceived to be not ready for change had:

- poor communication practices,
- did not ensure that the change would not have an adverse impact on employees' work, and
- did not involve employees in the change processes.

The findings imply that organizations that want to be perceived by their employees to be ready for change should first of all pay close attention to the behaviours of their leaders and change agents at all levels. To start with, there needs to be a champion of change at the most senior level of the organization. Furthermore, this research found that the senior leaders need to come across as being committed to change. The leadership team have to act cohesively, conform to the propagated new paradigms of thinking, and serve as role models of change. They have to be decisive with respect to the changes, define the course of changes, and communicate the changes directly to the staff. These findings are consistent with the literature that emphasizes the crucial role of senior leadership in the success of change implementation (e.g., Conner, 1998; Davidson, 1996; Goleman, 1998; Harris, 2002; Jones & Bearley, 1996; Quirke, 1996; Stewart, 1994; Trahan & Burke, 1996).

Employees believe that the organization is ready for change if the change agents are part of a change management team and are competent at what they are doing. These change agents need to determine the right types of change to implement, get the buy-in of the key players up front, consider different options of change implementation, and if necessary,

seek advice from external experts. The change agents also need to be able to justify the changes to the staff and be able to answer organizational members' questions about these changes. They have to be perceived to act professionally and ethically and to ensure that the whole change process is fair and ethical. The literature supports the idea that change agents are found not only among the senior management and that change leadership should be provided throughout the organization (Buchanan & Badham, 1999; Dunphy et al., 2003; Stewart, 1994; Ulrich, 1996). An examination of the behaviours in this measure provide another, broader, perspective of the role of the effective change agent as one who consults broadly inside the organization on the best way to approach change and is a good communicator.

Finally, the findings show that in public sector organizations that are perceived to be ready for change, employees perceive that their immediate manager is supportive of the staff, encourages them to participate in the change process, acknowledges the impact the change may have on the staff, is held accountable for passing relevant information down to them, and helps the organization communicate the change messages frequently and through various channels. A number of authors (e.g., Duck, 1997; Judson, 1991; Kotter, 2002; Quirke, 1996) have indicated that immediate managers interact with their staff on a regular basis (i.e., they are empathetic, encouraging, and informative). It would appear that the nature of these interactions makes a difference with respect to shaping employees' perceptions of organizational readiness/unreadiness for change. These findings send an important message to organizations that immediate managers embody the organization's values around change, and their behaviours create the organization's

image in the eyes of its employees. All managers who have direct reports, therefore, need to be ready and well equipped to communicate change to their staff and provide the necessary support. As Dawson (2003) has noted, it is the organization's responsibility to prepare all those who supervise others to deal with change and involve them in designing and implementing change.

Findings in this research also link a number of organizational actions to the perception that the organization is not ready for change. Poor communication practices in particular appear to be detrimental to an employee's perceptions with respect to organizational readiness for change. Again the AFA methodology used in this research adds value as it tells us quite specifically what poor communication around change looks like. Organizations are judged to be unready for change due to poor communication practices when employees perceive that there is a disconnect between the senior management and the working levels with respect to the change priorities and that the people who are initiating the changes do not understand the long-term impact of these changes on the organization. Managers in organizations that are perceived to not be ready for change are loath to admit they have made mistakes in managing the change which may affect trust. Other communication practices that were associated with perceived organizational unreadiness for change include an inability to clearly articulate the vision, to talk about the change in specific terms, to clearly tell employees why change is necessary, to enumerate the expected outcomes of the change, to explain how the change will be implemented, and how it will impact daily work processes. The role of communication in successful change management has been widely discussed in the literature. Poor

communication was identified as one of the reasons for the failure of change efforts and resistance to change (Quirke, 1996; Richardson & Denton, 1996). In contrast, organizations that are ready for change have been associated with effective communication (Jones and Bearley, 1996; Stewart, 1994; Trahant & Burke, 1996).

Employees' perceptions with respect to organizational readiness for change are also affected by the impact the change will have on their work. Not phasing out the old duties when the new ones are assigned, discouraging people from saying "no" to work, introducing too many changes too often, and not monitoring the progress of the change and its impact on the organization are all actions that this research would suggest may make employees believe the organization is not ready for change. Such authors as Brown and Duguid (1991) and Jellison (1993) suggested that increased workloads and work practices that are seen by employees as adverse may trigger resistance to change. This study supports these authors and offers specific instances on how this perception arises. Organizations need to be cautious with respect to the perceived impact the change initiatives have on their employees' workloads.

This research indicates a strong association between participation in the change process and positive perceptions of organization's readiness for change. In particular, organizations are seen to be not ready for change when the front-line employees do not have any control over the change processes and outcomes in their area of work, are not involved in making decisions about changes, and are consulted about the upcoming changes after the fact. There is a strong assertion in the literature that employee

involvement in decision making in their area of work is a feature of organizations that are ready for change (Jones & Bearley, 1996; Stewart, 1994; Trahan & Burke, 1996). Again, this research is consistent with this idea and gives specific details in what involvement in change does and does not look like.

Finally, the results of correlation analysis between the readiness/unreadiness subscales and the outcome variables included in this thesis suggest that employees' perceptions of organization's readiness for change are strongly associated with POS and job stress. It is not possible to determine the direction of causality in these data. It may be that higher levels of POS predispose employees to view the change positively which results in lower job stress. Alternatively, it may be that employees whose jobs are not highly stressful may have more time and energy to deal with the stresses associated with change management while employees who work under a great deal of stress have less resilience to deal with the stresses associated with change. In any case, the link between organizational readiness for change, POS (positive association), and job stress (negative association) suggests that manipulation in one area is likely to produce results in the other.

13.3. Continuum of attitudes toward change

Research Question #3 sought to clarify if resistance and commitment to change were two separate variables or two poles on the same attitude continuum. The present study provided mixed findings that could not fully confirm or completely reject the existence of a continuum of attitudes toward change. The findings from the first stage of the research

(i.e., act nomination interviews) suggested that such a continuum might exist. However, later in the study, based on prototypicality ratings, resistance behaviours that were opposite to those of commitment were excluded as being atypical. The retained behaviours which described resistance (i.e., voicing employees' concerns about the change) positively related to the commitment scales. Thus, the finalized scales did not discriminate between commitment and resistance. Moreover, the validation results indicate that commitment and resistance as quantified in this thesis are neither dichotomous nor continuous, but rather complementary.

The data gathering process might help explain the mixed results. Interview participants were asked to nominate behaviours they engaged in whenever they resisted or were against certain changes. The responses were based on participants' recollections of different organizational situations either on their present job or during their career in general where some significant change was involved. It cannot be excluded that responses might have been emotionally or retrospectively biased and some "would-be" element might have been attached to them. At Stage II, however, respondents were asked to consider the changes they had recently experienced in their present workplace and indicate how typical the given behaviours were of how they resisted this specific change. While the responses given in the Stage I interview could theoretically describe how public servants could have (or had) actively resisted change in the past, the Stage II survey indicates that such active resistance was not typical in the public sector. As a result, these behaviours did not make the top list in Stage II (i.e., prototypicality rating) and were not included in the final measure. The majority of resistance behaviours

embedded in the measure indicate, in fact that public servants did not actively resist organizational change. Some reasons for the lack of active resistance were discussed in Section 13.1.2.

Notwithstanding the above controversies regarding the discovered resistance behaviours, the findings still do not ultimately exclude the possibility that some hidden resistance to change in the public service might exist. The nomination of more active and overt resistance behaviours in Stage I of the AFA provides that a number of commitment behaviours can be matched with their antipodes from the list of resistance behaviours. This suggests that commitment and resistance might be located at the poles of a continuum. Since these resistance behaviours were eliminated in Stage II, the continuum was left with its commitment end clearly defined and directly measurable, but the resistance end was only implied to be the opposite pole with no items describing it. It can be argued that reintroduction of some of the more active resistance items into the measure would help us clearly define the opposite end to the commitment pole of the continuum so that the full spectrum of attitudes toward change would be represented as suggested by Coetsee (1999) and Judson (1991). The measure might be supplemented with those resistance items that are antipodes to the commitment behaviours retained in the final measure (see Table 28), for example, “I only do the minimum required to get by,” “I get angry and take it out on those around me,” “I use a lack of time as an excuse not to participate in the change process,” or “I deny that the change is going to happen.”

It is important to note that the data in Table 28 suggest that in fact, none of the three scales of attitudes toward change developed in this thesis are very far off the attitude midpoint (i.e., indifference) of the commitment-resistance scale if such a continuum does in fact exist. The “spreading the change” scale, however, is situated considerably closer to the commitment pole than “voicing concerns about the change” is to the resistance pole. It can be recalled that in Stage II of the AFA, some of the most active commitment behaviours were also eliminated as being atypical in the public sector. The idea that the attitude toward change scales developed in this thesis are close to the midpoint of the continuum (if it exists) may also be supported by the fact that in Stage II, the nominated indifference behaviours overlapped with some of the commitment and resistance behaviours. It can be argued that public servants are neither overtly resistant nor passionate about change due to cultural peculiarities of the sector (see Section 6.4.2) and/or their negative experiences with organizational change in the past. Consequently, a different research design and/or more rigorous methods might be called for to probe this issue more fully. Thus, this research made an inroad in a better understanding of attitudes toward change in the public sector, but it did not clearly resolve the dichotomy-continuum dilemma that exists in the literature. More in-depth studies are, however, needed to explore the peculiarities of resistance to change in the public sector.

For practical purposes, change agents can be advised to use the commitment scales (i.e., spreading the change and implementing it personally) to assess employees’ attitudes toward change. The commitment scales might represent one pole of a continuum where the other pole is not completely specified. This interpretation of the data suggests that the

change agents need to be cautious when confronted with low scores on our measure of commitment. They may not only communicate low commitment (which the change agents may interpret as a mere lack of enthusiasm), but may also send a warning message of hidden resistance. As such, the commitment to change scales can be considered a useful measure of attitudes toward change in the public sector.

13.4. Continuum of perceptions of organizational readiness/unreadiness for change

Research Question #4 aimed to establish if perceived organizational readiness and unreadiness for change were dichotomous constructs or two poles on a continuum. The results of quantitative and qualitative analysis showed that behaviours associated with organizations that were perceived to be ready for change were opposite to behaviours associated with organizations that were perceived to be not ready for change. Hence, it can be concluded that both constructs are located at the opposite ends of a continuum supporting the theoretical proposition of Eby and her colleagues (2000). This finding is also consistent with the work of Armenakis et al. (1993) who proposed that when employees perceive that their organization is ready for the change, they themselves get ready for the change and are more likely to accept it. In contrast, when employees perceive that the organization is not ready for the change, they are more likely to resist it.

This finding has important implications for change agents and researchers. When interpreting survey results obtained using these measures, attention should be paid to high and low scores of the various subscales (as identified through factor analysis). When the majority of respondents give high scores on factors describing poor communication, the

adverse impact the change has on work, and the lack of employee involvement in the change processes, researchers and change agents should conclude that the organization is not ready for change. Similarly, low scores on the factors pertaining to commitment of senior management to the change, competence of the change agents, and support of immediate managers also indicate that the organization is not seen to be ready for the change. On the other hand, low scores on the first group of factors and high scores on the second group indicate that the organization is perceived to be highly ready for the change. Thus, being opposite constructs, readiness and unreadiness factors can be included in one measurement scale with part of the items reverse coded if the survey administrators need to obtain a single indicator of PORC.

13.5. Relationship between PORC and employees' attitudes toward change

Research question #5 addressed two types of relationship between the two core constructs in the model: PORC and attitudes toward change. First, the simple association between the constructs was examined using correlation analysis (#5a). This was followed by an examination of the ability of PORC to predict attitudes toward change (i.e., regression analysis) (#5b). The research results gave an affirmative answer to both parts of the question thus supporting the proposition of Armenakis et al. (1993) and Eby et al. (2000) that employees' attitudes toward change are determined by their perceptions of organizational readiness for change.

The correlation findings indicate that public servants' commitment to change is associated with their perceptions of organizational readiness for change. The data indicate

that public servants are more likely to implement changes in their own work and help spread the change throughout the organization when they believe that senior managers are committed to the change, the change agents act competently, and immediate managers are supportive. On the other hand, it might also imply the opposite: when employees are more committed to change (i.e., willing to implement it personally and to spread it throughout the organization), they see the behaviours of senior management, the change agents, and immediate supervisors in a more positive light.

The positive association that was found to exist between perceptions of managerial and leadership behaviours with respect to change and employees' attitudes toward change is consistent with the literature that relates the leadership behaviours of senior management and effectiveness of the change agents to employees' readiness for change (Armenakis et al., 1993; Armenakis & Harris, 2001; Hanpachern et al., 1998; Kotter, 1995). The literature has also emphasized the role of the immediate supervisor in shaping employees' perceptions of organizational change (e.g., Duck, 1997; Judson, 1991; Kotter, 2002; Quirke, 1996).

The finding that the perception of immediate supervisor's support is related to attitudes toward change might be reinforced by the feedback organizational members provided in their interview and survey comments. A number of respondents noted in the interview that while senior management in the public sector may be committed to the new paradigms of thinking and may invite everybody to participate in the change initiatives, in practice, the employee's immediate supervisor often discourages their staff from

participating in the change initiatives due to a shortage of resources, their need to do other urgent tasks, tight schedules, etc. Other employees in the interviews noted that they were more than eager to get on board and participate in change initiatives that their own supervisor had approved of and supported. For example, there were a number of members who volunteered to participate in this study because their immediate supervisors advised them to do so.

The analysis also indicates that public servants are less likely to implement changes in their work and spread them throughout the organization when they feel the change is poorly communicated and employees are not involved in the change processes. They are also less willing to commit by spreading the change when they feel the change has an adverse impact on people's work. The literature supports these findings by relating employees' readiness for change to effective organizational communication and employee involvement in decision making in their area of work (Armenais & Harris, 2002; Cunningham et al., 2000). There is also some support for the link between employees' perceptions that they would benefit from the change (i.e., lower scores on the adverse impact the change has on work) and positive attitudes toward change (Brown & Duguid, 1991; Jellison, 1993).

Finally, the correlation findings suggest that employees' propensity to voice their concerns about the change are not associated with their perceptions of organizational readiness/unreadiness for change. Employees might logically see that the organization is not doing the right thing, but this knowledge does not affect how they express their

feelings about the change. This would suggest that there are factors outside the organizational context that increases the likelihood that employees will voice their concerns about the change.

The findings from regression analysis provide a further insight in the relationships between PORC and attitudes toward change. A causal relationship between these constructs has been hypothesized by Armenakis et al. (1993) and Eby et al. (2000), but has never been empirically tested. This research suggests that a cause and effect relationship between some of the attitudes toward change and some of the dimensions of PORC might exist.

The findings indicate that PORC plays less of a role with respect to the prediction of employees' willingness to implement change in their own work and voice concerns about the change than it does in our understanding of who will or will not work at spreading the change throughout the organization. It was also found that while PORC on its own cannot fully explain attitudes toward change, it provides an important contribution toward this goal. It must be noted that organizational change is quite a complex process, and in large organizations (and public sector organizations in most cases are large), employees' attitudes toward change may be determined by many interrelated elements. It would be, therefore, untenable to identify all the factors that affect attitudes toward change within a single study. Nevertheless, this research established that organizational actions can influence attitudes toward change. Not all actions in this research, however, were equally effective at predicting the various attitudes toward change included in this model.

Of the factors included in this study, competence of the change agents was the most important predictor of employees' willingness to spread the change. The results indicate that for public servants to become ambassadors of change within their organization (i.e., spread the change), they need a change agent whose actions speak louder than words and who implements the change in what is perceived to be in a professional, fair, and ethical way. Only then will employees become proactive and help their organization spread the change. Other factors such as committed senior management, good communication of the change, and employee involvement in the change process are also linked to this kind of commitment. The findings suggest that if organizations want their members to proactively spread the change throughout the organization, they have to persuade people that the senior management itself is sincere about the change. Ways in which this can be accomplished can be determined by looking at the behaviours included in this measure of PORC. These findings also suggest that without adequate information about the change and belief that their contribution is welcome, employees won't engage in the more proactive commitment behaviours included in this factor.

The most important predictor of employees' willingness to implement the change in their own work turned out to be commitment of senior management to the change. These findings suggest that when public servants see that there is a champion of change at the most senior level who is supported by a cohesive senior management team that has bought in to the change, they actually change how they do things. It may be that under these circumstances, they see that such change is inevitable. Alternatively, it may be that

during the change process, they model the behaviours of those above them in the organization. Other actions of senior management that are associated with implementation of change at the working level include decisiveness with respect to change goals, etc. and communicating change messages directly to the staff. Support provided by the immediate supervisor and competence of the change agent are also important predictors of whether or not an employee will implement the change but their importance is secondary to the actions of the senior management team. Nevertheless, taken as a whole, these data indicate that the actions of managers at all levels of the organization are key to public servants' commitment to change.

In summary, this thesis has determined that management behaviours are the key to getting people to change how they personally do things. To get public servants to go beyond implementing the change personally and act as change agents themselves requires additional action on the part of the organization. It requires good communication (i.e., employees need to know why the change is occurring, how it is being implemented, and how it will benefit them) and the opportunity for the employee to participate in the change process.

PORC in this research could not predict whether or not an employee would voice his/her concerns about the change. These findings are consistent with those observed with the correlation analysis. Taken together, these findings indicate that organizational context has little to do with whether or not a public servant will voice his/her concerns about the change.

The association between employees' attitudes toward change and PORC has important practical implications for change management in the public service. First, if organizations cannot directly affect members' attitudes toward change, organizational change agents can influence members' perceptions of the organizational context around change by adjusting their own behaviours and organizational policies and practices. Second, the identification of concrete organizational actions which increase employees' commitment to change give change agents an idea of what they should or should not do to increase the chance that change will be implemented successfully. The measure of PORC developed in this study provides the change agents with a diagnostic tool which can be used to assess how the organization is doing with respect to these critical actions and make modifications as necessary.

13.6. Impact of job type on attitudes toward change

Research Question #6 aimed to explore the job type differences in actual employees' attitudes toward change. Managers in this study reported higher commitment to change than non-managers (i.e., they were more likely to implement the change in their own work and spread it throughout the organization). They were also more likely than non-managers to voice their concerns about the change. These findings are consistent with the view held by a number of researchers (e.g., Conner, 1998; Hanpachern et al., 1998; Judson, 1991; Woodman, 1989) that managers might be more positive about organizational change than non-managers. These findings also suggest that due to their different roles in the organization, managers may have to act more like change agents

than non-managers. It is also possible that managers have a more positive attitude toward change because their personality dispositions which are different from those of non-managers predispose them to view change positively. Finally, these results might reflect the differences in the status of the two groups. It may be that managers have more opportunities to participate in the change process, receive communication with respect to change, and voice their concerns about the change. As such, the attitudes they display with respect to change are different than those of non-managers.

The findings of this research indicate that public sector organizations should involve managers at all levels in the implementation and diffusion of the change because this group has more positive attitudes toward change than non-managers and employees at all levels are more likely to implement the change into their own area if their own managers have done so (Heifetz & Laurie, 2003; Kanter, 2004; Pascale & Sternin, 2005).

13.7. Impact of job type on PORC

Research Question #7 addressed the job type differences in the perceptions of organizational readiness/unreadiness for change. Overall, managers' perceptions did not differ very much from those of other job holders in this sample. Non-managers were significantly more critical of only one organizational action out of six: poor communication practices. It is possible that managers' positions in the organization allows them more direct access to information coming from the senior management and the change agents which is why they tend to perceive the communication in a more

positive light. Another interpretation of managers' less critical view on communication could be related to the fact that they themselves might be communicators.

All in all, the data supports the following conclusion: job type does not significantly affect public servants' perceptions of their organizations' readiness for change. In other words, managers and non-managers have the same view of how well their organization is doing in managing the change (i.e., engaging in action associated with readiness and unreadiness for change). This might imply that there is no need for the change agents to tailor their change efforts separately to meet the needs of managers and non-managers. Overall, this finding does not support the literature that emphasizes job type differences in employees' views of organizational change (e.g., Judson, 1991; Lehman et al., 2002; McNabb & Sepic, 1995; Woodman, 1989).

13.8. Association between job type and individual dispositions

Research Question #8 asked if there were differences between managers and non-managerial employees with respect to their individual dispositions. The data analysis done for this thesis would indicate yes. Managers were more likely than non-managers to be tolerant of ambiguity, have a higher internal locus of control, and higher positive affectivity. Managers did not differ from non-managers, however, in the degree they espoused negative affectivity (both groups had low levels of this disposition). These findings provide a bridge between two streams of literature. On the one hand, such authors as Holland (1985) and Super (1953) linked a number of personality characteristics that are similar to those included in this thesis with one's choice of a

managerial career. In this study, we noted that managers have higher internal locus of control (similar to Holland's idea of self-confidence, ambitions, and persuasiveness), higher tolerance for ambiguity (similar to Holland's idea of acquisitiveness and adventurousness), and higher positive affectivity (can be equated with Holland's idea of optimism, agreeableness, energy, sociability, talkativeness, friendliness, and warmth).

There is evidence in the literature (e.g., Ashford, 1988; Budner, 1962; Callan et al., 1994) that individuals with high tolerance for ambiguity, positive affectivity and internal locus of control are more open to organizational change. The presence of certain personality characteristics has also been acknowledged to facilitate a more positive attitude toward change and ways it is implemented (Karasek, 1979; Mamman, 1996). Consequently, it can be inferred that managerial job holders may have more positive attitudes toward change and perceptions of its implementation in their organizations not only because of their position in the organization, but also due to their disposition. This research may add to the theory of careers literature by proposing specific personality characteristics that might supplement the profile of the type of managers needed in times of transformational change.

13.9. Impact of individual dispositions on attitudes toward change

Research Question #9 asked about the relationship between personality dispositions and employees' attitudes toward change. The correlation and regression analyses performed in Chapter 11 indicate that individual dispositions play an important part in shaping attitudes toward change. These findings are consistent with, but go beyond, the current

literature which, to date, has only provided indirect support for the link between personality traits and attitudes toward change (e.g., Ashford, 1988; Lau & Woodman, 1995; Michael & Lawson, 2000; Wanberg & Banas, 2000). The relationships found between each of the dispositions in this analysis (i.e., positive affectivity, negative affectivity, locus of control, and tolerance for ambiguity) and the three attitudes toward change are discussed below.

Correlation analysis shows that two of the four dispositions (i.e., positive affectivity and locus of control) were strongly associated with all three of the measures of attitudes toward change. The findings of the regression analysis support this finding and indicate that the two dispositions were also significant predictors of employees' attitudes. The findings from this research indicate that organizational members who have high positive affectivity and an internal locus of control, are more likely to implement changes in their own work, spread them throughout the organization, and mildly resist the change by voicing their concerns. The literature supports this finding by suggesting that positive affectivity along with locus of control is related to acceptance of change (Wanberg & Banas, 2000). Moreover, according to Lau and Woodman (1995), individuals with internal locus of control have more positive attitudes than those with external locus of control in organizations experiencing change.

The literature suggests that individual dispositions might be associated with job type (e.g., Ashford, 1988; Conner, 1998; Judge et al., 1999; Wanberg & Banas, 2000). This thesis provides support for this assumption (see Section 10.3). This association required

us to look at the relationship between individual dispositions and attitudes toward change for managers and non-managers separately. While there were no job type differences in the relationship between positive affectivity and spreading the change and internal locus of control and spreading the change (i.e., individuals with higher levels of these dispositions were more likely to spread the change regardless of their job type), the same cannot be said of the relationships between these two dispositions and the other two attitudes toward change explored in this thesis. Non-managers with higher positive affectivity and internal locus of control were significantly more likely to implement the change personally and voice their concerns about the change. For managers, on the other hand, positive affectivity was the only significant predictor of implementing the change personally. Neither correlation nor regression analysis identified a significant relationship between any of the dispositions included in this thesis and managers' propensity to voice their concerns about the change. Several explanations can be offered for this finding. First, the fact that positive affectivity and locus of control were not associated with voicing concerns about the change for respondents in management positions could be due to the fact that managers reported significantly higher positive affectivity and internal locus of control than non-managers (see Section 10.3).

It may be that there is a threshold level for both these dispositions (i.e., positive affectivity and locus of control) that is necessary before employees feel like they can voice their concerns about the change. Our data would suggest that most of the managers in the sample, but only some of the non-managers are above these thresholds. This explanation is consistent with the fact that managers reported significantly higher scores

than non-managers on positive affectivity (i.e., mean of 3.65 and standard deviation of .726 for managers versus mean of 3.39 and standard deviation of .779 for non-managers) and lower scores on external locus of control (i.e., mean of 2.50 and standard deviation of .393 for managers versus mean of 2.68 and standard deviation of .417 for non-managers). Alternately, it may just be that managers are in a better position to voice concerns and feel under more pressure to set a good example to implement the change personally due to their status in the organization (i.e., feelings of control and responsibility come with the job) regardless of their dispositional characteristics.

