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DISSERTATION

FACTORS RELATED TO RESISTANCE AND SUPPORT OF ORGANIZATIONAL CHANGE

Submitted by

Michael Stephen Orth

Department of Psychology

In partial fulfillment of the requirements

for the Degree of Doctor of Philosophy

Colorado State University

Fort Collins, Colorado

Spring, 2002

COLORADO STATE UNIVERSITY

February 22, 2002

WE HEREBY RECOMMEND THAT THE DISSERTATION PREPARED UNDER OUR SUPERVISION BY MICHAEL S. ORTH ENTITLED "FACTORS RELATED TO RESISTANCE AND SUPPORT OF ORGANIZATIONAL CHANGE" BE ACCEPTED AS FULFILLING, IN PART, REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY.

Committee on Graduate Work

Advisor

Department Head

ABSTRACT OF DISSERTATION

FACTORS RELATED TO RESISTANCE AND SUPPORT OF ORGANIZATIONAL CHANGE

This field study integrates a number of theories to better understand the causes of resistance and support of organizational change. Subjects were 193 employees from a state agency who completed a survey related to two specific changes the organization was in the process of implementing: a new performance evaluation system and a new pay-for-performance system. Resistance and support were operationalized in terms of specific behaviors rather than only as attitudes. Behavioral items were revised from Herscovitch and Meyer (2001) to measure active resistance, passive resistance, active support, and passive support. Four factors were proposed to predict resistance and support: 1) Readiness for change was composed of two subscales: perceptions that the change was needed, and perceptions that the change would be successful; 2) Organizational justice was composed of two subscales: procedural justice and interactional justice; 3) Perceived benefits of change was composed of three subscales: costs and benefits to the organization, costs and benefits to the work unit, and costs and benefits to the individual; and 4) Individual needs was composed of two subscales: the need for stability and the need for control. Commitment to change was proposed to mediate the effects of the four predictors on resistance and support behavior.

Confirmatory factor analysis of the behavioral items supported a factor structure with resistance and support as two distinct but correlated latent factors. A passive-active factor was not supported. Structural equation models with all predictors combined showed that readiness for change was most predictive of commitment to change, resistance and support. The effects of each predictor were supported in separate structural equation models. Commitment to change fully or partially mediated many of the relationships between the predictors and behavior based on the decomposition of effects. The results indicate that, while all of the predictors were significant, it may be especially important for organizations to ensure that employees understand the need for the change, and feel confident the change will be implemented successfully. The study also suggests that improved behavioral and predictor measures would benefit both practice and research related to organizational change.

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DEDICATION

I dedicate this, with love, to Pamela, Savannah, and Noah Orth

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Chapter I

INTRODUCTION

To remain viable and successful, organizations must adapt to changes in their environments. Technology, markets, customer demands, delivery models, and other factors affecting the success of an organization may change rapidly (Howard, 1995). To keep pace with these changes, organizations must be able to innovate and evolve. Planned change efforts, however, are often unsuccessful. Some sources estimate that over half of planned change initiatives fail (Beugré, 1998; Clark & Koonce, 1997; Porras & Robertson, 1992), despite the extensive resources most organizations devote to it. The challenges involved in organizational change have prompted a number of scholars to propose theories to describe the organizational change process. These theories are oriented toward a variety of implementation strategies including survey feedback (Miles, Hornstein, Callahan, Calder, & Schiavo, 1969; Nadler, 1977), participation and involvement (Lawler, 1982), and communication and influence (Dalton, 1970). While these theories are not currently well integrated (Porras & Robertson, 1992), there is some consistency in the key process variables they describe. These variables include social influence (Cartwright, 1951; Goodman & Dean, 1982; Miles et al., 1969), motivational factors (Cartwright, 1951; Lawler, 1982; Miles et al., 1969; Nadler, 1977), and individual attributes (Dalton, 1970; Goodman & Dean, 1982; Lawler, 1982).

The organizational development literature has predominantly followed an organizational systems or "macro" orientation to the study of change (Herscovitch & Meyer, 2001; Porras & Robertson, 1992). Fewer studies have followed a more "people-focused" orientation to the research of organizational change. Additional research that directly investigates individuals' reactions during change would benefit the theory and practice of organizational development in several ways. First, a better understanding of individual reactions to change (and change strategies) will provide additional insight into the mechanics of organizational change. The importance of this last point can be illustrated by an example. While the effectiveness of participation and communication as strategies has been well supported in the literature (cf. Coch & French, 1948; Sagie, Elizur, & Koslowsky, 1989; Wanberg & Banas, in press), it is unclear why these strategies are successful. The effects of communication and participation can be explained by justice theory as components of procedural and interactional justice. According to this orientation, communication and participation demonstrate respect and concern for employees which then lead to cooperation and commitment. The effects of communication and participation can also be explained in other ways. Both participation and communication provide information to employees which may help them understand the rationale for making the change (thereby increasing readiness), clarify what is expected of employees (thereby providing direction), and clarifying the ways employees will be affected (thereby reducing uncertainty and anxiety). While this study will not test these competing explanations of participation, this example underscores the importance of understanding how individuals react to change, and integrating existing theories.