A number of possible explanations may be offered for the importance of positive affectivity and locus of control in predicting voicing concerns about the change for non-managers. These associations are significant in both correlation and regression analyses. First, it may be that employees who have high positive affectivity and low external locus of control feel that nothing bad will happen if they speak up and voice their concerns about the change. Positive affectivity may also be associated with a belief that by speaking up the individual can make a positive impact on the change process. In either case, voicing concerns should make it easier for organizations to respond to relevant concerns (Dawson, 2003). As such it is important for organizations that are implementing transformational change to try and raise their employees' perceptions of control and the possibility of positive outcomes.

Higher tolerance for ambiguity was also a significant predictor of non-managers' willingness to engage in the more proactive behaviours typifying spreading the change.

This disposition was the third most important predictor of this attitude toward change (after locus of control and positive affectivity) for this group of employees. The link between tolerance for ambiguity and attitudes toward change is consistent with studies done by researchers such as Budner (1962) who found that people who are more tolerant of ambiguity have a better adaptive capacity and therefore can accept change more easily. As noted earlier, managers reported higher levels of tolerance for ambiguity than non-managers (see Section 10.3). This job type difference in this disposition is consistent with how these two groups behave when faced with change. Lower levels of this disposition might predispose non-managers to feelings of discomfort with the uncertainties brought about by a large-scale change. As such, only those non-managers who are highly tolerant of ambiguity will volunteer to actively spread the change throughout the public service organization. Organizations who wish to implement transformational change should, therefore, provide appropriate support to these non-managers (see Section 6.3.4.2) so that they are encouraged to act as role models for others at working levels.

Finally, the association between negative affectivity and implementing the change personally was significant for managers in the correlation, but not in the regression analysis. This disposition did not, however, substantially affect the attitudes of non-managers. These findings may still suggest that managers with a negative world outlook might be less likely to act as role models and implement the change in their own work. Given the importance of the managers' acceptance of the change to its ultimate implementation by their subordinates (Larkin & Larkin, 1994), these data suggest that

organizations should consider personality characteristics when promoting people into managerial positions or appointing change agents.

Finally, these findings indicate that personality may have a somewhat stronger impact on attitudes toward change for non-managers than managers. Overall, the discovery of the importance of personality traits for successful change implementation suggests that organizations need to take personality features into account when a large-scale change needs to be implemented. Public sector organizations which are undergoing large-scale change also need to consider individual dispositions when selecting individuals to lead the change and act as change agents. It was pointed out by several interview participants that people need to be supported differently during change and need different arguments to be communicated in different ways to be persuaded to buy in to the change. This suggests that organizations aspiring to improve employees' attitudes toward change need to recognize the role of personality in the change process. They cannot come up with a "one size fits all" solution with respect to how they communicate change or how they support employees in the change process. Rather, the findings from this thesis suggest that public sector organizations need to tailor their communications and their support of employees to several different audiences: those with a positive view of the world versus those with a more negative world outlook, and those who perceive that they can control their environment versus those who feel that they do not have such control.

13.10. Impact of individual dispositions on PORC

Research Question #10 asked about the impact of individual dispositions on the PORC factors. This thesis (Chapter 11 in particular) adds to the research literature by establishing a link between individual dispositions and PORC. While previous work has hinted at such a relationship (e.g., Ashford, 1988; Geisler, 2001; Michael & Lawson, 2000; Wanberg & Banas, 2000), it has not been empirically validated until this thesis. This research has empirically shown that internal locus of control, low negative affectivity, and high positive affectivity are associated with more positive perceptions of organizational readiness for change. The impact of each of the individual dispositions is discussed below as are the implications of these findings.

Correlation results between individual dispositions and PORC suggest that organizational members of both job types whose world outlook is positive rather than negative (i.e., high positive affectivity and low negative affectivity) and who feel in control of events (i.e., internal locus of control), are more likely to perceive that their organization is ready for change. Tolerance for ambiguity, however, is not associated with PORC.

Regression analysis allows us to compare the relative importance of the individual dispositions in predicting PORC. It was found that locus of control and negative affectivity are the strongest predictors of the perceptions of all six PORC factors included in this study. The third most important predictor in all cases is positive affectivity. In other words, these findings indicate that employees with an internal locus of control, low negative affectivity, and high positive affectivity are more likely to believe that senior

management is committed to the change, that the change agents are competent, and that immediate managers are supportive. In contrast, those members who feel they are not in control of events (i.e., have an external locus of control) and who score higher on negative affectivity and lower on positive affectivity are more likely to perceive that their organization is not communicating the change properly, is not involving employees in the change processes, and that the change has an adverse impact on their work. In other words, they are more likely to feel that their organization is unready for change.

While tolerance for ambiguity was not significantly correlated with any of the PORC factors, this disposition was a significant predictor of two dimensions of PORC: employees' perceptions of senior management's commitment to change and the immediate manager's support. The results suggest that employees who are less tolerant of ambiguity see commitment of senior management and the support they received from their immediate manager in a more positive light. These relationships, however, were not strong (came last in the order of importance), and are difficult to interpret. One explanation of this relationship might be that employees who have a higher need for structure and certainty are more appreciative of even the smallest support they receive from their managers. Those who thrive on change and the accompanying ambiguity, on the other hand, might not have as high a need for managerial support.

These findings offer good news and bad news for public sector organizations with respect to managing transformational change. Employers cannot alter the personalities of their employees. They can, however, modify their organizational practices and tailor their

actions with respect to the implementation of transformational change to accommodate dispositional differences in their workforce with higher and lower positive affectivity, with internal and external locus of control, and higher or lower tolerance for ambiguity. For example, senior management may demonstrate their commitment to change by being more visible and communicating important change messages directly to the staff thus encouraging those who need strong role models. Organizations could use a number of communication channels to reach everybody in the organization since different types of people seem to prefer different channels. They can tailor their messages around change to speak to the concerns of different groups of people. Furthermore, organizations should make sure the change agents are competent at what they do and can answer questions concerning the change. Such actions could reduce the fears and doubts some employees have with regard to upcoming events. Organizations can also adopt more flexible policies with respect to work arrangements, rewards, training, etc. and make managers at all levels accountable for applying these practices as needed. Increase in the number of approaches to change used in the organization should increase the probability that they address each staff member's concerns thereby encouraging them to accept the change.

13.11. The role of individual dispositions in the relationship between PORC and attitudes toward change

Research Questions #11a and #11b sought to explore the relationships between individual dispositions, PORC, and attitudes toward change simultaneously and identify the role individual dispositions play in the relationship between PORC and attitudes toward change. Specifically, we sought to determine if dispositions 1) moderated the relationship

between PORC and attitudes toward change and 2) could predict attitudes toward change directly or through their effect on PORC (i.e., the mediation effect of PORC). The extent to which individual dispositions moderate the relationship between PORC and attitudes toward change was examined first (#11a). Then the degree to which PORC mediates the relationship between individual dispositions and attitudes toward change was assessed (#11b).

So far in this research, the relationships between any two sets of key constructs in the model have been examined separately. We have looked at the relationship between PORC and attitudes toward change, individual dispositions and PORC, as well as individual dispositions and attitudes toward change. In organizations, however, all these relationships are likely to occur simultaneously. Discussion of these relationships can also be found in the current literature which has addressed the relationship between individual dispositions and employees' attitudes toward change and dispositions and general perceptions of organizational change (Ashford, 1988; Geisler, 2001; Michael & Lawson, 2000; Wanberg & Banas, 2000). Some authors have also proposed that perceptions of organizational readiness for change may affect employees' attitudes toward change (Armenakis et al., 1993; Eby et al., 2000). To date, however, no one has empirically tested any of these assumptions. This thesis seeks to address the shortcomings in the literature by empirically testing the relationship between PORC, individual dispositions, and attitudes toward change.

Although employees differ in their perceptions of organizational readiness for change and attitudes toward change due to their different personalities as determined earlier in this thesis, individual dispositions turned out not to affect the causal relationship between PORC and attitudes toward change. This indicates that perceptions with respect to organizational actions associated with both readiness and unreadiness for change do not depend on the individual's personality. In other words, disposition does not moderate the relationship between PORC and attitudes toward change. This is a powerful finding in that it provides very clear directions for public service organizations with respect to what they have to do (or not do) if they want to increase the chances that employees will support the change, and consequently, transformational change will succeed.

The above conclusion is further supported by the absence of a full mediation effect of PORC on the relationship between individual dispositions and attitudes toward change, a finding which is consistent with the fact that in this thesis, attitudes toward change were related to individual dispositions in isolation from other factors (see Section 11.1.1). This indicates that individual dispositions can predict attitudes toward change on their own. On the other hand, the fact that PORC partially mediated the relationship between certain individual dispositions and employees' commitment to change suggests that employees' willingness to spread the change and also to implement it personally could be better explained when PORC factors are included in the equation. Support for the partial mediation hypothesis suggests that in some cases, individual dispositions affect employees' perceptions of organizational readiness for change which then influence attitudes toward change. Taken together, these findings suggest that both sets of

predictors (i.e., PORC and individual dispositions) should be used to explain commitment to change. It should be noted that no such relationship was observed between PORC and voicing concerns about the change indicating that factors other than those included in this research might affect this attitude toward change.

13.12. The role of job type in the relationship between PORC and attitudes toward change

Research Questions #12a and #12b sought to explore the relationships between job type, PORC, and attitudes toward change. The analysis done to clarify the relationships among these three variables is identical to that just discussed above (i.e., is job type a moderator or does PORC mediate the relationship between job type and attitudes toward change). The literature supports the need for this analysis as it has been reported that employees may see organizational change from different perspectives depending on their position in the organization (Judson, 1991; Woodman, 1989). Neither the literature nor this research so far has, however, explicated the role of job type in the relationship between PORC and attitudes toward change.

Earlier in this thesis, it was found that job type does not significantly predict PORC (see Section 10.2). As such it cannot moderate the causal relationship between PORC and attitudes toward change. Nor was PORC found to mediate the relationship between job type and attitudes toward change. These findings indicate that although managers' attitude toward change differs from that of non-managers (which is also consistent with the literature above) managers might see the organization's readiness for change in the

same light as non-managers. This suggests that all employees regardless of their job type need to perceive that their organization is ready for change before they develop a positive attitude toward this change.

13.13. Relative importance of PORC, individual dispositions, and job type in predicting employees' attitudes toward change

Research Question #13 explored the relative importance of individual dispositions, job type, and PORC in predicting employees' attitudes toward change. Since earlier findings in this research suggested that both PORC and individual dispositions as well as job type need to be included in the model as predictors of attitudes toward change, it became necessary to see if all the relevant sets of predictors were of equal importance in terms of explaining the variance in attitudes toward change. The literature has not investigated this issue. As such, this analysis contributes to the change management literature.

It was found in this research that individual dispositions (especially positive affectivity and locus of control, and to some extent, also tolerance for ambiguity) were the strongest predictors of all three attitudes toward change. Employees who had higher positive affectivity and an internal locus of control, tended to engage more in commitment to change behaviours (i.e., spread the change and implement it in their own work) and also voice their concerns about the change.

The fact that employees (especially non-managers) with higher positive affectivity and an internal locus of control tended to voice their concerns about the change to a higher

degree regardless of their perceptions of organizational actions is worth noting. It is possible that employees who felt that the change was being “done” to them (i.e., high external locus of control) and whose world outlook was more negative (i.e., low positive affectivity) or who did not think that voicing their concerns would have any impact did not think it was safe to voice their concerns. This interpretation of the data is consistent with the comments respondents made during the interviews and in the survey pointing out that employees were unwilling to speak up for fear of adverse consequences.

This analysis supports earlier findings in the thesis and underscores the importance of personality in the formation of attitudes toward change. This finding is consistent with findings in this area (e.g., Ashford, 1988; Judge et al., 1999, Wanberg & Banas, 2000), but goes beyond what others have done as it provides evidence of the relative importance of personality factors in developing attitudes toward change. As such, this research adds to the knowledge about what determines attitudes toward change.

The implications of this finding are twofold. First, organizations might consider selecting change leaders at all levels with higher positive affectivity, higher tolerance for ambiguity and an internal locus of control. Second, change agents and especially employees’ immediate managers need to take the individual personality of their staff into account when presenting information about the change, assigning new tasks, or justifying the need to do things in a new way. Employees who have lower positive affectivity (i.e., not very positive by nature) and an external locus of control, and who are not highly

tolerant of ambiguity, might need more support during times of change. Suggestions with respect to both of these issues were offered earlier.

Although individual dispositions in this research turned out to be relatively stronger predictors of employees' attitudes toward change than PORC, change agents should not discount the role of organizational actions and managers' behaviours when they aspire to increase employees' commitment to change. When individual dispositions were included in the equation, certain organizational actions still remained important predictors of both forms of commitment to change. It is interesting to note that of the six PORC factors, those pertaining to management and leadership turned out to be more significant than the others. The literature has also emphasized the role managers at all levels play in successful change implementation (see Section 9.3).

This research offers public service organizations very specific recommendations on how to behave if they want to improve employees' attitudes toward change. Specifically, they need to ensure that senior management is committed to the change (see Section 13.2). The importance of senior management's behaviours is shown by the fact that this dimension of PORC is a predictor not only of employees' willingness to implement the change in their own work, but also to actively promote it. Employees also feel inspired to engage in proactive commitment behaviours (i.e., spreading the change) when they see competent change implementation in action. Finally, it is also important to observe that once employees know that the senior management is "on board" they then need their immediate managers' support to help them through the change process to be more willing

to implement the change in their own work. Several survey respondents had pointed out that their willingness to implement the change primarily depends on the encouragement they receive from their immediate manager. In sum, this thesis contributes to our understanding of attitudes toward change by specifically articulating the role of three different levels of management in the prediction of these attitudes.

The fact that organizational actions with respect to change do not predict employees' propensity to voice concerns about the change seems somewhat counter-intuitive as it seems logical for employees to voice their concerns when they see their organization acting in a way that they believe will hinder the implementation of change. Interpretation of this finding was discussed earlier.

Finally, job type was also found to be an important predictor of attitudes toward change. It also affected the relative importance of PORC and individual dispositions in the prediction of attitudes toward change. The findings of this analysis add to our understanding of the role job type plays in the degree to which an employee's perceptions of organizational readiness for change might affect his/her attitude toward change. Other things being equal, job type was not found to moderate this relationship in this thesis. When the equation included all the variables in the model and the regressions were run for each group separately, perceptions of management's actions, however, turned out to be slightly more significant predictors of commitment to change for managers than non-managers. This suggests that management's actions around change may determine if the managerial job holders will or will not become committed to the change. The importance

of all managers' commitment to change to successful change implementation has been emphasized by a number of researchers (e.g., Dawson, 2003; Kanter, 2004) and was also discussed earlier in this thesis.

The fact that personality played less of a role in the prediction of attitudes toward change in the manager sample than the non-manager sample may be attributed to a number of different factors. The data from this thesis (see Section 10.3) and the literature (e.g., Karasek, 1979; Mamman, 1996) have determined that managers tend to hold a more positive outlook (i.e., high positive affectivity), be more tolerant of ambiguity, and feel more in control of events (i.e., internal locus of control) than non-managers. This suggests that managers may all be above some threshold with respect to these dispositions. On the other hand, only non-managers with more positive and outspoken personalities who feel they can make a difference will speak up at meetings and mention their concerns to those higher up. Alternatively, managers might feel it is part of their job to engage in these behaviours that non-managers in general do not share.

In sum, organizations cannot rely only on their members' personality traits to achieve the critical mass of change supporters. Without systematic and purposefully designed managerial policies and practices and committed and supportive managers at all levels, organizations will not be able to reach their change goals.

Chapter 14: Conclusions

The overall purpose of this dissertation was to develop and validate a conceptual framework that would link organizational members' attitudes toward transformational change and organizational actions that employees believe typify organizations that are ready or not ready for this change. Specifically this was designed to meet four objectives. The first objective was to develop a conceptual model linking PORC and employees' attitudes toward change. Second, this research set out to empirically develop and validate behaviourally-based measures of employees' attitudes toward transformational change. The third objective was to empirically develop and validate behaviourally-based measures of PORC. Finally, the fourth objective was to validate the conceptual model. The objectives were operationalized with the help of the thirteen questions which were discussed in Chapter 13 and summarized in Appendix A. This chapter finalizes the research by integrating all the findings into the model. The chapter is divided into three parts. It will start with the summary of the research findings and their major implications. The second part will incorporate all the findings into the conceptual model. Contributions of this research will be discussed in part three. This will be followed by the limitations of the present research and suggestions for future research.

14.1. Summary of the research findings and their major implications

This research started with a comprehensive literature review to develop a conceptual model linking the organizational context, PORC, attitudes toward change, job type and individual dispositions (see Figure 1 in Chapter 2) thus meeting the first objective. As a result of this research, the constructs of PORC and attitudes toward change were

operationalized (i.e., the second and the third objective met), and the relationships among the variables in the model established (i.e., the fourth objective met). Table 55 summarizes the key findings for each of the research questions posed in this thesis.

Research question	Findings
<p>#1 What unique behaviours of public servants are associated with their attitudes toward change?</p> <p>a. What unique behaviours do public servants engage in when they are committed to change?</p> <p>b. What unique behaviours do public servants engage in when they are indifferent to change?</p> <p>c. What unique behaviours do public servants engage in when they are resistant to change?</p>	<p>a. Two reliable and valid subscales were identified that public servants engage in when they feel committed to a change. The behaviours in these measures (See Appendix T) indicate that public servants who are committed to change:</p> <p>Spread the change Implement the change personally</p> <p>b. No unique behaviours were found that public servants would engage in when they feel indifferent to a change.</p> <p>A reliable scale of behaviours was identified that public servants engage in when they resist a change. Public servants appear not to actively resist change but rather display resistance by Voicing concerns about the change (See Appendix T)</p>
<p>#2 What organizational actions are associated with employees' perceptions of organizational readiness for change?</p> <p>a. What organizational actions make public servants perceive that the organization is ready for change?</p> <p>b. What organizational actions make public servants perceive that the organization is not ready for change?</p>	<p>a. The following three sets of organizational actions make public servants perceive that the organization is ready for the change:</p> <p>Commitment of senior management to the change: Competence of change agents: Support of immediate managers during the change:</p> <p>b. The following three sets of organizational actions make public servants perceive that the organization is not ready for the change:</p> <p>Poor communication of change: Adverse impact of the change on work: Lack of employee involvement in the change process:</p> <p>The behaviours associated with each of these measures can be found in Appendix U.</p>
<p>#3 What is the best way to conceptualize resistance and commitment to change: as two separate constructs or as two poles on the same attitude continuum?</p>	<p>Results are inconclusive:</p> <ol style="list-style-type: none"> 1) content analysis of the 1st phase data suggests that commitment and resistance might be two poles on the same attitude continuum, 2) content analysis of the 2nd phase data and statistical analysis of the 3rd phase data did not support either of the conceptualizations.
<p>#4 What is the best way to conceptualize perceived organizational readiness for change and perceived organizational unreadiness for change: as two separate constructs or as two poles on the same continuum?</p>	<p>PORC and POURC were found to be two poles on the same continuum.</p>

(Table continued on the next page)

Research Questions	Findings
#5a To what extent is perceived organizational readiness/unreadiness for change associated with employees' attitudes toward change?	<p>All three PORC factors are positively associated with both subscales of commitment to change.</p> <p>With one exception (adverse impact of the change on work is not associated with implementing the change personally), all three POURC factors are negatively associated with both subscales of commitment to change.</p> <p>None of the PORC and POURC factors are associated with voicing concerns about the change.</p>
#5b To what extent do employees' perceptions of organizational readiness/unreadiness for change predict their attitudes toward change?	<p>PORC/POURC explains 14.4% of the variance in "Spreading the change". The significant predictors are: competence of change agents, commitment of senior management to the change, lack of employee involvement in the change process.</p> <p>PORC/POURC explains 5% of the variance in "Implementing the change personally". The significant predictors are: commitment of senior management to the change, support of the immediate manager.</p> <p>PORC/POURC explains 1% of the variance in "Voicing concerns about the change". None of the factors are significant predictors.</p>
#6 What is the association between job type and employees' attitudes toward change?	Job type is significantly associated with employees' attitudes toward change. Managers are more likely than non-managers to engage in the commitment to change and voicing concerns about the change behaviours.
#7 What is the association between job type and perceived organizational readiness/unreadiness for change?	Job type does not significantly affect public servants' perceptions of their organization's readiness for change. Non-managers are significantly more critical than managers of poor communication practices.
#8 What is the association between job type and individual dispositions (i.e., tolerance for ambiguity, positive affectivity, negative affectivity, and locus of control)?	There is a significant association between job type and individual dispositions. Managers are more likely than non-managers to be tolerant of ambiguity, have a higher internal LOC, and a higher PA.
#9 What is the association between individual dispositions (i.e., tolerance for ambiguity, positive affectivity, negative affectivity, and locus of control) and employees' attitudes toward change?	<p>There are both a simple association and a causal relationship between individual dispositions and employees' attitudes toward change. Overall, higher PA and internal LOC are strongly associated with higher scores on all attitudes toward change.</p> <p>There are job type differences in the association and causal relationship between these variables. Personality appears to have a stronger impact on non-managers' attitudes toward change:</p> <ul style="list-style-type: none"> - non-managers with higher PA and internal LOC are more likely to implement the change personally and voice concerns about the change, while those with a higher tolerance for ambiguity also engage more in spreading the change behaviours, - for managers, higher PA is the only predictor of implementing the change personally.

(Table continued on the next page)

Research Questions	Findings
#10 What is the association between individual dispositions (i.e., tolerance for ambiguity, positive affectivity, negative affectivity, and locus of control) and perceived organizational readiness/unreadiness for change?	There are both a significant association and a causal relationship between a higher PA, lower NA, and internal LOC and higher PORC regardless of job type. Lower tolerance for ambiguity is also a significant predictor of two PORC factors: commitment of senior management to the change and the immediate manager's support.
#11a To what extent do individual dispositions moderate the relationship between perceived organizational readiness/unreadiness for change and employees' attitudes toward change?	Individual dispositions do not moderate the relationship between PORC and employees' attitudes toward change.
#11b To what extent do perceptions of organizational readiness/unreadiness for change mediate the relationship between individual dispositions and employees' attitudes toward change?	PORC/POURC partially mediates the relationship between individual dispositions and employees' attitudes toward change. That is, individual dispositions affect attitudes directly and also indirectly through their effect on PORC.
#12a To what extent does job type moderate the relationship between perceived organizational readiness/unreadiness for change and employees' attitudes toward change?	Job type does not moderate the relationship between PORC/POURC and employees' attitudes toward change.
#12b To what extent do perceptions of organizational readiness/unreadiness for change mediate the relationship between job type and employees' attitudes toward change?	PORC/POURC do not mediate the relationship between job type and employees' attitudes toward change.
#13 What are the most important predictors of employees' attitudes toward change: individual dispositions, job type, or perceived organizational readiness/unreadiness for change?	<p>Overall, individual dispositions are slightly more significant predictors of employees' attitudes toward change than PORC. Job type is also a significant predictor.</p> <p>For managers:</p> <ul style="list-style-type: none"> - PA, competence of change agents, and the immediate manager's support are the most significant predictors of spreading the change, - PA, support of the immediate manager, and commitment of senior management to the change are the most significant predictors of implementing the change personally. <p>For non-managers:</p> <ul style="list-style-type: none"> - LOC, PA, competence of change agents, and tolerance for ambiguity are the most significant predictors of spreading the change, - PA and LOC are the most significant predictors of implementing the change personally, - PA and LOC are the most significant predictors of voicing concerns about the change.

Table 55. Summary of the research findings.

In sum, the major theoretical finding of this research is the conceptual model that integrates several streams of literature and attempts to explain the mechanism of employees' attitudes toward change. The major empirical contributions are the development of measures of PORC and public servants' attitudes toward change, and the identification of a number of variables that can predict these attitudes (i.e., the relationship among variables in the model). These empirical findings have both theoretical and practical implications.

PORC was operationalized as two measures: one containing three subscales of items describing organizations that were perceived by employees to be ready for change and one containing three subscales of items describing organizations that employees perceived to be not ready for change. It was also found that these two measures were two poles on a continuum. This new valid and reliable multidimensional measure with explicitly identified subscales allows researchers to have a more detailed insight into the complex phenomenon of PORC. To date, the existing organizational readiness measures for practitioners (e.g., Jones & Bearley, 1986; Stewart, 1994; Trahan & Burke, 1996) have only divided the items into broad and general categories (e.g., technology, structures, external environment, organizational strategies). None of the existing measures has probed these broad categories for their underlying themes. All the items of the new measure belong to the same general category, organizational and managerial actions, and its six dimensions allow us to analyze the phenomenon of PORC and its relationships with other variables in greater detail. In addition, the contents of the six subscales confirm the definition of PORC that was adopted in this research: capability of

an organization not only to start a change, but also to implement it successfully and ensure its sustainability.

The knowledge of the PORC/POURC continuum provides a further insight into the relationships among the subscales and indicates how to apply the measure in practice (i.e., as one scale with part of the items reverse coded). From a practical point of view, the multidimensional nature of this measure also allows organizations both to assess the general level of their PORC and to acquire a better understanding of specific organizational actions that require more attention.

Public servants' attitudes toward change were operationalized as their commitment to the change (i.e., propensity to spread the change and implement it personally in their work) and voicing concerns about the change (mild resistance to change). The findings suggest that commitment and resistance might be two poles of a continuum although the resistance end was not clearly defined. Further research is, however, needed in this area. The new behaviourally-based measure of commitment to change suggests that this attitude can be operationalized with the help of manifested behaviours. The failure to identify overt resistance behaviours, on the other hand, suggests that this attitude might not have a behavioural component. This finding implies that public servants do not explicitly exhibit active resistance behaviours. Among the possible reasons for this finding is the hierarchical decision making process, employees' fear of adverse consequences, or the culture of passivity in the public sector. More reasons were discussed at length in Section 13.1.2. This finding opens new grounds for further theory

building with respect to resistance to change in the public sector. It suggests that resistance, if it exists, might be more subtle and invisible than traditionally assumed.

Both new measures were developed using the Act Frequency Approach (AFA). It can be concluded that this technique is a good choice for the development of measures that are based on respondents' perceptions. It ensures high content validity of such measures. In the first phase of the AFA, respondents are not guided or prompted with respect to what acts to nominate, and the most prototypical acts are also rated by respondents rather than selected by the researcher. It should be noted, however, that the AFA is most useful when the phenomenon to be measured has a behavioural component as was the case with the measures of PORC and commitment to change. It is less useful when the construct in question is more attitudinal than overt. The findings from this thesis suggest that within the public service context, resistance to change might be such a construct.

Analysis of the relationships among the variables in the model suggests that public servants' attitudes toward change are determined by their individual dispositions, perceptions of organizational readiness for change, and their position within the organization. Overall, individual dispositions were slightly more significant predictors of attitudes than PORC, and they affected the attitudes both directly and indirectly through their effect on PORC. Of the six PORC factors, the behaviours of managers at all levels of the organization were more significant predictors of attitudes than other organizational actions testifying to the importance of leadership in the change process. Managers in this sample were more likely than non-managers to engage in both commitment behaviours

and voicing concerns about the change. The importance of predictors also differed in both groups. For managers, perceptions of organizational readiness played a more important role than for non-managers. For non-managers, on the other hand, individual dispositions (especially positive affectivity and locus of control) had a stronger impact on attitudes to change. These relationships will be presented in greater detail in Section 14.2.

The findings with respect to the relative importance of predictors suggests that the change management literature is not adequately reflecting the importance of personality in shaping employees' perceptions of organizational readiness for change and their attitudes toward change. Individual dispositions should find their place in the future models dealing with attitudes toward change. Nevertheless, this research found that some PORC factors were still important predictors when individual dispositions were included. Therefore, both groups of predictors should be retained in the model. It should be admitted, however, that besides these predictors, there must be factors other than those included in this model that could explain the variance in the attitudes toward change unaccounted for by individual dispositions, PORC, and job type.

For practitioners, these findings imply that organizations could improve employees' attitudes toward change by engaging in certain actions, especially supportive managerial behaviours. Moreover, all level managers can reinforce these organizational actions by adopting an individual approach to their staff and taking into consideration each member's personality dispositions.

14.2. Research findings integrated into the conceptual model

In the final step of this research, all these findings with respect to relationships and constructs were incorporated into the initial conceptual model. To better present the discovered relationships among all the variables in the study, two separate models were developed: one showing how the PORC factors and individual dispositions can predict managers' attitudes toward change and one showing how the PORC factors and individual dispositions can predict non-managers' attitudes toward change. The decision to develop two models was based on the finding that job type affects employees' attitudes toward change and is also related to individual disposition variables. These models are shown in Figures 13 and 14 respectively.

This research shows that there are relationships among the variables in the model that are true for both managers and non-managers. First of all, for both groups, individual dispositions and PORC factors determine attitudes toward change. In addition, both sets of variables (i.e. dispositions and PORC) predict attitudes toward change better when they are considered together than each do on their own. This is confirmed by the finding that for both managers and non-managers, individual dispositions predict employees' commitment (but not resistance) to change in two ways: directly and indirectly through their effect on PORC. In other words, PORC was found to partially mediate the relationship between individual dispositions and commitment to change, regardless of job type.

Job type did, however, play an important role in other areas of the model. These differences can be observed if one compares the relationships shown in Figure 13 (managers) to those shown in Figure 14 (non-managers). Each of these models is described briefly below.

For managers, the model predicts that individuals who score higher on positive affectivity and lower on external locus of control and negative affectivity will perceive their organization to be more ready for change. Those who score lower on positive affectivity and higher on external locus of control and negative affectivity, on the other hand, will hold a more negative view of their organization's readiness for change. Personality has, however, a lower impact on managers' attitude toward change than on their perceptions of organizational readiness for change. Only manager's level of positive affectivity can determine if he/she will be committed to change. Furthermore, perceived actions of senior management, the change agents and one's immediate manager can influence the way managers feel about the change in their organization.

Finally, neither PORC nor individual dispositions predict managers' propensity to voice their concerns about the change. It was argued in this thesis that personality characteristics did not play a big role in managers' attitudes towards change because the majority of managers had high enough levels of positive affectivity, internal locus of control, and tolerance for ambiguity that the variation in these dispositions did not influence managers' behaviours around change. It may be that managers are likely to

Figure 13. Integrated model: PORC predicting managers' attitudes toward change (regressions).

Figure 14. Integrated model: PORC predicting non-managers' attitudes toward change (regressions).

engage in these behaviours due to their job roles and responsibilities rather than their personalities.

In our model for non-managers, personality plays a more important role. First, not only positive affectivity, negative affectivity, and locus of control predict non-managers' perceptions of their organization's readiness for change (similar to managers), but also higher scores on tolerance for ambiguity determine if non-managers will develop positive perceptions of the commitment of senior management to the change. Taken together, it can be seen that individual dispositions have a slightly stronger influence on PORC for non-managers than for managers. Furthermore, personality is also an important predictor of non-managers' attitudes toward change. Employees with higher positive affectivity and an internal locus of control are more likely to implement the change in their work, spread it throughout the organization, and also voice concerns about the change than their counterparts with lower scores on these dispositions. In addition, non-managers' higher tolerance for ambiguity also determines if they will be more willing to spread the change.

It should be noted that of the six PORC factors, only one predicts non-managers' willingness to spread the change. Competence of the change agents can determine non-managers' willingness to spread the change, but their implementing the change personally and voicing concerns about it do not depend on PORC. Thus, non-managers' attitudes toward change can be better predicted by their personality characteristics than perceptions of the organizational context. Also, the link between PORC and attitudes toward change is weaker for non-managers than for managers.

When these two final models are compared to the initial conceptual model, it can be seen that some relationships are supported, but in other cases, the findings from this study have introduced corrections to the originally hypothesized relationships. The commonalities are presented first. As hypothesized,

- the constructs of perceived organizational readiness and unreadiness for change were found to form two poles on the same continuum,
- PORC factors were found to predict attitudes toward change, although to a limited extent.
- individual dispositions were found to affect both attitudes toward change and PORC,
- PORC was found to partially mediate the relationship between separate individual dispositions and commitment to change,
- individual dispositions were found to be related to job type,
- job type was found to be related to attitudes toward change.

The following findings do not support the hypothesized relationships:

- Attitudes toward change identified in this research were not found to constitute two poles of a continuum, although there is some evidence that the given behaviours of implementing the change personally and spreading it throughout the organization might represent the commitment end while the true resistance end is yet to be identified.

- A new scale of attitudes toward change (i.e., voicing concerns about the change) was found that did not fit in the hypothesized commitment – resistance continuum. Instead, it seemed to represent a separate construct that might be associated with a mild form of resistance to change. The findings suggest that public servants might engage in both commitment and voicing concerns behaviours at the same time.
- Job type was not found to affect PORC.
- Job type was not found to moderate the causal relationship between PORC and attitudes toward change when individual dispositions were not considered.
- PORC was not found to mediate the relationship between job type and attitudes toward change.

The revised model both contributes to the change management literature and informs the practice of organizational change. It suggests which variables might be important to include in future studies of perceived organizational readiness for change and employees' attitudes toward change.

For the practitioners, the model provides guidelines with respect to organizational actions that need to be emphasized if the organization wants to influence employees' attitudes toward change. It also advises the change agents on the important role personalities play in this respect. Furthermore, the model indicates that managers and non-managers have somewhat different perspectives on organizational change. As managers' attitudes seem to be more positive, it is important to involve managers at all levels in change design and

implementation since employees look to their immediate managers as role models of change.

The contributions of this research as well as its limitations are elaborated upon in the two following subsections.

14.3. Contributions of this research

Being among the very few studies that explore the determinants of attitudes toward change, this dissertation contributes to the pool of knowledge about organizational change management in general and attitudes toward change in particular in several ways. First and foremost, it adds one more stepping stone for the researchers in their theory building endeavours. The model developed in this study integrates several streams of thought directly or indirectly related to change management. At the core of the model lies Armenakis and his colleagues' (1993) proposition that organizational members' attitudes toward change depend on their perceptions of the organizational context. Before this thesis, this proposition had been partially tested only by Eby and her colleagues (2000). They empirically explored the variables affecting perceived organizational readiness for change, but did not relate them to the resulting employees' attitudes toward change. The present study complements the research of Armenakis et al. and Eby et al. by incorporating the continuum of attitudes toward change ranging from resistance to commitment to change as proposed by Coetsee (1999). However, the findings of the present study do not conclusively confirm the existence of a continuum of attitudes

toward change, but they suggest that such a continuum might exist and it needs further exploration.

Apart from the continuum of attitudes toward change, the new model also includes the variables of job type and personality dispositions. The organizational behaviour and psychology literature (e.g., Ashford, 1988; Holland, 1985; Woodman, 1989) proposed that these two variables might affect employees' perspectives on organizational change. This research confirmed this proposition. Moreover, it contributes to the literature by discovering the pattern of relationships between individual dispositions, perceived organizational readiness for change (PORC), and attitudes toward change. The finding that PORC partially mediates the effect of individual dispositions on attitudes toward change is new and extends our knowledge in this area. This research also established the relative importance of individual dispositions and PORC in predicting attitudes toward change. These findings should encourage future researchers to include these variables in the model when examining members' perspectives on organizational change. In sum, the relationships among the variables included in this study provide a starting point for the future research of factors that might affect attitudes toward change and ultimately, determine successful implementation of transformational change.

Second, the qualitative and quantitative study of organizational members' perceptions of organizational actions resulted in the development of a valid and reliable behaviourally-based measure of perceived organizational readiness/unreadiness for change. The existing measures of organizational readiness do not seem to have taken into consideration the

members' perspective on what needs to be measured in order to assess organizational readiness for change, a deficiency that is addressed by the present study. The AFA methodology ensures high credibility of the measurement items as they have been generated on the basis of opinions of organizational members who are affected by organizational change rather than views of senior management and/or the change agents. The role of perceptions was underscored by Jansen (2000) who wrote that employee perceptions of organizational readiness reflect the organization's actual ability to introduce change successfully. Thus, this dissertation not only contributes to theory building, but also offers a practical tool that change agents could use to assess the degree to which employees perceive the organization to be ready for implementing a change successfully.

Third, the existing literature lacks a reliable measure of organizational members' attitudes toward change although there are numerous descriptions of resistant and supportive behaviours based on observations of managers or consultants. In contrast, the measure developed as a result of this research is based on employee self-reported behaviours; therefore, it is expected to be more credible. As mentioned above, this study has not resulted in a clearly identified resistance measure. However, the results do not exclude a possibility that commitment and resistance to change might be two poles on a continuum. For practical purposes, this allows the change agents to use the scale of commitment to also identify the presence of potential resistance at the low end of the scale. Low scores on this scale may alert change agents that respondents not only are dissatisfied with organizational change, but they might also be somewhat resistant. Thus, the dissertation

provides practitioners with a diagnostic tool that would enable them to gauge employees' attitudes toward change when the organization is undergoing a large-scale change.

Fourth, this research reinforces the proposition voiced in the recent literature that the phenomenon of resistance to change in modern organizations has acquired a new meaning. From the 1960s through early 1990s, employee resistance was viewed as an unavoidable part of change thus juxtaposing change agents' endeavours which were considered unquestionable and employees' unwillingness to accept any change in principle. The findings of this study suggest that public servants might not resist organizational change per se, but rather question the methods of its implementation and voice concerns about it. Consequently, if in the 1960s, change agents' task was to "overcome resistance to change" to reach their goals, then in a modern organization, the key to successful change implementation might be getting the buy-in of the critical mass of organizational members through designing employee-friendly change practices such as communication, providing many kinds of support, and offering opportunities for employee involvement. On the other hand, the failure to establish a clear measurement scale for resistance to change implies that resistance, if it exists in the public sector, is more subtle and complicated than expected. Its forms could be mild, covert and passive rather than overt and active suggesting that employees in the public sector tend to avoid behaviours associated with active resistance to change. The model developed in this research suggests that one way to deal with resistance to change would be to focus on activities that might increase commitment to the launched change. This implies that organizations should move away from a confrontational approach to dealing with

resistance to change and adopt a more positively framed approach. In addition, this finding also offers the idea that resistance to change (in some forms) might actually be good. Organizations might want people to voice their concerns so that they can be dealt with. This might open new grounds for behavioural, psychological, and sociological studies in the area. Perhaps this might also suggest that the construct of resistance to change needs to be reconceptualized.

Fifth, in contrast to several other studies and measures of organizational readiness, this dissertation explicitly focused on the public sector. Given the cultural differences between the public and private sector, measures that are not tailored to the specific needs of the given organizational environment might not reveal the most crucial aspects of change management in the organizations under study. Thus, this dissertation provides an insight into public sector change where resistance seems to take a different form from that reported in studies on the private sector. In addition, having been conducted in five different public sector organizations, the present research claims to have quite a high degree of generalizability across the sector.

Sixth, this research contributes significantly to the understanding of change processes in the public sector. Specifically, items in the measures of attitudes toward change reveal behaviours that public servants typically engage in when they feel committed to the change or have concerns about it. The items in the measures of PORC inform us of organizational actions with respect to change that employees would expect to see in order to believe that the organization is able to implement the change successfully. An

important discovery in this research is the crucial role of leadership at all levels. This study suggests that public servants will not commit to a large-scale transformation if they do not see that leaders and managers are committed. Another noteworthy contribution to understanding change in the public sector is the discovered importance of personality factors. This would suggest that front-line managers need to be empowered to take an individual approach to their staff and provide support as necessary when the organization is undergoing a transformational change.

The last decade has seen countless large-scale change endeavours in public sector organizations, and the rate of change is not going to slow down. Since the adoption of the Public Service Modernization Act in 2003, more and more organizations will attempt to change the ways they are managed. To date, not all change experiences have been positive. Organizations in the public sector are typically large, hierarchical, and bound by deeply institutionalized traditions that are very difficult to change. To be able to adopt the best change implementation strategy, public sector change agents need to understand the complexity of forces involved when a large-scale change is to be implemented and to know what organizational actions are the most productive to reach the buy-in of the critical mass of employees. The findings of this dissertation will assist change agents in selecting change management strategies that will make organizational members believe the organization is ready to implement change successfully. This research showed that such beliefs may lead to increased employees' commitment to the change.

14.4. Limitations of this research and suggestions for future research

Since the field of perceived organizational readiness for change has not been extensively studied so far, this dissertation is one of the few attempts to link the perceptions of organizational actions to employees' attitudes toward change initiatives. Therefore, besides the contribution the dissertation has made, it has also several limitations that might be addressed in future research.

Notwithstanding the contribution of this research to the literature on attitudes toward change in the public sector, it failed to clearly establish or disprove the existence of a continuum of attitudes toward change as proposed by Coetsee (1999). Nor did this research succeed in developing a valid behaviourally-based scale to clearly measure public servants' resistance to change. The findings indicate that public servants do not typically engage in extreme resistance behaviours. It is possible, however, that true resistance might exist, but it is not manifested through behaviours. Resistance might be about employees' feelings and thoughts which are most difficult to detect. It should also be noted that the AFA could not capture the non-behavioural aspect of resistance as it focuses only on manifested behavioural acts rather than the less visible components of the phenomenon under study (i.e., non-manifested attitudes, feelings, intentions). This is a limitation of the methodology used in the research. A new study might be required to explore more subtle manifestations of resistance to change.

Another approach that future studies on attitudes toward change might attempt is including in the survey some of the stronger resistance behaviours that were excluded in

the prototypicality rating stage of this research. This may allow researchers to see if such behaviours can be encountered in the public sector. Also, it might be interesting to include some of the strongest commitment behaviours that were rated as atypical in this study. This would show if any other commitment subscales are possible.

Inconclusive results with respect to attitudes toward change (especially resistance) might be caused by some other methodological limitations. First, the participants of the study were volunteers who might have been more positively disposed toward organizational change than employees at large. We do not know how the organizational context is perceived by the majority of those in the organization as they did not answer the survey, nor do we know what their attitudes toward change are. This might have influenced the overall results of the study. Furthermore, interview participants were asked about their change experiences in retrospect which might affect the accuracy of their responses. In the prototypicality rating survey, on the other hand, they were asked to recall their most recent (or current) change experiences. This may explain the differences in behaviours they nominated in interviews and those that they rated as the most typical in the survey. In addition, although asked to nominate resistance to change behaviours, interviewees might have thought about changes that they disliked but did not actively resist. This may explain the number of nominated behaviours that described voicing concerns about the change, asking more questions about it, and implementing it anyway if the change seemed good for the whole organization or other members. In future interviews and/or surveys, researchers should bear in mind that respondents might interpret the term

“resistance” in multiple ways. Researchers, therefore, should be very accurate in how they phrase their questions.

It cannot be excluded that changes recently launched in the participating organizations did not evoke strong resistance. Therefore, when asked to rate the typicality of their resistance behaviours, survey respondents did not identify any active and overt behaviours. There is also a possibility that the ratings of resistance behaviours reflect respondents’ self-serving bias and awareness of social desirability of typical behaviours in the public service environment. In future studies, respondents might be asked about the behaviours of “public servants” in general rather than of their own.

The underlying assumption in this research was that resistance is counter-productive as it has been conceptualized in the change management literature at large (see Section 2.2.3). The recent literature, however, has pointed out that sometimes resistance is beneficial to the organization (e.g., Jager, 2001; Johnson, 1992; Waddell & Sohal, 1998). In this research, the nature of actual changes launched in the participating organizations was not diagnosed. Therefore, no differentiation was made between resistance that might hinder good change and resistance that might safeguard the organization from calamities in the future. Researchers might, therefore, explore change initiatives in greater detail (e.g., do a case study) prior to analyzing employees’ attitudes toward change.

Similar research in the future might also want to explore reciprocity of the relationship between PORC and employees’ attitudes toward change. In this study, the direction of

the relationship was guided by evidence from the literature that PORC affects attitudes. It might be logically assumed, however, that attitudes might also affect PORC. Another suggestion pertains to the prototypicality rating survey (Stage II). As it was found in this research that individual dispositions play an important role with respect to PORC and attitudes toward change, these variables might be included in the Stage II survey as well. In this study, respondents were asked only to indicate their job type.

An objective necessity of the research design that could also be viewed as a limitation was the limited number of variables to be included in the model. It is clear that job type, four individual dispositions and six PORC factors could not fully explain employees' attitudes toward change. The limited ability of these variables to explain attitudes toward change is reflected in the somewhat low variance they accounted for in the dependent variable. Attitude toward change is a multifaceted phenomenon, and there might be other explanatory variables that determine whether organizational members will be committed or resistant to change. Nevertheless, a small set of independent variables that account for 10% - 20% of the variance in a complex situation (as is organizational change), especially in a social science domain, is worth noting. While the included variables are useful, this is only the starting point. The future research might explore additional options. For example, as suggested by several participants of the study, the reward system as well as the track record of earlier change attempts might affect the way people perceive organizational readiness for the present change. Furthermore, there are propositions in the literature that organizational size, age, and hierarchical structure might affect change processes (Baker & Cullen, 1993; Earl, 2002; Hannan & Freeman, 1984).

Armenakis et al. (1993) suggested that other possible predictors of organizational readiness for change might be change agent attributes, information presented in the media, interpersonal and social dynamics in the workplace, and the readiness of other members to implement the change. It is also possible that employees' organizational commitment could be related to their attitudes toward change as it has been found to be associated with employees' citizenship behaviours (e.g., Eisenberger et al, 1990; Wayne et al., 1997). Hence it can be hypothesized that additional factors might help researchers discover new facets in the organizational context that might shape employees' perceptions of organizational change and their attitudes toward change.

Duck (2001) and Scott and Jaffe (1995) have described phases each organizational change goes through. Each phase is accompanied by different experiences, emotions, and motivations that might determine employees' attitudes. The present research did not take into consideration the phase of change each participating organization was in although it was known that some organizations had launched their change initiatives earlier than others, and their histories of change varied. Future research might examine the differences in employees' perceptions of organizational context and their attitudes toward change depending on how long the change process had been underway in the respective organization and/or the organization's prior experience with respect to the implementation of transformational change. Such research might determine that the antecedents of PORC might vary with three variables.

Examining organizational members' perceptions at a single point in time is another limitation of the study. The dynamics of perceptions and attitudes over time could be explored with the help of a longitudinal study.

When recommendations are made on the basis of the research findings with respect to aspects that affect employees' attitudes toward change, several caveats should be born in mind. First, it should be noted that individual dispositions and the six PORC factors only explain a fraction of the total variance in employees' attitudes toward change. It is likely that there are elements outside the scope of this research that might also determine these attitudes. Second, the present model pertains to large-scale organizational transformations and might not be applicable to other types of change. Third, when applying this model in the future, it should be born in mind that the established significance of the relationships between the predictor and criterion variables might have been distorted due to the common method variance. Such distortions may happen due to several reasons, for example, response bias (e.g., social desirability, halo effects), the same source (i.e., rater) of the data, or context in which the measures are obtained (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). It is possible that these sources of common method variance have affected the strength of the present findings.

Finally, more testing is necessary to validate the developed measures of PORC and employees' attitudes toward change and to strengthen their generalizability. Moreover, these measures have been developed and tested exclusively within a public sector undergoing transformational change. They cannot therefore be assumed to apply to other

types of organizations or other types of change. On the other hand, their broader application cannot be excluded completely as certain employee expectations might be universal regardless of the sector in which they work. Therefore, similar research might be undertaken in other types of organizations to see if the model applies to both government and private organizations and if resistance to change in the private sector manifests itself in the same way as in the public sector.

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Appendix A. Objectives, research questions, and methodology of the study

Objective	Research question	Methodology applied
#1 To develop a conceptual model linking perceived organizational readiness for change and employees' attitudes toward change.		Model developed on the basis of the literature review.
#2 To develop and validate measures of public service employees' attitudes toward transformational organizational change	#1 What unique behaviours of public servants are associated with their attitudes toward change? a. What unique behaviours do public servants engage in when they are committed to change? b. What unique behaviours do public servants engage in when they are indifferent to change? c. What unique behaviours do public servants engage in when they are resistant to change?	Act Frequency Approach: Stage I: Interviews to identify behaviours that typify commitment, resistance, and indifference to change Stage II: Prototypicality rating survey. Stage III: Testing for reliability and validity with the help of two outcomes variables: job stress and perceived organizational support.
#3 To develop and validate measures of perceived organizational readiness for change and perceived organizational unreadiness for change.	#2 What organizational actions are associated with employees' perceptions of organizational readiness for change? a. What organizational actions make public servants perceive that the organization is ready for change? b. What organizational actions make public servants perceive that the organization is not ready for change?	Act Frequency Approach: Stage I: Interviews to identify organizational behaviours that make organizations ready/not ready for change Stage II: Prototypicality rating survey. Stage III: Testing for reliability and validity with the help of two outcomes variables: job stress and perceived organizational support.
#4 To identify and empirically validate the relationships among the variables in the conceptual model linking perceived organizational readiness/unreadiness for change and employees' attitudes toward change.	#3 What is the best way to conceptualize resistance and commitment to change: as two separate constructs or as two poles on the same attitude continuum?	1) Content analysis of AFA Stage I data. Identification of pairs of behaviours typifying commitment and resistance to change 2) Content analysis of AFA Stage II data. Identification of pairs of behaviours typifying commitment and resistance to change 3) Correlations between commitment and resistance scales (AFA Stage III data)
	#4 What is the best way to conceptualize perceived organizational readiness for change and perceived organizational unreadiness for change: as two separate constructs or as two poles on the same continuum?	

(Table continued on the next page)

Objective	Research question	Methodology applied
	#5a To what extent is perceived organizational readiness/unreadiness for change associated with employees' attitudes toward change ?	1) Correlations between each factor of PORC and each scale of attitudes toward change (AFA Stage III data).
	#5b To what extent do employees' perceptions of organizational readiness/unreadiness for change predict their attitudes toward change?	2) Three ridge regressions: each scale of attitudes toward change regressed on the factors of PORC.
	#6 What is the association between job type and employees' attitudes toward change?	Examination of between-group differences (t test) in means of three attitudes toward change scales based on job type (AFA Stage III data).
	#7 What is the association between job type and perceived organizational readiness/unreadiness for change?	Examination of between-group differences (t test) in means of six PORC scales based on job type (AFA Stage III data).
	#8 What is the association between job type and individual dispositions (i.e., tolerance for ambiguity, positive affectivity, negative affectivity, and locus of control)?	Examination of between-group differences (t test) in means of four individual dispositions based on job type (AFA Stage III data).
	#9 What is the association between individual dispositions (i.e., tolerance for ambiguity, positive affectivity, negative affectivity, and locus of control) and employees' attitudes toward change?	1) Correlations between the four individual dispositions and the three attitudes toward change scales for the total sample and subsamples based on job type (AFA Stage III data), 2) Three multiple regressions: each attitude toward change regressed on individual dispositions for the total sample and subsamples based on job type.
	#10 What is the association between individual dispositions (i.e., tolerance for ambiguity, positive affectivity, negative affectivity, and locus of control) and perceived organizational readiness/unreadiness for change?	1) Correlations between the four individual dispositions and the six factors of PORC for the total sample and subsamples based on job type (AFA Stage III data), 2) Six multiple regressions: each PORC factor regressed on individual dispositions for the total sample and subsamples based on job type.