The second reason for studying individual reactions to change is that success of organizational change efforts may ultimately depend upon individuals changing their behaviors. Several scholars have proposed that organizational innovation and change will not occur unless organizations change attitudes, behaviors, and values of their employees in conjunction with any changes in tools, processes, or strategies (Schneider, Brief, & Guzzo, 1996; Tannebaum, 1971). Porras and Robertson (1992) make this point quite strongly: "If aspects of the organization are changed, yet its members do not change their basic work related behaviors, there will be no long-term organizational change" (p. 726). Goodman and Dean (1982) go even further by defining success of organizational change in terms of individual behavior. The term they coined, "institutionalization," is defined as "behavior that is performed by two or more individuals, persists over time, and exists as part of the daily functioning of the organization" (p. 229). They defined five levels of institutionalization, which include: 1) the degree to which individuals have knowledge of the behaviors they should perform, know how to perform them, and know the reasons for performing them; 2) the degree and frequency by which people perform the behaviors; 3) the extent to which individuals have a preference for these behaviors; 4) the extent to which there is consensus that these behaviors should be performed (i.e. normative consensus); and 5) the extent to which individuals have developed values congruent with the behaviors. Each level is measured by the extent to which a change has taken place within individuals.

Given that success of organizational change depends upon behavioral changes of individuals, it follows that a major concern for change agents is influencing or motivating employees to accept change. Much of the literature addressing this concern has fallen

under the category of "resistance to change." While many definitions of resistance have been presented in the literature, it can be defined simply as deliberate action against the change-related goals of the organization.

The resistance construct has been criticized for perpetuating a limited view of employees' roles in the change process (cf. Piderit, 2000). First, resistance has a negative connotation. Employees who resist change have been viewed as obstacles to be overcome in the organization's attempts to change. The inherent assumption is that the goals and interests of the organization take precedence over the goals and interests of employees. Collison's definition of resistance (1994, p. 28) reflects this view: "Resistance to change is defined as employee behavior that seeks to challenge, disrupt, or invert prevailing assumptions, discourses, and power relations." Further, the view of employees as barriers to progress does not account for the fact that resistance may be an attempt to stop an initiative that would be harmful to the organization (Klein, 1969).

Second, overcoming resistance is probably insufficient to successfully implement change. While an authoritative organization may be able to impose change, most organizations will require cooperation, and perhaps even active support of employees to successfully implement and sustain change. For these reasons, scholars have recognized the need to consider a broader spectrum of change related behaviors, and have proposed a continuum of behaviors from resistance to support (cf. Herscovitch & Meyer, 2001; Piderit, 2000). The extent to which organizations are dependent upon active support of employees to implement change is ultimately an empirical question which the literature has just recently begun to address.

While resistance and support have obvious implications for the success of organizational change, the literature has several shortcomings. In the case of resistance, there have been various definitions and interpretations of the construct. Most measures of "resistance" have been attitudinal. The behavioral component of resistance has been largely neglected not only in terms of empirical studies, but also in terms of operationalizing the construct. For example, Porras and Robertson (1992) observed that, "In general, the OD research has suffered from a lack of focus as to the behaviors that are critical to assess in any change process" (p. 725). Furthermore, theories of resistance have been developed from multiple orientations, but the literature provides little integration or comparison of these theories. In addition, relatively few empirical studies on resistance have been published. The result is that the literature suggests many theoretical and prescriptive methods of reducing resistance, but these methods are largely unsupported. Integration of theories and empirical evidence seem insufficient to predict, for a given type of change, what will be the most likely sources of support and resistance, and how support and resistance will be manifested in behavior. In the case of support, theory development, operational definitions and empirical evidence are at an early stage. Resistance and support are, therefore, fruitful areas of investigation due to the number of questions that remain unanswered.