(Table continued on the next page)

Objective	Research question	Methodology applied
	#11a To what extent do individual dispositions moderate the relationship between perceived organizational readiness/unreadiness for change and employees' attitudes toward change?	1) Three ridge regressions: each attitude toward change scale regressed on 1) six PORC factors and four individual dispositions and 2) six PORC factors, four individual dispositions, and interaction terms between both groups of variables. Significance of ΔR^2 inspected. 2) Each interaction term examined for significance. (AFA Stage III data)
	#11b To what extent do perceptions of organizational readiness/unreadiness for change mediate the relationship between individual dispositions and employees' attitudes toward change?	1) Full mediation: three ridge regressions: each attitude toward change scale regressed on 1) six PORC factors and 2) six PORC factors and four individual dispositions. Significance of ΔR^2 inspected. (AFA Stage III data) 2) Partial mediation: Sobel test
	#12a To what extent does job type moderate the relationship between perceived organizational readiness/unreadiness for change and employees' attitudes toward change?	Examination of association between job type and PORC. If not significant, do not proceed.
	#12b To what extent do perceptions of organizational readiness/unreadiness for change mediate the relationship between job type and employees' attitudes toward change?	Examination of association between job type and PORC. If not significant, do not proceed.
	#13 What are the most important predictors of employees' attitudes toward change: individual dispositions, job type, or perceived organizational readiness/unreadiness for change?	1) Ridge regression: each attitude toward change scale regressed on PORC, individual dispositions, and job type for the total sample. R^2 , Beta weights and Pratt's measures examined. 2) Two ridge regressions: each attitude toward change scale regressed on PORC and individual dispositions for job type subsamples. R^2 , Beta weights and Pratt's measures examined.

Appendix B. Interview Guide

Thank you for volunteering to participate in this study. The purpose of my research is to help organizations implement change successfully. I am starting with the premise that any organization is as ready for change as its members perceive it to be. To this end, I will try to identify those circumstances under which organizational members at different levels believe the organization is ready to handle the change. In addition, I will also investigate how these beliefs about the organization's readiness to change affect employee's attitudes toward change. In other words, whether they are committed, resistant or indifferent to the change.

The interview should take approximately one hour. I would like to ask your permission to tape record this interview to allow me to focus my attention on your responses while we are talking. Please be assured that your answers will be kept confidential and will not be shared with anyone. Only summary results will be reported. The tape will be destroyed once the analysis is completed. You may choose not to answer any questions that make you feel uncomfortable.

Ask about change initiatives the respondents were committed to:

1. When you experienced a change initiative that you felt committed to, what did you do to demonstrate your commitment? (Ask for specific behaviours or attitudes)
2. Why were you committed to this change initiative?
 - a. Did the organization do anything to make you believe the change was worth supporting?

Ask about change initiatives the respondents resisted/questioned:

3. When you experienced a change initiative that you resisted/were against, what did you do to demonstrate your lack of support for the change? (Ask for specific behaviours or attitudes)
4. Why did you question or resist this change initiative?
 - a. Did the organization do anything to make you believe the change was not worth supporting?

5. What could the organization do to make you more committed to this type of change?

- a. To change in general?

Ask about change initiatives the respondents were indifferent to:

6. When you experienced a change initiative that you were indifferent to, what did you do to demonstrate your indifference? (Ask for specific behaviours or attitudes)
7. Why were you indifferent to this change initiative?
 - a. Did the organization do anything to make you believe that you did not need to care about the change?

I am now going to ask you a couple of questions to help me understand the organizational actions associated with resistance, indifference, and commitment to change.

8. First, in general, what do you think organizations that are capable of changing look like and do? (ask them to give specific examples of actions typifying perceived readiness to change)
9. Second, what kinds of things do organizations do that would lead you to think that they were not capable of changing? (ask them to give specific examples of actions typifying perceived incapability to change)
10. Finally, if you had one piece of advice to give your organization:
 - a. Regarding how to successfully manage change – what would it be?
 - b. Regarding how not to manage change – what would it be?
11. Do you have any other comments about the change initiatives in your organization or organizational change in general that you would like to add?

Thank you for taking time to participate in this study. Your contribution will help us develop tools to make organizational change more effective and less disruptive for all the people involved. I will be happy to give you a summary of the results of these interviews.

Ask them if they want copy of study results. Ask them for e-mail address to send results to.

Appendix C. AFA Stage II Questionnaire

I. Demographics

The following section of the questionnaire asks you to provide some demographic information about yourself which will be used to help us interpret this questionnaire. Please indicate the response that best describes you by clicking on the most appropriate answer.

1. What is your position in the organization?

- Director/General Director
- Manager
- First-line Supervisor/Team Leader
- Professional
- Administrative/Clerical
- Operational

2. Do you supervise the work of others?

- Yes
- No

3. What is your gender?

- Male
- Female

II. Behaviours of Commitment to Change

The following statements are designed to elicit your opinions about the types of behaviours people engage in when they are committed to a particular change. All the behaviours given below were provided by public sector employees during personal interviews. Please indicate the extent to which you agree that the behaviours listed below represent the way YOU have behaved (or are currently behaving) when faced with a significant organizational change that you supported.

I strongly disagree	I mostly disagree	I slightly disagree	Neutral	I slightly agree	I mostly agree	I strongly agree
•	•	•	•	•	•	•

1. I introduce changes in my daily work to help the organization achieve its change goals.
2. I ask questions and try to learn more about the change initiatives.
3. I invest more time and effort in my work than formally required.
4. I volunteer to participate in committees and workshops related to organizational change.
5. I encourage others to embrace the change.
6. I speak favourably about the change to my peers.
7. I defend the change if I hear other people speaking unfavourably of it.
8. I give positive feedback about the change to my superiors.
9. I disseminate and reinforce information about the change initiatives.
10. I explain the rationale for the change and its expected impact to co-workers and subordinates.
11. I discuss the change initiatives in team meetings on a regular basis.
12. I speak favourably about the change initiatives to people outside the organization.
13. I make suggestions to the management on how to improve change implementation.
14. I change my behaviours to model the desired new behaviours.
15. I am more willing to participate in the social events of the organization.
16. I provide recognition when I see people implementing new ways of doing things.
17. I explore opportunities to move to a position where I can be part of the change process.
18. I display a positive attitude by being upbeat and smiling.
19. I initiate changes myself.

III. Behaviours of Resistance to Change

There might be times when you are against certain changes introduced in the organization, and you do not support them.

The following statements are designed to elicit your opinions about the behaviours people engage in when they are resistant to a particular change. All the behaviours given below were provided by public sector employees during personal interviews. Please indicate the extent to which you agree that the behaviours listed below represent the way YOU have behaved (or are currently behaving) when faced with a significant organizational change that you resist.

I strongly disagree	I mostly disagree	I slightly disagree	Neutral	I slightly agree	I mostly agree	I strongly agree
●	●	●	●	●	●	●

1. I complain about the change to my co-workers.
2. I speak negatively about the change to everybody in the organization.
3. I complain about the organization to outsiders.
4. I voice my concerns about the change to my immediate supervisor.
5. I voice my concerns about the change to managers above me in the hierarchy.
6. I voice my concerns about the change to the senior management.
7. I provide constructive suggestions to people who are in a position to influence the change.
8. I share my concerns with those who have initiated the change.
9. I voice my opinion at meetings.
10. I seek clarification about the change and its implementation.
11. I promote the change anyway if it is for a long-term good of the organization.
12. I do not get involved in anything to do with the change initiative for as long as possible.
13. I keep my opinion about the change to myself.

14. I go along with the change for fear of losing my job.
15. I shut myself off and do not engage with others.
16. I just do my job and try to survive (i.e., I only do the minimum required just to get by).
17. I implement the change only when told so by the supervisor.
18. I use a lack of time as an excuse not to participate in the change process.
19. I lose my desire to come to work.
20. I look for employment elsewhere.
21. I suffer from stress-related health problems.
22. I take sick leaves because of burn-out.
23. I deny that the change is going to happen.
24. I get angry and take it out on those around me.
25. I become forceful and pushy.

IV. Behaviours of Indifference to Change

There might be changes introduced in the organization that you are indifferent to (i.e. that do not affect you either positively or negatively). The following statements are designed to elicit your opinions about the behaviours people engage in when they are indifference to change. . All the behaviours given below were provided by public sector employees during personal interviews. Please indicate the extent to which you agree that the behaviours listed below represent the way YOU have behaved (or are currently behaving) when faced with a significant organizational change that you are indifferent to.

I strongly disagree	I mostly disagree	I slightly disagree	Neutral	I slightly agree	I mostly agree	I strongly agree
●	●	●	●	●	●	●

1. I ignore the change initiatives and just keep doing my work.
2. I do not try to defend the change or explain it to others.
3. I isolate myself from the group and do not communicate to my colleagues.

4. I do what is required just to get by.
5. I do not volunteer to do extra work in the area of change.
6. I refuse to participate in any committees related to the change.
7. I give a try if there are no other more urgent demands on my time.
8. I go along with the change if everybody has started using the new ways.
9. I try to learn more about the change.
10. I encourage others to participate if the change is good for them.
11. I participate in the initiatives anyway to act as a role model for others.
12. I keep my opinions to myself so as not to affect the opinions of others.
13. I incorporate the new language in my daily work for the sake of my career development.
14. I delete change messages without reading them.
15. I put issues relating to the change off until I have more time to consider them.

V. Behaviours of Organizations that are Ready for Change

One of the key objectives of this research is to identify organizational actions and behaviours that are associated with the successful implementation of change and with employee buy-in of the change. In our interviews with public servants we asked them to identify those actions and behaviours that they felt were most representative of a public sector organization that was capable of successfully implementing change. A summary of these behaviours and actions are listed below. Please read through this list and indicate the extent to which you agree that each of these actions and behaviours typify an organization that is ready for change (i.e. will be able to implement change successfully). Please note that these statements pertain to public sector organizations in general, not to your branch or department.

I strongly disagree	I mostly disagree	I slightly disagree	Neutral	I slightly agree	I mostly agree	I strongly agree
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●	●	●	●	●	●	●
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1. Leaders themselves have bought into the change and promote it by behaving in a manner consistent with the change.
2. There is a champion of change at the most senior level of the organization.
3. Change messages on where the organization is going and why come directly from the executive team.
4. Senior change leaders work one-on-one with managers who have not bought in to the change.
5. Leaders create excitement and enthusiasm about the change with their staff.
6. Senior management is decisive with respect to organizational goals, priorities and strategies concerning the change.
7. Leaders focus their attention on changes that are within their realm of control.
8. Senior management defines the course of change and stays the course for several years.
9. Senior management makes themselves available so that staff can ask them questions on the change in person.
10. Requests from the senior management conform to the new paradigm of thinking.
11. The senior management team acts as a cohesive unit with respect to the change.
12. There is a change management team that has been designated to lead the change.
13. Change leaders have gained credibility with their actions in the past (Change is communicated and led by a person people trust).
14. People who lead the change act professionally and ethically.
15. Change leaders use somewhat dictatorial methods to implement the change.
16. Change agents have considered different options of change implementation.

17. When unexpected emergencies arise, change agents scale back their ambitions with respect to the change.
18. Change agents invite external experts' advice with respect to managing the change.
19. Change agents have done research to select the right type of change that addresses the underlying causes of organizational problems rather than just symptoms.
20. Change agents have realistic expectations in terms of the amount of time and energy the change is going to take.
21. Change agents admit their mistakes and are willing to correct them (i.e. learn from failures).
22. Change agents provide valid arguments to justify the change.
23. Change agents are competent to answer employee questions about the change.
24. Change agents solicit face-to-face feedback on the change initiatives.
25. Change communicators incorporate humour in their messages.
26. Change agents try to get the buy-in of the key players before they formally announce the change.
27. Change agents consult with all stakeholder groups inside and outside the organization.
28. The immediate supervisors encourage their staff to participate in the change process.
29. During the change initiative, each level of managers is empowered to manage their own reports and make decisions within their area of control.
30. Management practices around the change are transparent.
31. Management provides clear directives with respect to the change and reinforces them without exceptions.
32. Managers at all levels lead by example (i.e., they walk the talk).
33. Managers at all levels are the first to get on board with respect to the change.
34. Managers at all levels send consistent messages with respect to the change.

35. Managers at all levels are given all the necessary information about the change to enable them to pass it down to their staff.
36. Managers sincerely seek employee feedback with respect to the change on a regular basis and act upon it.
37. Management sets clear expectations and accountabilities for the staff with respect to the change.
38. Management sets clear roles and responsibilities for the staff with respect to the change.
39. Managers are held accountable for passing information on the change on to their staff.
40. Managers at all levels are involved in the change planning process.
41. Managers acknowledge the impact the change may have on their staff.
42. Sufficient training is provided to managers at all levels of the organization to enable them to communicate and lead change.
43. Employees feel that they will personally benefit from the change.
44. The change is driven by a clear vision that everybody understands.
45. The expected outcomes and benefits of the change are well explained.
46. Specific change decisions are well explained.
47. Any new behaviours that will be expected of employees because of the change are well explained.
48. What needs to be changed and what will stay the same is well explained.
49. The large context for change is well explained.
50. Operational details how the change will be implemented are provided to the staff.
51. The expected impact of the change on work processes is well explained.
52. Organizational, divisional, team, and individual priorities are well explained.

53. Regular staff meetings are held to inform people about the change plans and progress.
54. Information on the change is communicated to the external stakeholders.
55. Information on the change is communicated in plain language and actionable terms rather than general phrases.
56. Decisions are communicated only when sufficient research and analysis have been done.
57. Change messages communicate that everybody is welcome to participate in the change process.
58. The major communication channel used to provide information on the change is face-to-face meetings.
59. Change messages are communicated frequently through various communication channels.
60. Important information is passed directly to the people who need it for doing their work.
61. Information about the change is disseminated in writing to ensure consistency.
62. The communication process is centralized to avoid message overlap (i.e. there is a chief communications officer).
63. People can exchange their experiences with respect to the change through informal lateral interaction.
64. Meetings are called and/or messages sent only when there is meaningful and/or new information to communicate.
65. Best practices in change management are disseminated throughout the organization.
66. A formal staff feedback mechanism is implemented to ensure upward feedback on the change.
67. Organization publicizes and celebrates successes associated with the implementation of the change.
68. Everybody in the organization uses the same language and terms of reference when talking about the change.

69. Bottom-up initiatives are encouraged and acted upon.
70. The situation with respect to the change has been diagnosed before the change is implemented (i.e. capacity of people to handle the change, attitudes of the key players toward the change, potential impact of the change, SWOT analysis).
71. The change plan includes several achievable short-term goals along with the long-term change goals.
72. Employees at all levels are held accountable for the implementation of the change in their functional area (i.e., successes are rewarded, failures to comply are dealt with).
73. Performance agreements include information on expectations with respect to the implementation of the change.
74. Change initiatives are properly monitored (i.e. there are measurement tools in place to assess the progress of the change and its impact on employees) and adjusted if necessary.
75. Staff are provided with the resources they need to do their work the new way (i.e. tools, training, time).
76. Managers are given sufficient budgets to meet their change objectives.
77. The organization gives employees time to actively participate in the change initiatives.
78. One change is implemented completely before the next is started.
79. The change is implemented quickly in as few a steps as possible rather than in a slow, step by step manner.
80. Large-scale change is implemented step by step rather than all at once.
81. Change initiatives are kept as the top priority in the organization.
82. There are pauses between significant changes to avoid change fatigue.
83. During the change, a certain level of stability is preserved in the work routines.
84. Change initiatives that do not work are terminated.
85. The change process is seen as fair and ethical.

86. People who are directly involved in the activities undergoing change are consulted before any change is implemented.
87. Employees have control over the change outcomes in their area.
88. Employees at lower levels of the hierarchy are included on all change committees.
89. External stakeholders have a say in the change process.
90. Unions are involved in and have influence over the change process.
91. Jobs are restructured to make use of the new knowledge and skills employees have acquired.
92. People are given a choice with respect to what change initiatives they wish to participate in.
93. There are no negative consequences for making errors when doing work in new ways.
94. Information on the change process is included in the orientation package for new employees.
95. People are encouraged to set priorities and say “no” to things that are not priorities.
96. There is a recourse mechanism in place to address people’s concerns about the change.
97. Employees at all levels are provided with tangible rewards for engaging in behaviours that support the change.
98. Employees at all levels are provided with positive feedback and verbal reinforcement of the new behaviours.
99. All change initiatives are aligned with respect to the mission, vision and values of the organization so that efforts can be applied consistently.
100. Change in one unit is supported in other parts of the organization.

Behaviours of organizations that are not ready for change

One of the key objectives of this research is to identify organizational actions and behaviours that make it difficult if not impossible for the organization to successfully implement change/ get employee buy-in for the change. In our interviews with public servants we asked them to identify those actions and behaviours that they felt were most representative of a public sector organization that was incapable of successfully implementing change. A summary of these behaviours and actions are listed below.

Please read through the following list and indicate the extent to which you agree that each of these actions and behaviours typify an organization that is not ready for change (i.e. will not be able to implement change successfully). Please note that these statements pertain to public sector organizations in general, not to your branch or department.

I strongly disagree	I mostly disagree	I slightly disagree	Neutral	I slightly agree	I mostly agree	I strongly agree
●	●	●	●	●	●	●

1. The change is implemented in a top-down autocratic manner.
2. There is no one at the top of the organization who is able to provide a strong leadership role with respect to the change.
3. Senior management does not inspire enthusiasm about the change.
4. There is a disconnect between the senior management and working levels with respect to the change priorities and interpretation of the change.
5. The senior management is not decisive with respect to the change goals and priorities.
6. High turnover rates at the top results in a lack of consistent leadership of the change.

7. Senior management does not provide front-line and middle managers with timely information to enable them to explain the change initiatives to their staff.
8. Change initiators do not understand what the long-term impact of the change on the organization will be.
9. The change is motivated by the personal agenda of the change leaders – not what is good for the organization.
10. Change leaders are not considered credible because of their actions in the past.
11. Change agents react to external pressures rather than proactively seek change opportunities.
12. Change leaders have misdiagnosed the type of change necessary to solve the existing organizational problems.
13. The team of change agents is not a cohesive unit.
14. The employee's immediate supervisor does not personally buy in to the change (i.e. does not encourage their staff to participate in the change process).
15. Managers fail to translate the high level goals of the change into detailed objectives and guidelines for the staff at the operational level.
16. Management does not admit it has made any mistakes with respect to managing the change and therefore does not learn from its mistakes.
17. There is a disconnect between managers' words and deeds (i.e., they do not walk the talk).
18. Managers do not follow through on the change policies adopted by the upper management.
19. Management's practices around the change are not transparent.
20. Managers have not set clear roles and responsibilities for the staff.
21. Managers have not been given any training on how to lead change.
22. Managers do not acknowledge the impact the change may have on their staff (i.e., their personal and family needs).
23. Employees do not see how they will personally benefit from the change.

24. There is no vision for the change that everybody in the organization understands.
25. The reasons for the change are not well explained.
26. The outcomes and benefits of the change are not well explained.
27. The ways in which the change will be implemented are not well explained.
28. The expected impact of the change on daily work processes is not well explained.
29. Organizational, divisional, team, and individual priorities are not well explained.
30. The change has not been explained to the external stakeholders.
31. Information on the change is communicated in too general terms to be meaningful.
32. Information from the very top on the upcoming change and the change progress gets filtered on its way down and does not reach the lower levels of the organization.
33. There is a disconnect between the senior executive messages and those coming from directors and managers.
34. The change process does not involve the phasing out of old duties, and the employee is expected to do both the old and the new duties.
35. Change messages are announced in a condescending manner.
36. Decisions with respect to the change are announced prematurely (i.e., before the organization fully understands what they intend to do).
37. Change messages are not documented in writing.
38. People learn about the change through informal channels rather than through formal channels.
39. People are overloaded with change messages irrelevant to their job.
40. Impersonal communication channels are overused (i.e., all staff e-mails, memos, newsletters, etc.).
41. Information on certain change events is disseminated only among the “chosen few”.

42. People have no opportunity to exchange their experiences with respect to the change through informal lateral communication.
43. There is no formalized mechanism in place to ensure upward feedback on the change.
44. Bottom-up initiatives are not encouraged and acted upon.
45. The change is started without a proper investigation of the present situation (i.e., risk and impact analysis).
46. Employees at all levels are not held accountable for the implementation of the change in their functional area.
47. Performance agreements do not include information on expectations with respect to the implementation of change.
48. Staff are not provided with the resources they need to do their work the new way (i.e., tools, training, time, human resources).
49. The limited budgets are not allocated with the change priorities in mind.
50. Workloads do not permit people to get involved in the change initiatives.
51. People who do the actual work are not involved in making decisions concerning changes in their work area.
52. Consultation with the staff in regard to the upcoming change is done after the fact.
53. There are negative consequences for providing feedback and questioning the change implementation.
54. Unions are not involved in and do not have influence over the change process.
55. Employees do not have control over the change processes and outcomes in their area.
56. External stakeholders do not have a say in the change process.
57. The implemented change is not allowed to stabilize before the next change starts (i.e., too many changes are happening too frequently).
58. The progress of the change is not monitored on a regular basis (i.e., there are no measurement tools in place to assess costs associated with the change and the impact of the change on the organization and employees).

59. The organization gives up on the change too soon – they do not follow through on the change initiatives.
60. There is no recourse mechanism in place to address people's concerns about the change.
61. People are discouraged from saying "no" to work – even when the assigned task is not a priority.
62. The change is implemented by means of intimidation: "Change or else...".
63. People are punished for taking risks and making mistakes when doing work the new way.
64. Employees at all levels are not provided with tangible rewards for engaging in behaviours that support the change.
65. Employees at all levels are not provided with positive feedback and verbal reinforcement of the behaviours that support the change.
66. The change initiatives are not aligned with respect to the vision, values, the desired culture, and systems of the organization.
67. The change efforts of the organization are not aligned with the major goals of the government.
68. The organization is not aware of the best practices in the area of change management.

Appendix D. AFA Stage III Questionnaire

Readiness for Change at (name of the organization)

Thank you for taking time to fill out this survey. Your contribution will provide information which should help (name of the organization) implement change more successfully. The survey consists of eight sections. Filling it out will take you approximately 20 minutes.

SECTION A. YOUR ATTITUDE TOWARD CHANGE IN YOUR WORKPLACE

Your department, like many other organizations, is currently undertaking a number of change initiatives. We are interested in your attitudes towards the changes occurring in/at (name of the organization).

Thinking about the change that is currently occurring in your department, please indicate the extent to which you agree/disagree with each of the following statements by clicking the most appropriate answer.

I strongly disagree	I disagree	I neither agree nor disagree	I agree	I strongly agree
●	●	●	●	●

1. I introduce changes in my daily work to help the organization achieve its change goals.
2. I ask questions and try to learn more about the change initiatives.
3. I invest more time and effort in my work than required as per job description.
4. I encourage others to embrace the change.
5. I explain the rationale for the change and its expected impact to co-workers and subordinates.
6. I make suggestions to the management on how to improve change implementation.
7. I change my behaviours to model the desired new behaviours.
8. I provide recognition when I see people implementing new ways of doing things.
9. I display a positive attitude by being upbeat and smiling.
10. I initiate changes myself.
11. I voice my concerns about the change to my immediate supervisor.
12. I provide constructive suggestions to people who are in a position to influence the change.

13. I share my concerns with those who have initiated the change.
14. I voice my opinion at meetings.
15. I seek clarification about the change and its implementation.
16. I promote the change anyway if it is for a long-term good of the organization.

SECTION B. IMPLEMENTING CHANGE IN YOUR ORGANIZATION

Organizations which are undertaking transformational change can engage in activities which either support the change efforts or make it less likely that the change will succeed. A number of such activities are listed below. Please indicate the extent to which you agree that the following actions and behaviours are currently taking place in/at (name of the organization) by clicking the most appropriate answer.

I strongly disagree	I disagree	I neither agree nor disagree	I agree	I strongly agree
●	●	●	●	●

17. Leaders themselves have bought into the change and promote it by behaving in a manner consistent with the change.
18. There is a champion of change at the most senior level of the organization.
19. Change messages on where the organization is going and why come directly from the executive team.
20. Senior management is decisive with respect to organizational goals, priorities and strategies concerning the change.
21. Leaders focus their attention on changes that are within their realm of control.
22. Senior management defines the course of change and stays the course for several years.
23. Requests from the senior management conform to the new paradigm of thinking.
24. The senior management team acts as a cohesive unit with respect to the change.
25. There is a change management team that has been designated to lead the change.
26. People who lead the change act professionally and ethically.
27. Change agents have considered different options of change implementation.
28. Change agents invite external experts' advice with respect to managing the change.

29. Change agents have done research to select the right type of change that addresses the underlying causes of organizational problems rather than just symptoms.
30. Change agents provide valid arguments to justify the change.
31. Change agents are competent to answer employee questions about the change.
32. Change agents try to get the buy-in of the key players before they formally announce the change.
33. The immediate supervisors encourage their staff to participate in the change process.
34. Managers are held accountable for passing information on the change on to their staff.
35. Managers acknowledge the impact the change may have on their staff.
36. Change messages are communicated frequently through various communication channels.
37. The change process is seen as fair and ethical.
38. The change is implemented in a top-down autocratic manner.
39. There is a disconnect between the senior management and working levels with respect to the change priorities and interpretation of the change.
40. Change initiators do not understand what the long-term impact of the change on the organization will be.
41. Management does not admit it has made any mistakes with respect to managing the change and therefore does not learn from its mistakes.
42. Employees do not see how they will personally benefit from the change.
43. There is no vision for the change that everybody in the organization understands.
44. The reasons for the change are not well explained.
45. The outcomes and benefits of the change are not well explained.
46. The ways in which the change will be implemented are not well explained.
47. The expected impact of the change on daily work processes is not well explained.
48. Information on the change is communicated in too general terms to be meaningful.

49. The change process does not involve the phasing out of old duties, and the employee is expected to do both the old and the new duties.
50. Workloads do not permit people to get involved in the change initiatives.
51. People who do the actual work are not involved in making decisions concerning changes in their work area.
52. Consultation with the staff in regard to the upcoming change is done after the fact.
53. Employees do not have control over the change processes and outcomes in their area.
54. The implemented change is not allowed to stabilize before the next change starts (i.e., too many changes are happening too frequently).
55. The progress of the change is not monitored on a regular basis (i.e., there are no measurement tools in place to assess costs associated with the change and the impact of the change on the organization and employees).
56. People are discouraged from saying “no” to work – even when the assigned task is not a priority.

SECTION C. MANAGEMENT OF YOUR ORGANIZATION

The following statements pertain to the support you feel you receive in/at (name of the organization). Please indicate the extent to which you agree that the management of your organization exhibits the following behaviours.

I strongly disagree	I disagree	I neither agree nor disagree	I agree	I strongly agree
●	●	●	●	●

57. Management of my organization shows very little concern for me.
58. Management of my organization cares about my general satisfaction at work.
59. Management of my organization really cares about my well-being.
60. Management of my organization strongly considers my goals and values.
61. Management of my organization cares about my opinions.
62. Even if I did the best job possible, management of my organization would fail to

notice.

- 63. Management of my organization takes pride in my accomplishments at work.
- 64. Management of my organization is willing to extend itself in order to help me perform my job to the best of my ability.
- 65. Help is available from management of my organization when I have a problem.

SECTION D. YOUR ATTITUDE TOWARD CHANGE IN GENERAL

Employees are frequently asked to deal with changes both at work and outside of work. We are interested in knowing how you respond when faced with change.

The following statements pertain to people's attitude toward change in general. Please indicate the extent to which you agree that the attitudes listed below represent the way YOU feel about change by clicking the most appropriate answer.

I strongly disagree	I disagree	I neither agree nor disagree	I agree	I strongly agree
●	●	●	●	●

- 66. The most interesting life is to live under rapidly changing conditions.
- 67. Off with the old, and on with the new, even though a person rarely knows what the "new" will be.
- 68. Adventurous and exploratory people go farther in this world than do systematic and orderly people.
- 69. A really satisfying life is a life of problems. When one is solved, one moves on to the next problem.
- 70. It's satisfying to know pretty much what is going to happen on the job from day to day.
- 71. When planning a vacation, a person should have a schedule to follow if he's really going to enjoy himself.
- 72. Doing the same things in the same places for long periods of time makes for a happy life.

SECTION E. FEELINGS AND EMOTIONS

- 73- The following scale consists of a number of words that describe different feelings and emotions. By clicking on the appropriate response please indicate to what extent you have felt this way during the past year.

Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
●	●	●	●	●
	interested		irritable	
	distressed		alert	
	excited		ashamed	
	upset		inspired	
	strong		nervous	
	guilty		determined	
	scared		attentive	
	hostile		jittery	
	enthusiastic		active	
	proud		afraid	

SECTION F. YOUR ATTITUDE TOWARD WORK IN GENERAL

The following questions ask about your attitudes towards work in general. Please indicate the most appropriate answer by clicking on the response that most describes your attitude.

I strongly disagree	I disagree	I neither agree nor disagree	I agree	I strongly agree
●	●	●	●	●

93. A job is what you make of it.
94. On most jobs, people can pretty much accomplish whatever they set out to accomplish.
95. If you know what you want out of a job, you can find a job that gives it to you.
96. If employees are unhappy with a decision made by their boss, they should do something about it.
97. Getting the job you want is mostly a matter of luck.
98. Making money is primarily a matter of good fortune.
99. Most people are capable of doing their jobs well if they make the effort.

100. In order to get a really good job you need to have family members or friends in high places.
101. Promotions are usually a matter of good fortune.
102. When it comes to landing a really good job, who you know is more important than what you know.
103. Promotions are given to employees who perform well on the job.
104. To make a lot of money you have to know the right people.
105. It takes a lot of luck to be an outstanding employee on most jobs.
106. People who perform their jobs well generally get rewarded for it.
107. Most employees have more influence on their supervisors than they think they do.
108. The main difference between people who make a lot of money and people who make a little money is luck.

SECTION G. DEALING WITH STRESS IN YOUR WORKPLACE

The following statements pertain to stress caused by your job. Please indicate the extent to which you agree that these statements describe how YOU feel.

**I strongly
disagree**

●

I disagree

●

**I neither agree
nor disagree**

●

I agree

●

**I strongly
agree**

●

109. I work under a great deal of tension.
110. I have felt fidgety or nervous as a result of my job.
111. If I had a different job my health would probably improve.
112. Problems associated with my job have kept me awake at night.
113. I often “take my job home with me” in the sense that I think about it when doing other things.

SECTION H. DEMOGRAPHICS

The following section of the questionnaire asks you to provide some demographic information which will be used to help us interpret this questionnaire. Please indicate the response that best describes you by clicking on the most appropriate answer.

114. Which of the following labels best describes your position in the organization?
- A. Director/General Director
 - B. Manager
 - C. First-line Supervisor/Team leader
 - D. Professional
 - E. Administrative/Clerical
 - F. Operational
115. Do you supervise the work of others?
- A. Yes
 - B. No
116. What is your gender?
- A. Male
 - B. Female
117. What is your age?
- 25 years or less
 - 26-35 years
 - 36-45 years
 - 46-55 years
 - 56 years or more
118. Please indicate your years of service for the current organization. ----- years

SECTION COMMENTS?

If you have any comments to share please provide them in the box below.

SECTION THANK YOU!

Your contribution is very valuable to this study. We appreciate your time and effort.

If you have any concerns or questions about this survey, feel free to contact Inta Cinite at icinite99@yahoo.com

Please note that when you have successfully submitted the survey, the home page of SurveyMonkey will appear. You will not receive notice that the submission has been received.

Appendix E. Outcome Measures

Job Stress (House and Rizzo, 1972)

On a scale from “1 = strongly disagree” to “5 = strongly agree” with a midpoint of “3 = neither agree nor disagree,” please indicate the extent of your agreement with the following statements.

1. I work under a great deal of tension
2. I have felt fidgety or nervous as a result of my job.
3. If I had a different job my health would probably improve
4. Problems associated with my job have kept me awake at night
5. I often “take my job home with me” in the sense that I think about it when doing other things.

Perceived Organizational Support (Eisenberger et al., 1986)

On a scale from “1 = strongly disagree” to “5 = strongly agree” with a midpoint of “3 = neither agree nor disagree,” please indicate the extent of your agreement with the following statements.

R – items reverse-scored.

1. (Name of company) management shows very little concern for me. (R)
2. (Name of company) management cares about my general satisfaction at work.
3. (Name of company) management really cares about my well-being.
4. (Name of company) management strongly considers my goals and values.
5. (Name of company) management cares about my opinions.
6. Even if I did the best job possible, (name of company) management would fail to notice. (R)
7. (Name of company) management takes pride in my accomplishments at work.
8. (Name of company) management is willing to extend itself in order to help me perform my job to the best of my ability.
9. Help is available from (name of company) management when I have a problem.

Appendix F. Personality Dispositions Measures

R – items reverse-coded

Locus of Control (Spector, 1988)

On a scale from “1 = strongly disagree” to “5 = strongly agree” with a midpoint of “3 = neither agree nor disagree,” please indicate your attitude toward the following statements.

1. A job is what you make of it. (R)
2. On most jobs, people can pretty much accomplish whatever they set out to accomplish. (R)
3. If you know what you want out of a job, you can find a job that gives it to you. (R)
4. If employees are unhappy with a decision made by their boss, they should do something about it. (R)
5. Getting the job you want is mostly a matter of luck.
6. Making money is primarily a matter of good fortune.
7. Most people are capable of doing their jobs well if they make the effort.
8. In order to get a really good job you need to have family members or friends in high places. (R)
9. Promotions are usually a matter of good fortune.
10. When it comes to landing a really good job, who you know is more important than what you know.
11. Promotions are given to employees who perform well on the job. (R)
12. To make a lot of money you have to know the right people.
13. It takes a lot of luck to be an outstanding employee on most jobs.
14. People who perform their jobs well generally get rewarded for it. (R)
15. Most employees have more influence on their supervisors than they think they do. (R)
16. The main difference between people who make a lot of money and people who make a little money is luck.

Tolerance for Ambiguity
(Lorsch & Morse, 1974)

On a scale from “1 = strongly disagree” to “5 = strongly agree” with a midpoint of “3 = neither agree nor disagree,” please indicate your attitude toward the following statements.

1. The most interesting life is to live under rapidly changing conditions.
2. Off with the old, and on with the new, even though a person rarely knows what the “new” will be.
3. Adventurous and exploratory people go farther in this world than do systematic and orderly people.
4. A really satisfying life is a life of problems. When one is solved, one moves on to the next problem.
5. It’s satisfying to know pretty much what is going to happen on the job from day to day. (R)
6. When planning a vacation, a person should have a schedule to follow if he’s really going to enjoy himself. (R)
7. Doing the same things in the same places for long periods of time makes for a happy life. (R)

Positive and Negative Affectivity
(Watson et al., 1988)

The following scale consists of a number of words that describe different feelings and emotions. Mark the appropriate answer in the space next to the word. Indicate to what extent you have felt this way during the past year.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely
_____	interested		_____	irritable
_____	distressed		_____	alert
_____	excited		_____	ashamed
_____	upset		_____	inspired
_____	strong		_____	nervous
_____	guilty		_____	determined
_____	scared		_____	attentive
_____	hostile		_____	jittery
_____	enthusiastic		_____	active
_____	proud		_____	afraid

Appendix G. Ridge traces for the ridge regression (Selection of k value)

Dependent variable: Spreading the change. $K = .35$

(Appendix to be continued on the next page)

Appendix G (cont'd). Ridge traces for the ridge regression (Selection of k value)

Dependent variable: Implementing the change personally. $K = .5$

(Appendix to be continued on the next page)

Appendix G (cont'd). Ridge traces for the ridge regression (Selection of k value)

Dependent variable: Voicing concerns about the change. $K = .5$

Appendix H. AFA Stage I : Nomination of attitudes toward change behaviours

Behaviours typifying commitment to change

1. I introduce changes in my daily work to help the organization achieve its change goals.
2. I ask questions and try to learn more about the change initiatives.
3. I invest more time and effort in my work than formally required.
4. I volunteer to participate in committees and workshops related to organizational change.
5. I encourage also others to embrace the change.
6. I speak favourably about change to my peers.
7. I defend the change if I hear other people speaking unfavourably of it.
8. I give positive feedback about change to my superiors.
9. I disseminate and reinforce information about change initiatives.
10. I explain the rationale for change and its expected impact to co-workers and subordinates.
11. I discuss the initiative in team meetings on a regular basis.
12. I speak favourably about change initiatives to people outside the organization.
13. I make suggestions to the management how to improve change implementation.
14. I change my behaviours to model the desired new behaviours.
15. I am more willing to participate in the social events of the organization.
16. I provide recognition when I see people implementing new ways of doing things.
17. I explore opportunities to move to a position where I can be part of the change process.
18. I display a positive attitude by being upbeat and smiling.
19. I adopt and use the language developed inside the organization.
20. I initiate changes myself.
21. I promote the use of initiatives in other areas of the organization.
22. I engage more with other organizational members who are involved in change implementation.

Behaviours typifying resistance to change

1. I complain about change to my co-workers.
2. I speak negatively about change to everybody in the organization.
3. I badmouth the organization outside it.
4. I voice my concerns about change to my immediate supervisor.
5. I voice my concerns about change to the management higher up.
6. I voice my concerns about change to the senior management.
7. Instead of complaining, I provide constructive suggestions to people who are in the position to influence change.

8. I share my concerns with change initiators.
9. I voice my opinion at meetings.
10. I take a proactive role and address the negative issues of change.
11. I seek clarification about change and its implementation.
12. I promote change anyway if it is for a long-term good of the organization.
13. I do not get involved in change initiatives.
14. I keep my opinion about change to myself.
15. I go along with change for fear of losing my job.
16. I avoid change as long as possible.
17. I shut myself off and do not engage with others.
18. I just do my job and try to survive - I do only the minimum required just to get by.
19. I accept things begrudgingly if I cannot influence them.
20. I implement change only when told so by the supervisor.
21. I do not go an extra mile.
22. I do not try to meet deadlines.
23. I use a lack of time as an excuse not to participate.
24. I do not want to come to work.
25. I look for employment elsewhere.
26. I suffer from stress-related health problem.
27. I take sick leaves because of burn-out.
28. I deny that change is going to happen.
29. I get hostile toward everything and everybody.
30. I become more forceful and pushy.

Behaviours typifying indifference to change

1. I ignore the initiative and just keep doing my work.
2. I do not try to defend change or explain it to others.
3. I isolate myself from the group and do not communicate to my colleagues.
4. I do what is required just to get by.
5. I do not volunteer to do extra work in the area of change.
6. I refuse to participate in any committees related to change.
7. I give a try if there are no other more urgent demands on my time.
8. I go along with change if everybody started using the new ways.
9. I try to learn more about change.
10. I encourage others to participate if change is good for them.
11. I participate in the initiatives anyway to act as a role model for others.
12. I keep my opinions to myself not to affect the opinions of others.
13. I incorporate the new language in my daily work for the sake of my career development.
14. I delete change messages without reading them.
15. I put those issues off till I have more time to consider them.

Appendix I. AFA Stage II: Reduction of commitment to change behaviours

Total sample N = 104	Mean	Differ.	SD
I invest more time and effort in my work than formally required.	5.89		1.20
I ask questions and try to learn more about the change initiatives.	5.73	0.16	1.18
I initiate changes myself.	5.69	0.05	1.09
I display a positive attitude by being upbeat and smiling.	5.67	0.02	1.16
I provide recognition when I see people implementing new ways of doing things.	5.45	0.22	1.24
I introduce changes in my daily work to help the organization achieve its change goals.	5.44	0.01	1.16
I make suggestions to the management on how to improve change implementation.	5.27	0.17	1.57
I change my behaviours to model the desired new behaviours.	5.16	0.12	1.25
I encourage others to embrace the change.	5.13	0.03	1.52
I disseminate and reinforce information about the change initiatives.	5.03	0.10	1.44
I volunteer to participate in committees and workshops related to organizational change.	5.01	0.02	1.52
I explain the rationale for the change and its expected impact to co-workers and subordinates.	5.00	0.01	1.54
I speak favourably about the change to my peers.	4.98	0.02	1.54
I give positive feedback about the change to my superiors.	4.96	0.02	1.34
I explore opportunities to move to a position where I can be part of the change process.	4.86	0.10	1.59
I discuss the change initiatives in team meetings on a regular basis.	4.81	0.06	1.43
I defend the change if I hear other people speaking unfavourably of it.	4.65	0.15	1.56
I am more willing to participate in the social events of the organization.	4.54	0.12	1.64
I speak favourably about the change initiatives to people outside the organization.	4.53	0.01	1.53

Managers N=41	Mean	Differ.	SD
I invest more time and effort in my work than formally required.	6.14		1.16
I initiate changes myself.	5.95	0.19	0.89
I encourage others to embrace the change.	5.90	0.05	1.11
I provide recognition when I see people implementing new ways of doing things.	5.90	0.00	0.94
I ask questions and try to learn more about the change initiatives.	5.88	0.02	1.19
I explain the rationale for the change and its expected impact to co-workers and subordinates.	5.85	0.03	0.76
I make suggestions to the management on how to improve change implementation.	5.73	0.12	1.27
I display a positive attitude by being upbeat and smiling.	5.66	0.07	1.04
I disseminate and reinforce information about the change initiatives.	5.63	0.02	0.99
I change my behaviours to model the desired new behaviours.	5.59	0.05	0.74
I speak favourably about the change to my peers.	5.59	0.00	1.14

(Table continued on the next page)

Total sample	Mean	Differ.	SD
I introduce changes in my daily work to help the organization achieve its change goals.	5.51	0.07	1.14
I give positive feedback about the change to my superiors.	5.44	0.07	1.14
I volunteer to participate in committees and workshops related to organizational change.	5.38	0.06	1.38
I defend the change if I hear other people speaking unfavourably of it.	5.32	0.06	1.19
I discuss the change initiatives in team meetings on a regular basis.	5.15	0.17	1.26
I explore opportunities to move to a position where I can be part of the change process.	5.05	0.10	1.34
I speak favourably about the change initiatives to people outside the organization.	4.98	0.07	1.37
I am more willing to participate in the social events of the organization.	4.65	0.33	1.44

Non-managers N=63	Mean	Differ.	SD
I invest more time and effort in my work than formally required.	5.73		1.20
I display a positive attitude by being upbeat and smiling.	5.68	0.05	1.24
I ask questions and try to learn more about the change initiatives.	5.63	0.04	1.17
I initiate changes myself.	5.51	0.13	1.18
I introduce changes in my daily work to help the organization achieve its change goals.	5.40	0.11	1.17
I provide recognition when I see people implementing new ways of doing things.	5.15	0.25	1.33
I make suggestions to the management on how to improve change implementation.	4.97	0.18	1.69
I change my behaviours to model the desired new behaviours.	4.87	0.10	1.43
I volunteer to participate in committees and workshops related to organizational change.	4.76	0.11	1.56
I explore opportunities to move to a position where I can be part of the change process.	4.74	0.02	1.73
I give positive feedback about the change to my superiors.	4.65	0.09	1.37
I disseminate and reinforce information about the change initiatives.	4.63	0.02	1.55
I encourage others to embrace the change.	4.62	0.02	1.55
I speak favourably about the change to my peers.	4.59	0.03	1.64
I discuss the change initiatives in team meetings on a regular basis.	4.58	0.01	1.50
I am more willing to participate in the social events of the organization.	4.47	0.11	1.76
I explain the rationale for the change and its expected impact to co-workers and subordinates.	4.44	0.03	1.67
I speak favourably about the change initiatives to people outside the organization.	4.24	0.19	1.58
I defend the change if I hear other people speaking unfavourably of it.	4.22	0.02	1.62

Men N=60	Mean	Differ.	SD
I invest more time and effort in my work than formally required.	5.92		1.15
I ask questions and try to learn more about the change initiatives.	5.55	0.37	1.27
I initiate changes myself.	5.53	0.02	1.22
I display a positive attitude by being upbeat and smiling.	5.42	0.11	1.15
I introduce changes in my daily work to help the organization achieve its change goals.	5.35	0.07	1.27
I provide recognition when I see people implementing new ways of doing things.	5.29	0.06	1.34

(Table continued on the next page)

Men N=60	Mean	Differ.	SD
I make suggestions to the management on how to improve change implementation.	5.20	0.08	1.74
I change my behaviours to model the desired new behaviours.	5.07	0.14	1.32
I explain the rationale for the change and its expected impact to co-workers and subordinates.	5.05	0.02	1.38
I encourage others to embrace the change.	5.02	0.03	1.63
I give positive feedback about the change to my superiors.	4.93	0.08	1.30
I disseminate and reinforce information about the change initiatives.	4.92	0.02	1.41
I discuss the change initiatives in team meetings on a regular basis.	4.81	0.10	1.41
I volunteer to participate in committees and workshops related to organizational change.	4.77	0.05	1.72
I explore opportunities to move to a position where I can be part of the change process.	4.76	0.00	1.56
I speak favourably about the change to my peers.	4.68	0.08	1.63
I defend the change if I hear other people speaking unfavourably of it.	4.52	0.17	1.62
I speak favourably about the change initiatives to people outside the organization.	4.42	0.09	1.59
I am more willing to participate in the social events of the organization.	4.38	0.04	1.70

Women N=44	Mean	Differ.	SD
I display a positive attitude by being upbeat and smiling.	6.00		1.10
I ask questions and try to learn more about the change initiatives.	5.98	0.02	1.01
I initiate changes myself.	5.89	0.09	0.87
I invest more time and effort in my work than formally required.	5.86	0.02	1.27
I provide recognition when I see people implementing new ways of doing things.	5.67	0.19	1.06
I introduce changes in my daily work to help the organization achieve its change goals.	5.57	0.11	0.97
I speak favourably about the change to my peers.	5.39	0.18	1.32
I make suggestions to the management on how to improve change implementation.	5.36	0.02	1.33
I volunteer to participate in committees and workshops related to organizational change.	5.33	0.03	1.13
I change my behaviours to model the desired new behaviours.	5.27	0.06	1.15
I encourage others to embrace the change.	5.27	0.00	1.37
I disseminate and reinforce information about the change initiatives.	5.18	0.09	1.48
I give positive feedback about the change to my superiors.	5.00	0.18	1.40
I explore opportunities to move to a position where I can be part of the change process.	5.00	0.00	1.63
I explain the rationale for the change and its expected impact to co-workers and subordinates.	4.93	0.07	1.74
I defend the change if I hear other people speaking unfavourably of it.	4.84	0.09	1.46
I discuss the change initiatives in team meetings on a regular basis.	4.80	0.05	1.47
I am more willing to participate in the social events of the organization.	4.75	0.05	1.54
I speak favourably about the change initiatives to people outside the organization.	4.68	0.07	1.46

Appendix J. AFA Stage II: Reduction of resistance to change behaviours

Total sample N = 96	Mean	Differ.	SD
I seek clarification about the change and its implementation.	5.89		1.06
I voice my opinion at meetings.	5.46	0.43	1.28
I provide constructive suggestions to people who are in a position to influence the change.	5.40	0.06	1.28
I promote the change anyway if it is for a long-term good of the organization.	5.36	0.04	1.38
I voice my concerns about the change to my immediate supervisor.	5.11	0.25	1.60
I share my concerns with those who have initiated the change.	4.61	0.49	1.69
I voice my concerns about the change to managers above me in the hierarchy.	4.32	0.29	1.75
I complain about the change to my co-workers.	3.74	0.58	1.64
I look for employment elsewhere.	3.63	0.11	2.05
I voice my concerns about the change to the senior management.	3.54	0.09	1.88
I suffer from stress-related health problems.	3.44	0.10	2.04
I lose my desire to come to work.	3.35	0.08	1.86
I go along with the change for fear of losing my job.	3.02	0.33	1.98
I implement the change only when told so by the supervisor.	2.98	0.04	1.60
I do not get involved in anything to do with the change initiative for as long as possible.	2.84	0.14	1.51
I complain about the organization to outsiders.	2.74	0.11	1.70
I use a lack of time as an excuse not to participate in the change process.	2.71	0.03	1.54
I keep my opinion about the change to myself.	2.67	0.03	1.29
I speak negatively about the change to everybody in the organization.	2.49	0.18	1.44
I take sick leaves because of burn-out.	2.39	0.10	1.78
I shut myself off and do not engage with others.	2.10	0.28	1.19
I just do my job and try to survive (i.e., I only do the minimum required just to get by).	1.91	0.20	1.12
I deny that the change is going to happen.	1.91	0.00	1.08
I get angry and take it out on those around me.	1.86	0.04	1.31
I become forceful and pushy.	1.83	0.03	1.22

Managers N=38	Mean	Differ.	SD
I seek clarification about the change and its implementation.	6.05		0.96
I provide constructive suggestions to people who are in a position to influence the change.	5.61	0.45	1.37
I promote the change anyway if it is for a long-term good of the organization.	5.59	0.01	1.46
I voice my opinion at meetings.	5.53	0.07	1.31
I share my concerns with those who have initiated the change.	5.13	0.39	1.40
I voice my concerns about the change to my immediate supervisor.	4.89	0.24	1.74
I voice my concerns about the change to managers above me in the hierarchy.	4.18	0.71	1.84
I voice my concerns about the change to the senior management.	3.71	0.47	1.86

(Table continued on the next page)

Managers	Mean	Differ.	SD
I complain about the change to my co-workers.	3.58	0.13	1.69
I suffer from stress-related health problems.	3.18	0.39	1.96
I look for employment elsewhere.	3.13	0.05	1.92
I lose my desire to come to work.	3.11	0.03	1.94
I do not get involved in anything to do with the change initiative for as long as possible.	2.84	0.26	1.69
I keep my opinion about the change to myself.	2.62	0.22	1.30
I go along with the change for fear of losing my job.	2.55	0.07	1.64
I use a lack of time as an excuse not to participate in the change process.	2.51	0.04	1.48
I complain about the organization to outsiders.	2.50	0.01	1.75
I implement the change only when told so by the supervisor.	2.37	0.13	1.32
I speak negatively about the change to everybody in the organization.	2.34	0.03	1.44
I take sick leaves because of burn-out.	2.26	0.08	1.80
I shut myself off and do not engage with others.	1.97	0.29	1.05
I become forceful and pushy.	1.97	0.00	1.35
I just do my job and try to survive (i.e., I only do the minimum required just to get by).	1.79	0.18	1.07
I get angry and take it out on those around me.	1.76	0.03	1.15
I deny that the change is going to happen.	1.66	0.11	0.94

Non-managers N= 58	Mean	Differ.	SD
I seek clarification about the change and its implementation.	5.78		1.12
I voice my opinion at meetings.	5.41	0.36	1.27
I provide constructive suggestions to people who are in a position to influence the change.	5.26	0.16	1.21
I voice my concerns about the change to my immediate supervisor.	5.24	0.02	1.50
I promote the change anyway if it is for a long-term good of the organization.	5.21	0.03	1.31
I voice my concerns about the change to managers above me in the hierarchy.	4.41	0.79	1.70
I share my concerns with those who have initiated the change.	4.26	0.15	1.79
I look for employment elsewhere.	3.96	0.30	2.09
I complain about the change to my co-workers.	3.84	0.12	1.62
I suffer from stress-related health problems.	3.60	0.24	2.09
I lose my desire to come to work.	3.52	0.09	1.81
I voice my concerns about the change to the senior management.	3.43	0.09	1.90
I implement the change only when told so by the supervisor.	3.38	0.05	1.64
I go along with the change for fear of losing my job.	3.33	0.05	2.14
I complain about the organization to outsiders.	2.89	0.43	1.67
I do not get involved in anything to do with the change initiative for as long as possible.	2.84	0.05	1.40
I use a lack of time as an excuse not to participate in the change process.	2.83	0.02	1.57
I keep my opinion about the change to myself.	2.71	0.12	1.30

(Table continued on the next page)

Non-managers	Mean	Differ.	SD
I speak negatively about the change to everybody in the organization.	2.59	0.12	1.45
I take sick leaves because of burn-out.	2.47	0.12	1.78
I shut myself off and do not engage with others.	2.19	0.28	1.28
I deny that the change is going to happen.	2.07	0.12	1.14
I just do my job and try to survive (i.e., I only do the minimum required just to get by).	1.98	0.09	1.16
I get angry and take it out on those around me.	1.93	0.05	1.41
I become forceful and pushy.	1.74	0.19	1.13

Men N=55	Mean	Differ.	SD
I seek clarification about the change and its implementation.	5.78		1.18
I voice my opinion at meetings.	5.64	0.15	1.18
I provide constructive suggestions to people who are in a position to influence the change.	5.38	0.25	1.35
I promote the change anyway if it is for a long-term good of the organization.	5.20	0.18	1.54
I voice my concerns about the change to my immediate supervisor.	5.15	0.05	1.71
I share my concerns with those who have initiated the change.	4.61	0.54	1.64
I voice my concerns about the change to managers above me in the hierarchy.	4.45	0.16	1.78
I complain about the change to my co-workers.	4.13	0.33	1.67
I look for employment elsewhere.	3.60	0.53	2.09
I voice my concerns about the change to the senior management.	3.56	0.04	1.91
I lose my desire to come to work.	3.49	0.07	1.92
I suffer from stress-related health problems.	3.36	0.13	1.98
I go along with the change for fear of losing my job.	3.27	0.09	1.98
I implement the change only when told so by the supervisor.	3.16	0.11	1.64
I do not get involved in anything to do with the change initiative for as long as possible.	3.15	0.02	1.64
I complain about the organization to outsiders.	3.02	0.13	1.83
I use a lack of time as an excuse not to participate in the change process.	2.82	0.20	1.52
I speak negatively about the change to everybody in the organization.	2.76	0.05	1.51
I keep my opinion about the change to myself.	2.57	0.19	1.22
I take sick leaves because of burn-out.	2.25	0.32	1.77
I shut myself off and do not engage with other.	2.22	0.04	1.12
I just do my job and try to survive (i.e., I only do the minimum required just to get by).	2.15	0.07	1.31
I become forceful and pushy.	2.02	0.13	1.35
I deny that the change is going to happen.	1.96	0.05	1.05
I get angry and take it out on those around me.	1.82	0.15	1.23

(Table continued on the next page)

Women N=41	Mean	Differ.	SD
I seek clarification about the change and its implementation.	6.02		0.88
I promote the change anyway if it is for a long-term good of the organization.	5.58	0.45	1.08
I provide constructive suggestions to people who are in a position to influence the change.	5.41	0.16	1.18
I voice my opinion at meetings.	5.22	0.20	1.39
I voice my concerns about the change to my immediate supervisor.	5.05	0.17	1.47
I share my concerns with those who have initiated the change.	4.61	0.44	1.77
I voice my concerns about the change to managers above me in the hierarchy.	4.15	0.46	1.71
I look for employment elsewhere.	3.68	0.47	2.03
I suffer from stress-related health problems.	3.54	0.14	2.15
I voice my concerns about the change to the senior management.	3.51	0.02	1.86
I complain about the change to my co-workers.	3.22	0.29	1.47
I lose my desire to come to work.	3.17	0.05	1.79
I keep my opinion about the change to myself.	2.80	0.37	1.38
I implement the change only when told so by the supervisor.	2.73	0.07	1.52
I go along with the change for fear of losing my job.	2.68	0.05	1.97
I take sick leaves because of burn-out.	2.56	0.12	1.80
I use a lack of time as an excuse not to participate in the change process.	2.55	0.01	1.57
I do not get involved in anything to do with the change initiative for as long as possible.	2.44	0.11	1.23
I complain about the organization to outsiders.	2.37	0.07	1.46
I speak negatively about the change to everybody in the organization.	2.12	0.24	1.27
I shut myself off and do not engage with others.	1.95	0.17	1.28
I get angry and take it out on those around me.	1.93	0.02	1.42
I deny that the change is going to happen.	1.83	0.10	1.12
I shut myself off and do not engage with others.	1.59	0.24	0.71
I become forceful and pushy.	1.59	0.00	0.97

Appendix K. AFA Stage II: Reduction of indifference to change behaviours

Total sample N=94	Mean	Differ.	SD
I try to learn more about the change.	5.78		1.15
I encourage others to participate if the change is good for them.	5.67	0.11	1.09
I participate in the initiatives anyway to act as a role model for others.	4.77	0.90	1.51
I give a try if there are no other more urgent demands on my time.	4.54	0.23	1.67
I go along with the change if everybody has started using the new ways.	4.48	0.06	1.84
I incorporate the new language in my daily work for the sake of my career development.	4.31	0.17	1.62
I put issues relating to the change off until I have more time to consider them.	3.77	0.54	1.73
I do not try to defend the change or explain it to others.	3.51	0.26	1.63
I do not volunteer to do extra work in the area of change.	3.39	0.12	1.83
I ignore the change initiatives and just keep doing my work.	3.38	0.00	1.66
I keep my opinions to myself so as not to affect the opinions of others.	3.32	0.06	1.37
I refuse to participate in any committees related to the change.	2.71	0.61	1.51
I delete change messages without reading them.	2.36	0.35	1.49
I do what is required just to get by.	2.33	0.03	1.56
I isolate myself from the group and do not communicate to my colleagues.	2.11	0.23	1.34

Managers N=36	Mean	Differ.	SD
I encourage others to participate if the change is good for them.	6.09		0.92
I try to learn more about the change.	5.94	0.14	1.11
I participate in the initiatives anyway to act as a role model for others.	5.14	0.80	1.44
I give a try if there are no other more urgent demands on my time.	4.44	0.70	1.73
I go along with the change if everybody has started using the new ways.	4.29	0.16	1.96
I incorporate the new language in my daily work for the sake of my career development.	4.14	0.14	1.63
I put issues relating to the change off until I have more time to consider them.	3.57	0.57	1.79
I keep my opinions to myself so as not to affect the opinions of others.	3.45	0.12	1.39
I do not volunteer to do extra work in the area of change.	3.26	0.20	1.82
I do not try to defend the change or explain it to others.	3.17	0.09	1.56
I ignore the change initiatives and just keep doing my work.	3.00	0.17	1.59
I refuse to participate in any committees related to the change.	2.49	0.51	1.38

(Table continued on the next page)

Managers	Mean	Differ.	SD
I delete change messages without reading them.	2.32	0.16	1.55
I do what is required just to get by.	2.09	0.24	1.42
I isolate myself from the group and do not communicate to my colleagues.	2.03	0.06	1.12

Non-managers N=58	Mean	Differ.	SD
I try to learn more about the change.	5.69		1.17
I encourage others to participate if the change is good for them.	5.41	0.28	1.11
I give a try if there are no other more urgent demands on my time.	4.60	0.81	1.65
I go along with the change if everybody has started using the new ways.	4.60	0.00	1.77
I participate in the initiatives anyway to act as a role model for others.	4.54	0.06	1.51
I incorporate the new language in my daily work for the sake of my career development.	4.41	0.13	1.61
I put issues relating to the change off until I have more time to consider them.	3.90	0.52	1.70
I do not try to defend the change or explain it to others.	3.72	0.18	1.64
I ignore the change initiatives and just keep doing my work.	3.62	0.10	1.67
I do not volunteer to do extra work in the area of change.	3.47	0.16	1.85
I keep my opinions to myself so as not to affect the opinions of others.	3.24	0.22	1.37
I refuse to participate in any committees related to the change.	2.84	0.40	1.58
I do what is required just to get by.	2.48	0.36	1.64
I delete change messages without reading them.	2.38	0.10	1.47
I isolate myself from the group and do not communicate to my colleague.	2.16	0.22	1.46

Men N=54	Mean	Differ.	SD
I encourage others to participate if the change is good for them.	5.62		1.06
I try to learn more about the change.	5.57	0.06	1.26
I participate in the initiatives anyway to act as a role model for others.	4.65	0.91	1.38
I go along with the change if everybody has started using the new ways.	4.51	0.14	1.73
I give a try if there are no other more urgent demands on my time.	4.32	0.19	1.72
I incorporate the new language in my daily work for the sake of my career development.	3.98	0.34	1.55
I put issues relating to the change off until I have more time to consider them.	3.66	0.32	1.65
I do not volunteer to do extra work in the area of change.	3.64	0.02	1.84
I do not try to defend the change or explain it to others.	3.62	0.03	1.54
I ignore the change initiatives and just keep doing my work.	3.50	0.12	1.56
I keep my opinions to myself so as not to affect the opinions of others.	3.33	0.17	1.13
I refuse to participate in any committees related to the change.	2.96	0.36	1.53

(Table continued on the next page)

Men	Mean	Differ.	SD
I delete change messages without reading them.	2.60	0.37	1.47
I do what is required just to get by.	2.57	0.03	1.50
I isolate myself from the group and do not communicate to my colleagues	2.32	0.25	1.28

Women N=40	Mean	Differ.	SD
I try to learn more about the change.	6.08		0.92
I encourage others to participate if the change is good for them.	5.74	0.34	1.13
I participate in the initiatives anyway to act as a role model for others.	4.93	0.81	1.65
I give a try if there are no other more urgent demands on my time.	4.85	0.08	1.58
I incorporate the new language in my daily work for the sake of my career development.	4.75	0.10	1.61
I go along with the change if everybody has started using the new ways.	4.45	0.30	2.00
I put issues relating to the change off until I have more time to consider them.	3.93	0.53	1.85
I do not try to defend the change or explain it to others.	3.38	0.55	1.75
I keep my opinions to myself so as not to affect the opinions of others.	3.31	0.07	1.66
I ignore the change initiatives and just keep doing my work.	3.23	0.08	1.79
I do not volunteer to do extra work in the area of change.	3.05	0.18	1.78
I refuse to participate in any committees related to the change.	2.38	0.68	1.43
I delete change messages without reading them.	2.05	0.33	1.48
I do what is required just to get by.	2.03	0.02	1.61
I isolate myself from the group and do not communicate to my colleagues.	1.83	0.20	1.38

Appendix L. Correlations among items of individual attitudes

	Comm1	Comm2	Comm3	Comm4	Comm5	Comm6	Comm7	Comm8	Comm9	Comm10	Res1	Res2	Res3	Res4	Res5
Comm1	1														
Comm2	0.429	1													
Comm3	0.249	0.232	1												
Comm4	0.382	0.401	0.170	1											
Comm5	0.349	0.365	0.146	0.562	1										
Comm6	0.386	0.333	0.206	0.368	0.481	1									
Comm7	0.367	0.306	0.139	0.484	0.375	0.290	1								
Comm8	0.259	0.265	0.192	0.440	0.445	0.349	0.384	1							
Comm9	0.253	0.215	0.183	0.370	0.286	0.121	0.364	0.440	1						
Comm10	0.374	0.349	0.258	0.388	0.356	0.388	0.326	0.402	0.381	1					
Res1	0.213	0.285	0.156	0.132	0.280	0.404	0.131	0.239	0.128	0.250	1				
Res2	0.294	0.288	0.129	0.276	0.341	0.568	0.246	0.244	0.123	0.360	0.368	1			
Res3	0.266	0.260	0.101	0.298	0.342	0.440	0.295	0.309	0.202	0.351	0.353	0.551	1		
Res4	0.230	0.281	0.128	0.201	0.304	0.418	0.164	0.252	0.112	0.285	0.353	0.415	0.449	1	
Res5	0.242	0.442	0.169	0.250	0.378	0.420	0.254	0.257	0.149	0.369	0.365	0.457	0.388	0.468	1
Res6	0.370	0.331	0.145	0.487	0.390	0.309	0.455	0.389	0.341	0.399	0.131	0.277	0.287	0.242	0.318

All correlations significant at $\alpha \leq .01$

Comm1 – commitment to change behaviours

Res1 – Resistance to change behaviours

Appendix M. AFA Stage I: Nomination of organizational actions

Theme	Organizational readiness for change	Organizational unreadiness for change
Senior leadership behaviours	<p>Leaders themselves have bought into the change and promote it by behaving in a manner consistent with the change.</p> <p>There is a champion of change at the most senior level of the organization.</p> <p>Change messages on where the organization is going and why come directly from the executive team.</p> <p>Senior change leaders work one-on-one with managers who have not bought in to change.</p> <p>Leaders create excitement and enthusiasm about change in the staff.</p> <p>Senior management is decisive with respect to organizational goals, priorities and strategies concerning the change.</p> <p>Leaders focus their attention on changes that are within their realm of control.</p> <p>Senior management defines the course of change and stays the course for several years.</p> <p>Senior management makes themselves available so that staff can ask them questions on the change in person.</p> <p>Requests from the senior management conform to the new paradigm of thinking.</p>	<p>Change is implemented in a top-down autocratic manner.</p> <p>There is no one at the top of the organization who is able to provide a strong leadership role with respect to the change.</p> <p>Senior management does not inspire enthusiasm about change.</p> <p>There is a disconnect between the senior management and working levels with respect to change priorities and interpretation of the change.</p> <p>The senior management is not decisive with respect to change goals and priorities.</p> <p>High turnover rates at the top results in a lack of consistent leadership of the change.</p> <p>Senior management does not provide front-line and middle managers with timely information to enable them to explain change initiatives to their staff.</p>

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Theme	Organizational readiness for change	Organizational unreadiness for change
	The senior management team acts as a cohesive unit with respect to the change.	
Change agent behaviours	<p>There is a change management team that has been designated to lead the change.</p> <p>Change leaders have gained credibility with their actions in the past (Change is communicated and led by a person people trust).</p> <p>People who lead change act professionally and ethically.</p> <p>Change leaders use somewhat dictatorial methods to implement change.</p> <p>Change agents have considered different options of change implementation.</p> <p>When unexpected emergencies arise, change agents scale back their ambitions with respect to change.</p> <p>Change agents invite external experts' advice with respect to managing change.</p> <p>Change agents have done research to select the right type of change that addresses the underlying causes of organizational problems rather than just symptoms.</p> <p>Change agents have realistic expectations in terms of the amount of time and energy the change is going to take.</p> <p>Change agents admit their mistakes and are willing to correct them (i.e. learn from failures).</p>	<p>Change initiators do not understand what the long-term impact of change on the organization will be.</p> <p>Change is motivated by the personal agenda of the change leaders – not what is good for the organization.</p> <p>Change leaders are not considered credible because of their actions in the past.</p> <p>Change agents react to external pressures rather than proactively seek change opportunities.</p> <p>Change leaders have misdiagnosed the type of change necessary to solve the existing organizational problems.</p> <p>The team of change agents is not a cohesive unit.</p>

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Theme	Organizational readiness for change	Organizational unreadiness for change
	<p>Change agents provide valid arguments to justify the change.</p> <p>Change agents are competent to answer employee questions about change.</p> <p>Change agents solicit face-to-face feedback on the change initiatives.</p> <p>Change communicators incorporate humour in their messages.</p> <p>Change agents try to get the buy-in of the key players before they formally announce the change.</p> <p>Change agents consult with all stakeholder groups inside and outside the organization.</p>	
Immediate manager behaviours	The immediate supervisors encourage their staff to participate in the change process.	The employee's immediate supervisor does not personally buy in to change (i.e. does not encourage their staff to participate in the change process).
Behaviours that all managers regardless of level engage in	<p>During the change initiative, each level of managers is empowered to manage their own reports and make decisions within their area of control.</p> <p>Management practices around change are transparent.</p> <p>Management provides clear directives with respect to change and reinforces them without exceptions.</p> <p>Managers at all levels lead by example (i.e., they walk the talk).</p> <p>Managers at all levels are the first to get on board with respect to the change.</p>	<p>Managers fail to translate the high level goals of change into detailed objectives and guidelines for the staff at the operational level.</p> <p>Management does not admit it has made any mistakes with respect to managing change and therefore does not learn from its mistakes.</p> <p>There is a disconnect between managers' words and deeds (i.e., they do not walk the talk).</p> <p>Managers do not follow through on the change policies adopted by the upper management.</p>

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Theme	Organizational readiness for change	Organizational unreadiness for change
	<p>Managers at all levels send consistent messages with respect to the change.</p> <p>Managers at all levels are given all the necessary information about the change to enable them to pass it down to their staff.</p> <p>Managers sincerely seek employee feedback with respect to the change on a regular basis and act upon it.</p> <p>Management sets clear expectations and accountabilities for the staff with respect to the change.</p> <p>Management sets clear roles and responsibilities for the staff with respect to the change.</p> <p>Managers are held accountable for passing information on the change on to their staff.</p> <p>Managers at all levels are involved in the change planning process.</p> <p>Managers acknowledge the impact change may have on their staff.</p> <p>Sufficient training is provided to managers at all levels of the organization to enable them to communicate and lead change.</p>	<p>Management's practices around change are not transparent.</p> <p>Managers have not set clear roles and responsibilities for the staff.</p> <p>Managers have not been given any training on how to lead change.</p> <p>Managers do not acknowledge the impact the change may have on their staff (i.e., their personal and family needs).</p>
Impact on employees	Employees feel that they will personally benefit from the change.	Employees do not see how they will personally benefit from change.
Communication	<p>Change is driven by a clear vision that everybody understands.</p> <p>The expected outcomes and benefits of change are well explained.</p> <p>Specific change decisions are well explained.</p>	<p>There is no vision for the change that everybody in the organization understands.</p> <p>The reasons for the change are not well explained.</p>

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Theme	Organizational readiness for change	Organizational unreadiness for change
	<p>Any new behaviours that will be expected of employees because of the change are well explained.</p> <p>What needs to be changed and what will stay the same is well explained.</p> <p>The large context for change is well explained.</p> <p>Operational details how the change will be implemented are provided to the staff.</p> <p>The expected impact of the change on work processes is well explained.</p> <p>Organizational, divisional, team, and individual priorities are well explained.</p> <p>Regular staff meetings are held to inform people about change plans and progress.</p> <p>Information on the change is communicated to the external stakeholders.</p> <p>Information on the change is communicated in plain language and actionable terms rather than general phrases.</p> <p>Decisions are communicated only when sufficient research and analysis have been done.</p> <p>Change messages communicate that everybody is welcome to participate in the change process.</p>	<p>The outcomes and benefits of change are not well explained.</p> <p>The ways in which the change will be implemented are not well explained.</p> <p>The expected impact of the change on daily work processes is not well explained.</p> <p>Organizational, divisional, team, and individual priorities are not well explained.</p> <p>Change has not been explained to the external stakeholders.</p> <p>Information on the change is communicated in too general terms to be meaningful.</p> <p>Information from the very top on upcoming change and change progress gets filtered on its way down and does not reach the lower levels of the organization.</p> <p>There is a disconnect between the senior executive messages and those coming from directors and managers.</p> <p>The change process does not involve the phasing out of old duties – instead new duties are added to an employees duties and the employee is expected to do both the old and the new.</p> <p>Change messages are announced in a condescending manner.</p>

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Theme	Organizational readiness for change	Organizational unreadiness for change
	<p>The major communication channel used to provide information on the change is face-to-face meetings.</p> <p>Change messages are communicated frequently through various communication channels.</p> <p>Important information is passed directly to the people who need it for doing their work.</p> <p>Information about change is disseminated in writing to ensure consistency.</p> <p>The communication process is centralized to avoid message overlap (i.e. there is a chief communications officer).</p> <p>People can exchange their experiences with respect to the change through informal lateral interaction.</p> <p>Meetings are called and/or messages sent only when there is meaningful and/or new information to communicate.</p> <p>Best practices in change management are disseminated throughout the organization.</p> <p>A formal staff feedback mechanism is implemented to ensure upward feedback on the change.</p> <p>Organization publicizes and celebrates successes associated with the implementation of the change.</p> <p>Everybody in the organization uses the same language and terms of reference when talking about the change.</p>	<p>Decisions with respect to change are announced prematurely (i.e., before the organization fully understands what they intend to do).</p> <p>Change messages are not documented in writing.</p> <p>People learn about change through informal channels rather than through formal channels.</p> <p>People are overloaded with change messages irrelevant to their job.</p> <p>Impersonal communication channels are overused (i.e., all staff e-mails, memos, newsletters, etc.).</p> <p>Information on certain change events is disseminated only among the "chosen few".</p> <p>People have no opportunity to exchange their experiences with respect to change through informal lateral communication.</p> <p>There is no formalized mechanism in place to ensure upward feedback on the change.</p>

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Theme	Organizational readiness for change	Organizational unreadiness for change
Planning and design of change	<p>Bottom-up initiatives are encouraged and acted upon.</p> <p>The situation with respect to change has been diagnosed before the change is implemented (i.e. capacity of people to handle the change, attitudes of the key players toward change, potential impact of change, SWOT analysis).</p> <p>The change plan includes several achievable short-term goals along with the long-term change goals.</p>	<p>Bottom-up initiatives are not encouraged and acted upon.</p> <p>Change is started without a proper investigation of the present situation (i.e., risk and impact analysis).</p>
Expectations, accountabilities, and responsibilities	<p>Employees at all levels are held accountable for the implementation of change in their functional area (i.e., successes are rewarded, failures to comply are dealt with).</p> <p>Performance agreements include information on expectations with respect to implementation of the change.</p> <p>Change initiatives are properly monitored (i.e. there are measurement tools in place to assess the progress of the change and its impact on employees) and adjusted if necessary.</p>	<p>Employees at all levels are not held accountable for the implementation of change in their functional area.</p> <p>Performance agreements do not include information on expectations with respect to the implementation of change.</p>
Resources and tools	<p>Staff are provided with the resources they need to do their work the new way (i.e. tools, training, time).</p> <p>Managers are given sufficient budgets to meet their change objectives.</p> <p>The organization gives employees time to actively participate in change initiatives.</p>	<p>Staff are not provided with the resources they need to do their work the new way (i.e., tools, training, time, human resources).</p> <p>The limited budgets are not allocated with the change priorities in mind.</p> <p>Workloads do not permit people to get involved in change initiatives.</p>
Process of implementation	<p>One change is implemented completely before the next is started.</p>	<p>Implemented change is not allowed to stabilize before the next change starts (i.e., too many changes are happening too frequently).</p>

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Theme	Organizational readiness for change	Organizational unreadiness for change
	<p>Change is implemented quickly in as few steps as possible rather than in a slow, step by step manner.</p> <p>Large-scale change is implemented step by step rather than all at once.</p> <p>Change initiatives are kept as the top priority in the organization.</p> <p>There are pauses between significant changes to avoid change fatigue.</p> <p>During change, a certain level of stability is preserved in the work routines.</p> <p>Change initiatives that do not work are terminated.</p> <p>The change process is seen as fair and ethical.</p>	<p>The progress of change is not monitored on a regular basis (i.e., there are no measurement tools in place to assess costs associated with the change and the impact of change on the organization and employees).</p> <p>The organization gives up on the change too soon – they do not follow through on the change initiatives.</p>
Involvement and participation	<p>People who are directly involved in the activities undergoing change are consulted before change is implemented.</p> <p>Employees have control over the change outcomes in their area.</p> <p>Employees at lower levels of the hierarchy are included on all change committees.</p> <p>External stakeholders have a say in the change process.</p> <p>Unions are involved in and have influence over the change process.</p>	<p>People who do the actual work are not involved in making decisions concerning changes in their work area.</p> <p>Consultation with the staff in regard to upcoming change is done after the fact.</p> <p>There are negative consequences for providing feedback and questioning the change implementation.</p> <p>Unions are not involved in and do not have influence over the change process.</p> <p>Employees do not have control over the change processes and outcomes in their area.</p>

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Theme	Organizational readiness for change	Organizational unreadiness for change
		External stakeholders do not have a say in the change process.
Treatment of people	<p>Jobs are restructured to make use of the new knowledge and skills employees have acquired.</p> <p>People are given a choice with respect to what change initiatives they wish to participate in.</p> <p>There are no negative consequences for making errors when doing work in new ways.</p> <p>Information on the change process is included in the orientation package for new employees.</p> <p>People are encouraged to set priorities and say “no” to things that are not priorities.</p> <p>There is a recourse mechanism in place to address people’s concerns about change.</p>	<p>There is no recourse mechanism in place to address people’s concerns about change.</p> <p>People are discouraged from saying “no” to work – even when the assigned task is not a priority.</p> <p>Change is implemented by means of intimidation: “Change or else...”.</p> <p>People are punished for taking risks and making mistakes when doing work the new way.</p>
Rewards and recognition	<p>Employees at all levels are provided with tangible rewards for engaging in behaviours that support change.</p> <p>Employees at all levels are provided with positive feedback and verbal reinforcement of the new behaviours.</p>	<p>Employees at all levels are not provided with tangible rewards for engaging in behaviours that support change.</p> <p>Employees at all levels are not provided with positive feedback and verbal reinforcement of the behaviours that support change.</p>
Alignment of organizational practices	<p>All change initiatives are aligned with respect to the mission, vision and values of the organization so that efforts can be applied consistently.</p> <p>Change in one unit is supported in other parts of the organization.</p>	<p>Change initiatives are not aligned with respect to the vision, values, the desired culture, and systems of the organization.</p> <p>The change efforts of the organization are not aligned with the major goals of the government.</p> <p>The organization is not aware of best practices in the area of change management.</p>

Appendix N. AFA Stage II: Reduction of actions associated with organizational readiness for change

Total sample N = 98	Mean	Differ.	SD
People who lead the change act professionally and ethically.	5.43		1.88
There is a champion of change at the most senior level of the organization.	5.36	0.07	1.84
Change messages on where the organization is going and why come directly from the executive team.	5.34	0.02	1.86
Leaders themselves have bought into the change and promote it by behaving in a manner consistent with the change.	5.22	0.11	2.06
The immediate supervisors encourage their staff to participate in the change process.	5.18	0.04	2.00
Change agents are competent to answer employee questions about the change.	5.18	0.00	2.01
Change agents have considered different options of change implementation.	5.16	0.02	1.60
There is a change management team that has been designated to lead the change.	5.15	0.01	1.77
Change agents invite external experts' advice with respect to managing the change.	5.14	0.01	1.32
Managers acknowledge the impact the change may have on their staff.	5.13	0.01	1.89
Senior management is decisive with respect to organizational goals, priorities and strategies concerning the change.	5.13	0.00	2.18
Requests from the senior management conform to the new paradigm of thinking.	5.13	0.00	1.89
The senior management team acts as a cohesive unit with respect to the change.	5.12	0.01	1.98
Leaders focus their attention on changes that are within their realm of control.	5.11	0.01	1.77
Change agents have done research to select the right type of change that addresses the underlying causes of organizational problems rather than just symptoms.	5.09	0.02	1.88
Change messages are communicated frequently through various communication channels.	5.09	0.00	1.89
Change agents provide valid arguments to justify the change.	5.07	0.02	2.01
The change process is seen as fair and ethical.	5.02	0.05	2.13
Senior management defines the course of change and stays the course for several years.	5.01	0.01	2.00
Change agents try to get the buy-in of the key players before they formally announce the change.	5.00	0.01	1.87
Managers are held accountable for passing information on the change on to their staff.	4.99	0.01	2.13
Information about the change is disseminated in writing to ensure consistency.	4.98	0.01	1.79
Change leaders have gained credibility with their actions in the past (Change is communicated and led by a person people trust).	4.95	0.03	2.06
Change agents consult with all stakeholder groups inside and outside the organization.	4.93	0.02	1.88
Managers at all levels are given all the necessary information about the change to enable them to pass it down to their staff.	4.93	0.00	2.16
Managers at all levels send consistent messages with respect to the change.	4.92	0.01	2.14

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Total sample	Mean	Differ.	SD
The change plan includes several achievable short-term goals along with the long-term change goals.	4.92	0.00	2.08
Management sets clear expectations and accountabilities for the staff with respect to the change.	4.90	0.02	2.20
Senior management makes themselves available so that staff can ask them questions on the change in person.	4.89	0.01	2.22
Change messages communicate that everybody is welcome to participate in the change process.	4.89	0.00	1.99
All change initiatives are aligned with respect to the mission, vision and values of the organization so that efforts can be applied consistently.	4.87	0.02	2.17
Organization publicizes and celebrates successes associated with the implementation of the change.	4.86	0.01	2.07
Important information is passed directly to the people who need it for doing their work.	4.86	0.00	1.96
Leaders create excitement and enthusiasm about the change with their staff.	4.86	0.00	2.12
Specific change decisions are well explained.	4.86	0.00	2.12
Management practices around the change are transparent.	4.86	0.00	2.11
Any new behaviours that will be expected of employees because of the change are well explained.	4.86	0.00	2.16
The change is driven by a clear vision that everybody understands.	4.86	0.00	2.17
Managers at all levels lead by example (i.e., they walk the talk).	4.85	0.01	2.29
Managers at all levels are the first to get on board with respect to the change.	4.84	0.01	1.98
The expected outcomes and benefits of the change are well explained.	4.82	0.02	2.24
Organizational, divisional, team, and individual priorities are well explained.	4.82	0.00	2.10
Change agents admit their mistakes and are willing to correct them (i.e. learn from failures).	4.81	0.01	2.24
Regular staff meetings are held to inform people about the change plans and progress.	4.81	0.00	2.11
Change agents solicit face-to-face feedback on the change initiatives.	4.80	0.01	1.96
The large context for change is well explained.	4.80	0.00	2.20
During the change, a certain level of stability is preserved in the work routines.	4.80	0.00	1.83
Information on the change is communicated in plain language and actionable terms rather than general phrases.	4.80	0.00	2.12
What needs to be changed and what will stay the same is well explained.	4.79	0.01	2.23
Management sets clear roles and responsibilities for the staff with respect to the change.	4.76	0.03	2.22
Operational details how the change will be implemented are provided to the staff.	4.73	0.02	2.08
During the change initiative, each level of managers is empowered to manage their own reports and make decisions within their area of control.	4.71	0.02	1.88
Change agents have realistic expectations in terms of the amount of time and energy the change is going to take.	4.71	0.00	2.16
Information on the change process is included in the orientation package for new employees.	4.70	0.01	2.09

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Total sample	Mean	Differ.	SD
Managers at all levels are involved in the change planning process.	4.69	0.01	1.94
Performance agreements include information on expectations with respect to the implementation of the change.	4.67	0.02	2.04
The organization gives employees time to actively participate in the change initiatives.	4.66	0.01	2.31
The communication process is centralized to avoid message overlap (i.e. there is a chief communications officer).	4.65	0.01	1.94
People can exchange their experiences with respect to the change through informal lateral interaction.	4.65	0.00	1.77
Everybody in the organization uses the same language and terms of reference when talking about the change.	4.64	0.01	2.12
Large-scale change is implemented step by step rather than all at once.	4.62	0.02	2.02
Employees feel that they will personally benefit from the change.	4.62	0.00	1.95
Best practices in change management are disseminated throughout the organization.	4.62	0.00	2.11
Management provides clear directives with respect to the change and reinforces them without exceptions.	4.61	0.01	2.13
Change in one unit is supported in other parts of the organization.	4.61	0.00	2.19
The situation with respect to the change has been diagnosed before the change is implemented.	4.60	0.01	2.16
Senior change leaders work one-on-one with managers who have not bought in to the change.	4.60	0.00	1.96
Bottom-up initiatives are encouraged and acted upon.	4.60	0.00	2.00
Staff are provided with the resources they need to do their work the new way.	4.59	0.01	2.47
Information on the change is communicated to the external stakeholders.	4.59	0.00	1.69
Managers are given sufficient budgets to meet their change objectives.	4.58	0.01	2.39
A formal staff feedback mechanism is implemented to ensure upward feedback on the change.	4.58	0.00	2.19
People who are directly involved in the activities undergoing change are consulted before any change is implemented.	4.58	0.00	2.22
Employees at all levels are provided with positive feedback and verbal reinforcement of the new behaviours.	4.55	0.03	2.32
There is a recourse mechanism in place to address people's concerns about the change.	4.55	0.00	2.15
Change initiatives are properly monitored and adjusted if necessary.	4.54	0.01	2.20
Managers sincerely seek employee feedback with respect to the change on a regular basis and act upon it.	4.54	0.00	2.35
Sufficient training is provided to managers at all levels of the organization to enable them to communicate and lead change.	4.52	0.02	2.23
Meetings are called and/or messages sent only when there is meaningful and/or new information to communicate.	4.52	0.00	1.97
The expected impact of the change on work processes is well explained.	4.47	0.05	2.19
Decisions are communicated only when sufficient research and analysis have been done.	4.38	0.09	1.88

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Total sample	Mean	Differ.	SD
People are encouraged to set priorities and say “no” to things that are not priorities.	4.37	0.01	2.24
Change communicators incorporate humour in their messages.	4.36	0.01	1.83
Employees at all levels are held accountable for the implementation of the change in their functional area.	4.36	0.00	2.13
Jobs are restructured to make use of the new knowledge and skills employees have acquired.	4.34	0.02	2.11
Employees at lower levels of the hierarchy are included on all change committees.	4.21	0.12	2.23
When unexpected emergencies arise, change agents scale back their ambitions with respect to the change.	4.16	0.05	1.71
Change initiatives that do not work are terminated.	4.15	0.01	2.08
There are no negative consequences for making errors when doing work in new ways.	4.14	0.01	1.82
Unions are involved in and have influence over the change process.	4.13	0.01	1.84
Change initiatives are kept as the top priority in the organization.	4.11	0.02	2.00
Employees have control over the change outcomes in their area.	4.07	0.04	2.02
Employees at all levels are provided with tangible rewards for engaging in behaviours that support the change.	4.02	0.05	2.25
The major communication channel used to provide information on the change is face-to-face meetings.	4.02	0.00	2.06
External stakeholders have a say in the change process.	3.98	0.04	1.74
There are pauses between significant changes to avoid change fatigue.	3.85	0.13	1.89
The change is implemented quickly in as few a steps as possible rather than in a slow, step by step manner.	3.83	0.02	1.97
Change leaders use somewhat dictatorial methods to implement the change.	3.72	0.10	1.99
People are given a choice with respect to what change initiatives they wish to participate in.	3.70	0.02	1.89
One change is implemented completely before the next is started.	3.53	0.17	1.93

Managers N = 60	Mean	Differ.	SD
People who lead the change act professionally and ethically.	5.68		1.70
There is a champion of change at the most senior level of the organization.	5.67	0.02	1.45
Change agents are competent to answer employee questions about the change.	5.53	0.13	1.74
The immediate supervisors encourage their staff to participate in the change process.	5.52	0.02	1.81
The change process is seen as fair and ethical.	5.47	0.05	1.79
Leaders themselves have bought into the change and promote it by behaving in a manner consistent with the change.	5.43	0.03	2.05
Change agents try to get the buy-in of the key players before they formally announce the change.	5.42	0.02	1.69
Change messages are communicated frequently through various communication channels.	5.38	0.03	1.76
Change messages on where the organization is going and why come directly from the executive team.	5.37	0.02	1.93

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Managers	Mean	Differ.	SD
Change agents have done research to select the right type of change that addresses the underlying causes of organizational problems rather than just symptoms.	5.37	0.00	1.59
Senior management is decisive with respect to organizational goals, priorities and strategies concerning the change.	5.33	0.03	2.17
Change agents provide valid arguments to justify the change.	5.32	0.02	1.83
Managers acknowledge the impact the change may have on their staff.	5.32	0.00	1.83
The senior management team acts as a cohesive unit with respect to the change.*	5.28	0.03	2.03

* The table is truncated at this point

Non-managers N=33	Means	Differ	SD
Change messages on where the organization is going and why come directly from the executive team.	5.21		1.71
Leaders focus their attention on changes that are within their realm of control.	5.21	0.00	1.69
There is a change management team that has been designated to lead the change.	5.12	0.09	1.88
Change agents have considered different options of change implementation.	5.03	0.09	1.65
Change agents invite external experts' advice with respect to managing the change.	4.97	0.06	1.59
Senior management defines the course of change and stays the course for several years.	4.94	0.03	1.95
People who lead the change act professionally and ethically.	4.91	0.03	2.17
Managers acknowledge the impact the change may have on their staff.	4.85	0.06	2.02
Requests from the senior management conform to the new paradigm of thinking. *	4.85	0.00	1.99

* The table is truncated at this point

Men N=50	Mean	Differ	SD
People who lead the change act professionally and ethically.	5.28		1.83
Change agents invite external experts' advice with respect to managing the change.	5.26	0.02	1.17
There is a champion of change at the most senior level of the organization.	5.22	0.04	1.69
There is a change management team that has been designated to lead the change.	5.04	0.18	1.74
Change agents have considered different options of change implementation.	4.98	0.06	1.58
Change agents are competent to answer employee questions about the change.	4.98	0.00	1.97
Change messages on where the organization is going and why come directly from the executive team.	4.94	0.04	1.89
Change messages are communicated frequently through various communication channels.	4.94	0.00	1.95
The senior management team acts as a cohesive unit with respect to the change.*	4.86	0.08	2.04

* The table is truncated at this point

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Women N=44	Mean	Differ.	SD
Change messages on where the organization is going and why come directly from the executive team.	5.77		1.71
Managers are held accountable for passing information on the change on to their staff.	5.68	0.09	1.96
Leaders themselves have bought into the change and promote it by behaving in a manner consistent with the change.	5.64	0.05	2.06
The immediate supervisors encourage their staff to participate in the change process.	5.61	0.02	1.93
People who lead the change act professionally and ethically.	5.59	0.02	1.99
There is a champion of change at the most senior level of the organization.	5.52	0.07	1.93
Managers acknowledge the impact the change may have on their staff.	5.52	0.00	1.86
Requests from the senior management conform to the new paradigm of thinking.	5.52	0.00	1.75
Senior management defines the course of change and stays the course for several years. *	5.48	0.05	1.91

* The table is truncated at this point

Appendix O. AFA Stage II: Reduction of actions associated with organizational unreadiness for change

Total sample N=78	Mean	Differ.	SD
There is a disconnect between the senior management and working levels with respect to the change priorities and interpretation of the change.	5.99		1.45
People who do the actual work are not involved in making decisions concerning changes in their work area.	5.90	0.09	1.46
The implemented change is not allowed to stabilize before the next change starts (i.e., too many changes are happening too frequently).	5.89	0.01	1.28
The expected impact of the change on daily work processes is not well explained.	5.82	0.07	1.17
The change is implemented in a top-down autocratic manner.	5.76	0.06	1.61
Information on the change is communicated in too general terms to be meaningful.	5.75	0.01	1.33
The change process does not involve the phasing out of old duties, and the employee is expected to do both the old and the new duties.	5.73	0.02	1.54
The progress of the change is not monitored on a regular basis (i.e., there are no measurement tools in place to assess costs associated with the change and the impact of the change on the organization and employees).	5.73	0.00	1.27
The outcomes and benefits of the change are not well explained.	5.69	0.05	1.41
Management does not admit it has made any mistakes with respect to managing the change and therefore does not learn from its mistakes.	5.68	0.01	1.37
There is no vision for the change that everybody in the organization understands.	5.63	0.04	1.50
Employees do not see how they will personally benefit from the change.	5.59	0.04	1.45
The ways in which the change will be implemented are not well explained.	5.56	0.04	1.48
Workloads do not permit people to get involved in the change initiatives.	5.55	0.01	1.58
Consultation with the staff in regard to the upcoming change is done after the fact.	5.54	0.01	1.49
Employees do not have control over the change processes and outcomes in their area.	5.49	0.06	1.37
The reasons for the change are not well explained.	5.49	0.00	1.58
Change initiators do not understand what the long-term impact of the change on the organization will be.	5.46	0.02	1.68
The limited budgets are not allocated with the change priorities in mind.	5.44	0.02	1.56
People are discouraged from saying "no" to work – even when the assigned task is not a priority.	5.44	0.01	1.46
The change is started without a proper investigation of the present situation (i.e., risk and impact analysis).	5.40	0.03	1.52
There is no recourse mechanism in place to address people's concerns about the change.	5.38	0.03	1.43

(Table continued on the next page)

Total sample	Mean	Differ.	SD
Organizational, divisional, team, and individual priorities are not well explained.	5.37	0.00	1.48
Senior management does not provide front-line and middle managers with timely information to enable them to explain the change initiatives to their staff.	5.35	0.02	1.58
Staff are not provided with the resources they need to do their work the new way (i.e., tools, training, time, human resources).	5.33	0.02	1.84
Change leaders have misdiagnosed the type of change necessary to solve the existing organizational problems.	5.33	0.01	1.42
High turnover rates at the top results in a lack of consistent leadership of the change.	5.32	0.01	1.61
Management's practices around the change are not transparent.	5.31	0.00	1.60
The change has not been explained to the external stakeholders.	5.29	0.02	1.42
Senior management does not inspire enthusiasm about the change.	5.28	0.01	1.84
Information from the very top on the upcoming change and the change progress gets filtered on its way down and does not reach the lower levels of the organization.	5.23	0.05	1.63
Bottom-up initiatives are not encouraged and acted upon.	5.23	0.00	1.76
There is a disconnect between managers' words and deeds (i.e., they do not walk the talk).	5.23	0.00	1.85
Change agents react to external pressures rather than proactively seek change opportunities.	5.23	0.00	1.55
Employees at all levels are not provided with positive feedback and verbal reinforcement of the behaviours that support the change.	5.18	0.05	1.53
Information on certain change events is disseminated only among the "chosen few".	5.16	0.01	1.55
Decisions with respect to the change are announced prematurely (i.e., before the organization fully understands what they intend to do).	5.16	0.00	1.59
The organization gives up on the change too soon – they do not follow through on the change initiatives.	5.12	0.05	1.61
Managers do not acknowledge the impact the change may have on their staff (i.e., their personal and family needs).	5.12	0.00	1.60
There is no formalized mechanism in place to ensure upward feedback on the change.	5.11	0.00	1.71
Employees at all levels are not provided with tangible rewards for engaging in behaviours that support the change.	5.11	0.01	1.43
The organization is not aware of the best practices in the area of change management.	5.06	0.04	1.56
The change is motivated by the personal agenda of the change leaders – not what is good for the organization.	5.06	0.00	1.90
Managers fail to translate the high level goals of the change into detailed objectives and guidelines for the staff at the operational level.	5.06	0.00	1.74
Employees at all levels are not held accountable for the implementation of the change in their functional area.	5.05	0.01	1.57

(Table continued on the next page)

Total sample	Mean	Differ.	SD
People are overloaded with change messages irrelevant to their job.	5.00	0.05	1.45
Managers have not set clear roles and responsibilities for the staff.	4.96	0.04	1.76
There are negative consequences for providing feedback and questioning the change implementation.	4.94	0.03	1.90
External stakeholders do not have a say in the change process.	4.92	0.01	1.46
The senior management is not decisive with respect to the change goals and priorities.	4.91	0.01	1.88
Impersonal communication channels are overused (i.e., all staff e-mails, memos, newsletters, etc.).	4.88	0.03	1.61
There is no one at the top of the organization who is able to provide a strong leadership role with respect to the change.	4.88	0.01	2.14
Change leaders are not considered credible because of their actions in the past.	4.88	0.00	1.77
People learn about the change through informal channels rather than through formal channels.	4.87	0.00	1.85
Managers have not been given any training on how to lead change.	4.84	0.03	1.86
Managers do not follow through on the change policies adopted by the upper management.	4.80	0.04	1.80
There is a disconnect between the senior executive messages and those coming from directors and managers.	4.80	0.00	1.81
People have no opportunity to exchange their experiences with respect to the change through informal lateral communication.	4.76	0.04	1.71
The change initiatives are not aligned with respect to the vision, values, the desired culture, and systems of the organization.	4.72	0.04	1.70
Performance agreements do not include information on expectations with respect to the implementation of change.	4.68	0.04	1.70
The team of change agents is not a cohesive unit.	4.67	0.01	1.47
Unions are not involved in and do not have influence over the change process.	4.66	0.01	1.45
The change is implemented by means of intimidation: "Change or else..."	4.57	0.09	2.00
Change messages are announced in a condescending manner.	4.38	0.19	1.98
People are punished for taking risks and making mistakes when doing work the new way.	4.35	0.03	1.89
The change efforts of the organization are not aligned with the major goals of the government.	4.34	0.01	1.83
Change messages are not documented in writing.	4.29	0.05	1.83
The employee's immediate supervisor does not personally buy in to the change (i.e. does not encourage their staff to participate in the change process).	4.26	0.03	2.03

(Table continued on the next page)

Managers N=33	Mean	Differ	SD
The implemented change is not allowed to stabilize before the next change starts (i.e., too many changes are happening too frequently).	6.00		1.22
The expected impact of the change on daily work processes is not well explained.	5.87	0.13	1.39
Information on the change is communicated in too general terms to be meaningful.	5.86	0.01	1.36
There is a disconnect between the senior management and working levels with respect to the change priorities and interpretation of the change.	5.83	0.04	1.83
The outcomes and benefits of the change are not well explained.	5.78	0.04	1.57
Change initiators do not understand what the long-term impact of the change on the organization will be.	5.75	0.03	1.82
The progress of the change is not monitored on a regular basis (i.e., there are no measurement tools in place to assess costs associated with the change and the impact of the change on the organization and employees).	5.71	0.04	1.37
People are discouraged from saying "no" to work – even when the assigned task is not a priority.	5.70	0.01	1.29
People who do the actual work are not involved in making decisions concerning changes in their work area.	5.67	0.03	1.74
The change process does not involve the phasing out of old duties, and the employee is expected to do both the old and the new duties.	5.67	0.00	1.79
Senior management does not provide front-line and middle managers with timely information to enable them to explain the change initiatives to their staff.	5.63	0.04	1.66
The ways in which the change will be implemented are not well explained.	5.61	0.02	1.59
Organizational, divisional, team, and individual priorities are not well explained.	5.58	0.03	1.53
The reasons for the change are not well explained.	5.58	0.00	1.69
Information from the very top on the upcoming change and the change progress gets filtered on its way down and does not reach the lower levels of the organization.	5.57	0.02	1.62
Management does not admit it has made any mistakes with respect to managing the change and therefore does not learn from its mistakes.	5.54	0.02	1.67
There is no vision for the change that everybody in the organization understands.	5.54	0.00	2.08
Employees at all levels are not held accountable for the implementation of the change in their functional area.	5.54	0.00	1.82
Workloads do not permit people to get involved in the change initiatives.	5.50	0.04	1.79
There is a disconnect between managers' words and deeds (i.e., they do not walk the talk).	5.48	0.02	1.95
Consultation with the staff in regard to the upcoming change is done after the fact.	5.46	0.02	1.67
Employees do not have control over the change processes and outcomes in their area.*	5.43	0.02	1.44

* The table is truncated at this point

(Table continued on the next page)

Non-managers N=54	Mean	Differ.	SD
People who do the actual work are not involved in making decisions concerning changes in their work area.	6.09		1.26
The change is implemented in a top-down autocratic manner.	6.09	0.00	1.17
There is a disconnect between the senior management and working levels with respect to the change priorities and interpretation of the change.	6.06	0.04	1.31
The implemented change is not allowed to stabilize before the next change starts (i.e., too many changes are happening too frequently).	5.89	0.17	1.31
Management does not admit it has made any mistakes with respect to managing the change and therefore does not learn from its mistakes.	5.78	0.11	1.22
The expected impact of the change on daily work processes is not well explained.	5.77	0.00	1.09
The change process does not involve the phasing out of old duties, and the employee is expected to do both the old and the new duties.	5.77	0.00	1.46
The progress of the change is not monitored on a regular basis (i.e., there are no measurement tools in place to assess costs associated with the change and the impact of the change on the organization and employees).	5.75	0.02	1.25
Employees do not see how they will personally benefit from the change.	5.72	0.04	1.29
Information on the change is communicated in too general terms to be meaningful.	5.71	0.01	1.35
There is no vision for the change that everybody in the organization understands.	5.70	0.01	1.20
The outcomes and benefits of the change are not well explained.	5.63	0.06	1.37
Workloads do not permit people to get involved in the change initiatives.	5.60	0.04	1.51
Employees do not have control over the change processes and outcomes in their area.	5.58	0.01	1.28
The change is started without a proper investigation of the present situation (i.e., risk and impact analysis).	5.58	0.00	1.29
Consultation with the staff in regard to the upcoming change is done after the fact.	5.58	0.00	1.45
Decisions with respect to the change are announced prematurely (i.e., before the organization fully understands what they intend to do).	5.55	0.04	1.32
The ways in which the change will be implemented are not well explained.	5.54	0.01	1.47
There is no recourse mechanism in place to address people's concerns about the change.	5.53	0.01	1.22
High turnover rates at the top results in a lack of consistent leadership of the change.	5.46	0.07	1.49
The reasons for the change are not well explained.	5.46	0.00	1.55
The limited budgets are not allocated with the change priorities in mind.	5.45	0.01	1.46
Change initiators do not understand what the long-term impact of the change on the organization will be.*	5.37	0.08	1.61

* The table is truncated at this point

(Table continued on the next page)

Men N=41	Mean	Differ.	SD
People who do the actual work are not involved in making decisions concerning changes in their work area.	6.15		1.17
There is a disconnect between the senior management and working levels with respect to the change priorities and interpretation of the change.	6.05	0.10	1.40
Management does not admit it has made any mistakes with respect to managing the change and therefore does not learn from its mistakes.	6.00	0.05	1.28
The outcomes and benefits of the change are not well explained.	5.90	0.10	1.03
Information on the change is communicated in too general terms to be meaningful.	5.87	0.03	1.30
The implemented change is not allowed to stabilize before the next change starts (i.e., too many changes are happening too frequently).	5.85	0.02	1.39
The change is implemented in a top-down autocratic manner.	5.85	0.00	1.49
The expected impact of the change on daily work processes is not well explained.	5.83	0.02	1.12
The progress of the change is not monitored on a regular basis (i.e., there are no measurement tools in place to assess costs associated with the change and the impact of the change on the organization and employees).	5.71	0.12	1.38
The reasons for the change are not well explained.	5.68	0.02	1.35
Change leaders have misdiagnosed the type of change necessary to solve the existing organizational problems.	5.66	0.02	1.44
The ways in which the change will be implemented are not well explained.	5.66	0.00	1.39
There is no vision for the change that everybody in the organization understands.	5.63	0.02	1.43
Employees do not see how they will personally benefit from the change.	5.63	0.00	1.28
Bottom-up initiatives are not encouraged and acted upon.	5.61	0.02	1.50
Consultation with the staff in regard to the upcoming change is done after the fact.	5.61	0.00	1.41
Decisions with respect to the change are announced prematurely (i.e., before the organization fully understands what they intend to do).	5.59	0.02	1.38
There is no recourse mechanism in place to address people's concerns about the change.	5.58	0.01	1.26
Employees do not have control over the change processes and outcomes in their area.	5.56	0.01	1.27
The change process does not involve the phasing out of old duties, and the employee is expected to do both the old and the new duties.	5.54	0.02	1.66
Managers do not acknowledge the impact the change may have on their staff (i.e., their personal and family needs). *	5.51	0.02	1.33

* The table is truncated at this point

(Table continued on the next page)

Women N=37	Mean	Differ.	SD
The implemented change is not allowed to stabilize before the next change starts (i.e., too many changes are happening too frequently).	6.00		1.15
The change process does not involve the phasing out of old duties, and the employee is expected to do both the old and the new duties.	5.97	0.03	1.42
There is a disconnect between the senior management and working levels with respect to the change priorities and interpretation of the change.	5.92	0.06	1.57
The progress of the change is not monitored on a regular basis (i.e., there are no measurement tools in place to assess costs associated with the change and the impact of the change on the organization and employees)	5.78	0.14	1.17
The expected impact of the change on daily work processes is not well explained.	5.77	0.01	1.26
Change initiators do not understand what the long-term impact of the change on the organization will be.	5.75	0.02	1.40
People who do the actual work are not involved in making decisions concerning changes in their work area.	5.75	0.00	1.66
The change is implemented in a top-down autocratic manner.	5.70	0.05	1.71
There is no vision for the change that everybody in the organization understands.	5.67	0.04	1.64
Workloads do not permit people to get involved in the change initiatives.	5.64	0.03	1.73
Information on the change is communicated in too general terms to be meaningful.	5.63	0.01	1.40
Employees do not see how they will personally benefit from the change.	5.53	0.10	1.66
Employees do not have control over the change processes and outcomes in their area.	5.51	0.01	1.40
High turnover rates at the top results in a lack of consistent leadership of the change	5.51	0.00	1.68
Consultation with the staff in regard to the upcoming change is done after the fact.	5.47	0.04	1.63
The ways in which the change will be implemented are not well explained.	5.44	0.03	1.64
The outcomes and benefits of the change are not well explained.	5.43	0.01	1.75
Organizational, divisional, team, and individual priorities are not well explained.	5.43	0.00	1.48
People are discouraged from saying "no" to work – even when the assigned task is not a priority.	5.40	0.03	1.68
The limited budgets are not allocated with the change priorities in mind.	5.39	0.01	1.69
Management does not admit it has made any mistakes with respect to managing the change and therefore does not learn from its mistakes.*	5.38	0.01	1.40

* The table is truncated at this point

Appendix P. Intercorrelations among items of organizational readiness for change

	(+)1	(+)2	(+)3	(+)4	(+)5	(+)6	(+)7	(+)8	(+)9	(+)10	(+)11	(+)12	(+)13	(+)14	(+)15	(+)16	(+)17	(+)18	(+)19	(+)20	(+)21
(+)1	1																				
(+)2	0.574	1																			
(+)3	0.530	0.585	1																		
(+)4	0.618	0.540	0.566	1																	
(+)5	0.540	0.470	0.399	0.538	1																
(+)6	0.503	0.454	0.409	0.607	0.481	1															
(+)7	0.590	0.471	0.454	0.595	0.540	0.608	1														
(+)8	0.583	0.449	0.503	0.630	0.537	0.582	0.634	1													
(+)9	0.333	0.422	0.389	0.356	0.278	0.379	0.319	0.389	1												
(+)10	0.574	0.498	0.463	0.516	0.536	0.493	0.530	0.560	0.443	1											
(+)11	0.414	0.421	0.380	0.425	0.416	0.446	0.437	0.463	0.439	0.515	1										
(+)12	0.304	0.391	0.397	0.356	0.295	0.360	0.368	0.399	0.453	0.412	0.543	1									
(+)13	0.461	0.431	0.412	0.456	0.462	0.496	0.517	0.534	0.402	0.543	0.578	0.554	1								
(+)14	0.501	0.462	0.438	0.472	0.466	0.482	0.501	0.496	0.331	0.586	0.577	0.511	0.711	1							
(+)15	0.515	0.455	0.490	0.515	0.479	0.496	0.504	0.535	0.413	0.637	0.510	0.455	0.644	0.695	1						
(+)16	0.373	0.342	0.377	0.396	0.456	0.412	0.422	0.440	0.380	0.519	0.508	0.406	0.492	0.555	0.485	1					
(+)17	0.418	0.344	0.304	0.342	0.377	0.268	0.377	0.395	0.211	0.361	0.310	0.250	0.302	0.318	0.329	0.331	1				
(+)18	0.357	0.310	0.374	0.413	0.401	0.305	0.396	0.428	0.235	0.364	0.304	0.278	0.346	0.351	0.382	0.281	0.482	1			
(+)19	0.425	0.330	0.358	0.390	0.434	0.322	0.354	0.456	0.287	0.434	0.425	0.262	0.423	0.416	0.447	0.384	0.470	0.554	1		
(+)20	0.350	0.321	0.473	0.409	0.359	0.371	0.415	0.440	0.316	0.458	0.352	0.301	0.430	0.405	0.458	0.380	0.370	0.430	0.484	1	
(+)21	0.497	0.434	0.443	0.470	0.460	0.460	0.486	0.529	0.368	0.589	0.499	0.405	0.577	0.615	0.598	0.454	0.372	0.417	0.476	0.493	1
(+)22	0.512	0.435	0.456	0.515	0.497	0.523	0.526	0.566	0.384	0.594	0.512	0.390	0.607	0.599	0.595	0.480	0.325	0.401	0.460	0.468	0.689

(+)1 - behaviours typifying organizational readiness for change

All coefficients are significant at $\alpha \leq .01$

(Table continued on the next page)

Appendix P (cont'd). Intercorrelations among items of organizational unreadiness for change

	(-)1	(-)2	(-)3	(-)4	(-)5	(-)6	(-)7	(-)8	(-)9	(-)10	(-)11	(-)12	(-)13	(-)14	(-)15	(-)16	(-)17	(-)18
(-)1	1																	
(-)2	0.244	1																
(-)3	0.151	0.579	1															
(-)4	0.251	0.543	0.644	1														
(-)5	0.180	0.426	0.492	0.543	1													
(-)6	0.194	0.456	0.543	0.552	0.611	1												
(-)7	0.130	0.464	0.536	0.591	0.506	0.650	1											
(-)8	0.168	0.515	0.560	0.593	0.560	0.666	0.794	1										
(-)9	0.163	0.576	0.537	0.574	0.525	0.583	0.677	0.739	1									
(-)10	0.201	0.561	0.544	0.559	0.548	0.591	0.649	0.680	0.814	1								
(-)11	0.178	0.543	0.508	0.558	0.488	0.553	0.551	0.614	0.662	0.664	1							
(-)12	0.149	0.401	0.411	0.451	0.405	0.379	0.403	0.435	0.441	0.499	0.507	1						
(-)13	0.156	0.366	0.409	0.469	0.408	0.343	0.378	0.391	0.430	0.479	0.422	0.568	1					
(-)14	0.194	0.494	0.505	0.547	0.497	0.524	0.545	0.532	0.528	0.577	0.492	0.438	0.468	1				
(-)15	0.238	0.459	0.466	0.566	0.470	0.526	0.581	0.545	0.552	0.583	0.549	0.459	0.430	0.665	1			
(-)16	0.207	0.487	0.544	0.568	0.533	0.509	0.553	0.571	0.557	0.587	0.514	0.459	0.455	0.687	0.667	1		
(-)17	0.133	0.401	0.492	0.466	0.414	0.415	0.436	0.454	0.425	0.429	0.356	0.405	0.404	0.419	0.407	0.433	1	
(-)18	0.134	0.401	0.446	0.480	0.399	0.463	0.499	0.547	0.478	0.517	0.501	0.503	0.411	0.459	0.471	0.490	0.541	1
(-)19	0.160	0.448	0.372	0.434	0.449	0.381	0.384	0.407	0.441	0.508	0.416	0.491	0.458	0.395	0.399	0.433	0.382	0.447

(-)1 - behaviours typifying organizational unreadiness for change

All coefficients are significant at $\alpha \leq .01$

Appendix R. Individual dispositions as moderators of the relationship between PORC and attitudes toward change

Dependent variable	Independent variables: interaction terms	R ²	df	F (p)	Unstandard. regr. coeff.	t	p
Spreading the change	Commitment of sr. mgmt x PA	.272 ($\Delta R^2 = .013$ $p = > .10$)	35	5.820 (.000)	-.001	-.031	>.50
	Competence of change agents x PA				-.006	-.221	>.50
	Support of immed. mgr. x PA				-.005	-.232	>.50
	Poor communication x PA				.004	.175	>.50
	Adverse impact on work x PA				-.043	-1.593	>.10
	Lack of employee involvement x PA				-.015	-.685	.50
	Commitment of sr. mgmt x NA				-.006	-.261	>.50
	Competence of change agents x NA				-.006	-.271	>.50
	Support of immed. mgr. x NA				-.024	-1.023	>.20
	Poor communication x NA				-.024	-.982	>.20
	Adverse impact on work x NA				-.026	-.889	>.20
	Lack of employee involvement x NA				.037	1.513	.20
	Commitment of sr. mgmt x Tolerance				-.022	-.658	>.50
	Competence of change agents x Tolerance				-.012	-.343	>.50
	Support of immed. mgr. x Tolerance				-.022	-.713	.50
	Poor communication x Tolerance				.004	.114	>.50
	Adverse impact on work x Tolerance				-.009	-.231	>.50
	Lack of employee involvement x Tolerance				0.013	-.452	>.50
	Commitment of sr. mgmt x LOC				-.009	-.230	>.50
	Competence of change agents x LOC				-.037	-.882	>.20
	Support of immed. mgr. x LOC				.038	.947	>.20
	Poor communication x LOC				-.025	-.593	>.50
	Adverse impact on work x LOC				-.049	-1.058	>.20
	Lack of employee involvement x LOC				.022	.583	>.50

(Table continued on the next page)

Dependent variable	Independent variables: interaction terms	R ²	df	F (p)	Unstandard. regr. coeff.	t	p
Implementing the change	Commitment of sr. mgmt x PA	.167 ($\Delta R^2 = .038$ $p = > .10$)	35	3.136 (.000)	.015	.739	.50
	Competence of change agents x PA				.021	.880	.50
	Support of immed. mgr. x PA				-.003	-.113	>.50
	Poor communication x PA				.021	1.010	>.20
	Adverse impact on work x PA				-.037	-1.466	.20
	Lack of employee involvement x PA				-.019	-.918	>.20
	Commitment of sr. mgmt x NA				-.017	-.870	.50
	Competence of change agents x NA				-.018	-.848	.50
	Support of immed. mgr. x NA				.006	.273	>.50
	Poor communication x NA				.003	.142	>.50
	Adverse impact on work x NA				.017	.606	>.50
	Lack of employee involvement x NA				.045	2.02	.05
	Commitment of sr. mgmt x Tolerance				-.011	-.345	>.50
	Competence of change agents x Tolerance				.061	1.838	.10
	Support of immed. mgr. x Tolerance				.010	.344	>.50
	Poor communication x Tolerance				.006	.225	>.50
	Adverse impact on work x Tolerance				.010	.266	>.50
	Lack of employee involvement x Tolerance				-.034	-1.240	>.20
	Commitment of sr. mgmt x LOC				-.059	-1.518	>.10
	Competence of change agents x LOC				.012	.321	>.50
	Support of immed. mgr. x LOC				.098	2.549	.02
	Poor communication x LOC				-.068	-1.763	.10
	Adverse impact on work x LOC				-.038	-.886	.50
	Lack of employee involvement x LOC				.026	.742	.50

(Table continued on the next page)

Dependent variable	Independent variables: interaction terms	R ²	df	F (p)	Unstandard. regr. coeff.	t	p
Voicing concerns about the change	Commitment of sr. mgmt x PA	.105 ($\Delta R^2 = .024$ $p = > .10$)	35	1.834 (.003)	.016	.799	.50
	Competence of change agents x PA				-.002	-.104	>.50
	Support of immed. mgr. x PA				.024	1.094	>.20
	Poor communication x PA				.020	.957	.50
	Adverse impact on work x PA				-.047	-1.857	.10
	Lack of employee involvement x PA				-.002	-.093	>.50
	Commitment of sr. mgmt x NA				-.022	-1.135	>.20
	Competence of change agents x NA				-.016	-.737	.50
	Support of immed. mgr. x NA				.019	.853	.50
	Poor communication x NA				.015	.692	.50
	Adverse impact on work x NA				-.016	-.574	>.50
	Lack of employee involvement x NA				-.006	-.255	>.50
	Commitment of sr. mgmt x Tolerance				.011	.351	>.50
	Competence of change agents x Tolerance				.022	.666	.50
	Support of immed. mgr. x Tolerance				-.011	-.369	>.50
	Poor communication x Tolerance				-.020	-.684	.50
	Adverse impact on work x Tolerance				.006	.175	>.50
	Lack of employee involvement x Tolerance				-.015	-.540	>.50
	Commitment of sr. mgmt x LOC				-.032	-.840	.50
	Competence of change agents x LOC				-.020	-.518	>.50
	Support of immed. mgr. x LOC				.007	.190	>.50
	Poor communication x LOC				.051	1.331	.20
	Adverse impact on work x LOC				-.008	-.179	>.50
	Lack of employee involvement x LOC				.009	.241	>.50

ΔR^2 – difference in R^2 between models without interaction terms and with interaction terms

PA – positive affectivity

NA – negative affectivity

LOC – locus of control

Appendix S. Testing for PORC as a partial mediator of the relationship between individual dispositions and attitudes toward change

Model	IV → DV	IV → MV	MV/IV → DV	IV/MV → DV	Full med.	Sobel test	Partial med.
IV: Toler MV: Ready DV: Spread	B = .196 t = 4.640 p = .000	B = .009 SE = .053 t = .174 p = .862	B = .290 SE = .031 t = 9.513 p = .000	B = .193 t = 4.916 p = .000	no		no
IV: Toler MV: Unready DV: Spread	B = .196 t = 4.640 p = .000	B = -.03 SE = .055 t = -.603 p = .547	B = -.222 SE = .030 t = -7.278 p = .000	B = .188 t = 4.660 p = .000	no		no
IV: Toler MV: Ready DV: Implem	B = .131 t = 2.907 p = .004	B = .009 SE = .053 t = .174 p = .862	B = .174 SE = .034 t = 5.060 p = .000	B = .129 t = 2.932 p = .004	no		no
IV: Toler MV: Unready DV: Implem	B = .131 t = 2.907 p = .004	B = -.03 SE = .055 t = -.603 p = .547	B = -.094 SE = .034 t = -2.778 p = .006	B = .128 t = 2.854 p = .004	no		no
IV: PA MV: Ready DV: Spread	B = .274 t = 9.571 p = .000	B = .314 SE = .036 t = 8.728 p = .000	B = .215 SE = .032 t = 6.769 p = .000	B = .206 t = -7.036 p = .000	no	z = 5.323 p = .000	yes
IV: PA MV: Unready DV: Spread	B = .274 t = 9.571 p = .000	B = -.281 SE = .038 t = -7.447 p = .000	B = -.154 SE = .031 t = -4.978 p = .000	B = .231 t = 7.861 p = .000	no	z = 4.124 p = .000	yes
IV: PA MV: Ready DV: Implem	B = .227 t = 7.306 p = .000	B = .314 SE = .036 t = 8.728 p = .000	B = .102 SE = .036 t = 2.864 p = .004	B = .195 t = 5.937 p = .000	no	z = 2.695 p = .007	yes
IV: PA MV: Unready DV: Implem	B = .227 t = 7.306 p = .000	B = -.281 SE = .038 t = -7.447 p = .000	B = -.028 SE = .034 t = -.819 p = .413	B = .220 t = 6.737 p = .000	no		no
IV: NA MV: Ready DV: Spread	B = -.147 t = -4.707 p = .000	B = -.335 SE = .037 t = -9.057 p = .000	B = .271 SE = .033 t = 8.156 p = .000	B = -.056 t = -1.779 p = .076	no	z = -6.023 p = .000	yes
IV: NA MV: Unready DV: Spread	B = -.147 t = -4.707 p = .000	B = .329 SE = .038 t = 8.549 p = .000	B = -.197 SE = .033 t = -6.029 p = .000	B = -.082 t = -2.554 p = .011	no	z = -4.915 p = .000	yes

(Table to be continued on the next page)

Model	IV → DV	IV → Med	MV/IV → DV	IVMV → DV	Full med.	Sobel test	Partial med.
IV: NA MV: Ready DV: Implem	B = .051 t = -1.514 p = .130	B = -.335 SE = .037 t = -9.057 p = .000	B = .178 SE = .037 t = 4.809 p = .000	B = .009 t = .247 p = .805	no		no
IV: NA MV: Unready DV: Implem	B = .051 t = -1.514 p = .130	B = .329 SE = .038 t = 8.549 p = .000	B = -.089 SE = .036 t = -2.464 p = .014	B = -.022 t = -.610 p = .542	no		no
IV: LOC MV: Ready DV: Spread	B = -.512 t = -9.733 p = .000	B = -.663 SE = .065 t = -10.227 p = .000	B = .205 SE = .033 t = 6.295 p = .000	B = -.376 t = -6.794 p = .000	no	z = -5.306 p = .000	yes
IV: LOC MV: Unready DV: Spread	B = -.512 t = -9.733 p = .000	B = .625 SE = .068 t = 9.208 p = .000	B = -.139 SE = .032 t = -4.383 p = .000	B = -.425 t = -7.669 p = .000	no	z = -3.927 p = .000	yes
IV: LOC MV: Ready DV: Implem	B = -.322 t = -5.513 p = .000	B = -.663 SE = .065 t = -10.227 p = .000	B = .118 SE = .037 t = 3.192 p = .001	B = -.243 t = -3.868 p = .000	no	z = -3.004 p = .002	yes
IV: LOC MV: Unready DV: Implem	B = -.322 t = -5.513 p = .000	B = .625 SE = .068 t = 9.208 p = .000	B = -.035 SE = .036 t = -.983 p = .326	B = -.300 t = -4.799 p = .000	no		no

IV – independent variable

DV – dependent variable

MV – mediating variable

MV/IV – the mediator variable controlled for the independent variable

Ready – scale of perceived organizational readiness for change

Unready – scale of perceived organizational unreadiness for change

Spread – Spreading the change

Implem – Implementing the change

SE – standard error

B – unstandardized regression coefficient

Toler – tolerance for ambiguity

PA – positive affectivity

NA – negative affectivity

LOC – locus of control

Appendix T. Measures of employees' attitudes toward change

I. COMMITMENT

Spreading the change:

1. I encourage others to embrace the change.
2. I change my behaviours to model the desired new behaviours.
3. I provide recognition when I see people implementing new ways of doing things.
4. I display a positive attitude by being upbeat and smiling.
5. I explain the rationale for the change and its expected impact to co-workers and subordinates.
6. I initiate changes myself.

Implementing the change personally:

1. I invest more time and effort in my work than formally required.
2. I ask questions and try to learn more about the change initiatives.
3. I introduce changes in my daily work to help the organization achieve its change goals.

II. VOICING CONCERNS ABOUT THE CHANGE

1. I provide constructive suggestions to people who are in a position to influence the change.
2. I voice my opinion at meetings.
3. I share my concerns with those who have initiated the change.
4. I seek clarification about the change and its implementation.
5. I voice my concerns about the change to my immediate supervisor.

Appendix U. Measure of PORC

R – items reverse-coded

I. READINESS FACTORS

Commitment of senior management to the change:

1. Senior management is decisive with respect to organizational goals, priorities and strategies concerning the change.
2. Leaders themselves have bought into the change and promote it by behaving in a manner consistent with the change.
3. Requests from the senior management conform to the new paradigm of thinking.
4. Senior management defines the course of change and stays the course for several years.
5. There is a champion of change at the most senior level of the organization.
6. The senior management team acts as a cohesive unit with respect to the change.
7. Change messages on where the organization is going and why come directly from the executive team.
8. Leaders focus their attention on changes that are within their realm of control.

Competence of change agents:

1. Change agents invite external experts' advice with respect to managing the change.
2. Change agents have done research to select the right type of change that addresses the underlying causes of organizational problems rather than just symptoms.
3. Change agents provide valid arguments to justify the change.
4. Change agents have considered different options of change implementation.
5. Change agents are competent to answer employee questions about the change.
6. Change agents try to get the buy-in of the key players before they formally announce the change.
7. There is a change management team that has been designated to lead the change.
8. The change process is seen as fair and ethical.
9. People who lead the change act professionally and ethically.

Support of immediate managers during the change:

1. Managers are held accountable for passing information on the change on to their staff.
2. Managers acknowledge the impact the change may have on their staff.
3. The immediate supervisors encourage their staff to participate in the change process.
4. Change messages are communicated frequently through various communication channels.

II. UNREADINESS FACTORS

Poor communication of change (R):

1. The outcomes and benefits of the change are not well explained.
2. The ways in which the change will be implemented are not well explained.
3. The reasons for the change are not well explained.
4. The expected impact of the change on daily work processes is not well explained.
5. There is no vision for the change that everybody in the organization understands.
6. Information on the change is communicated in too general terms to be meaningful.
7. There is a disconnect between the senior management and working levels with respect to the change priorities and interpretation of the change.
8. Change initiators do not understand what the long-term impact of the change on the organization will be.
9. Employees do not see how they will personally benefit from the change.
10. Management does not admit it has made any mistakes with respect to managing the change and therefore does not learn from its mistakes.

Adverse impact of the change on work (R):

1. The change process does not involve the phasing out of old duties, and the employee is expected to do both the old and the new duties.
2. Workloads do not permit people to get involved in the change initiatives.
3. People are discouraged from saying “no” to work – even when the assigned task is not a priority.
4. The progress of the change is not monitored on a regular basis (i.e., there are no measurement tools in place to assess costs associated with the change and the impact of the change on the organization and employees).
5. The implemented change is not allowed to stabilize before the next change starts (i.e., too many changes are happening too frequently).

Lack of employee involvement in the change process (R):

1. People who do the actual work are not involved in making decisions concerning changes in their work area.
2. Employees do not have control over the change processes and outcomes in their area.
3. Consultation with the staff in regard to the upcoming change is done after the fact.