Although a single study could never overcome all of these limitations, this study is concerned with two essential questions: (1) What types of behaviors do supporters and resistors display that would relate to success or failure of the change; and (2) What factors cause people to support or resist change? To address these questions, this study developed behavioral definitions of support and resistance based on the literature. In

conjunction with the behavioral measures, commitment to change was identified as a psychological state that would be predictive of resistance and support behavior while also mediating the effects of other factors on behavior. Next, factors predicting resistance and support behaviors and commitment to change were derived from the literature on organizational change, and from more general theories of psychology as necessary. Finally, control over change was identified as a moderator of the relationship between commitment to change and behavior.

The resulting theoretical model is shown in Figure 1. This model, and its associated hypotheses were tested in a field study of an organization implementing a new pay-for-performance system. Self-report data were collected to test the model, and compare the predictive power of the model's underlying theories. The literature review, which follows, is structured around the steps taken to develop the model. Therefore, the discussion will now turn to defining behaviors related to support and resistance.

Defining Support and Resistance Behaviors

Given the fact that behavior of individuals is regarded as a key factor in success or failure of change, it is surprising that the literature does not clearly define the behaviors related to support and resistance of organizational change. Yet there are a number of compelling reasons for defining these constructs in behavioral terms. First, behavioral definitions will add to the clarity of the constructs. Currently, support of change has not been clearly distinguished from related constructs such as willingness to change, acceptance of change, and readiness for change. Second, behavioral definitions will allow the construct to be operationalized in a more consistent manner for purposes of conducting research. Third, by defining support and resistance in terms of observable

behaviors, managers will be better able to monitor the level of support and resistance in their organizations. Fourth, unlike attitudinal measures which rely solely on self-report measures, many of the resistance and support behaviors are observable, allowing supervisors and others to provide independent data, thereby reducing common method bias in research. For the purposes of discussion, support and resistance behaviors will be addressed separately.

Support of Change

Support of change is defined in this study as behaviors that are consistent with the goals of the change effort. Support is distinct from success of the change effort. Success, as defined in this study, is a measure of the extent to which the goals of the change were accomplished and sustained. Based on Goodman and Dean (1982), this study proposes that successful change results from an aggregation of individual behavior (i.e. support) as well as more systemic contextual variables (e.g., market trends, technology). Therefore, while support is important, it may be insufficient by itself to ensure the success of a change effort. Furthermore, support will cause a change to be successful only when the combined behavior of supporters is sufficient and sustained over time to the extent necessary to overcome any barriers to the change.

Change-Specific Support Behaviors

Since support is defined as behavior that is consistent with the goals of a change effort, many of these behaviors are likely to be specific to a particular type of change. For example, supporting the implementation of a performance-based pay system would require that supervisors allocate raises using performance as a differentiator. These behaviors could be defined for a given change, either by directly examining the behaviors

prescribed by the change initiative, or indirectly by identifying behaviors that support the stated goal of the change initiative. Predicting support based on change specific behaviors, however, would create the likelihood that the behaviors would not be transferable to other studies. Therefore, rather than developing change-specific behaviors, the literature was reviewed for behaviors that applied generally across different types of change.

General Support Behaviors

Porras and Hoffer (1986) was one of the earlier studies to define change-related supportive behaviors. Experts in organizational development were asked to identify the behaviors that related to successful organizational change efforts. These behaviors were organized into two sets: those that applied to all organizational members, and those that applied specifically to managers. The first set included the following categories of behavior: communicating openly, collaborating, taking responsibility, maintaining a shared vision, solving problems effectively, respecting or supporting others, processing or facilitating interaction, inquiring, and experimenting. The set of manager behaviors included categories of generating participation, leading by vision, functioning strategically, promoting information flow, and developing others.

Several authors have made a distinction between active and passive forms of support (Herscovitch & Meyer, 2001; Hultman, 1998). Herscovitch and Meyer (2001) defined passive support as a form of compliance in which an individual exerts a minimum effort and somewhat reluctantly performs the behaviors that are formally required to directly support the change initiative. Further along the support continuum are individuals who cooperate with the change by putting in extra effort and tolerating

inconveniences caused by the change. The behaviors that characterize the most active form of support were associated with championing the change. Champions demonstrate discretionary or extra role behaviors that are not formally required, including building support and enthusiasm for the change. Herscovitch and Meyer (2001) defined three compliance behaviors, eight cooperation behaviors, and six championing behaviors in their study.

The literature on organizational citizenship behaviors (OCB's) complements Herscovitch and Meyer's (2001) definition of championing. OCB's are acts that benefit the organization but are not formal requirements of the job (Organ, 1988). Five dimensions of OCB have been identified: altruism, courtesy, conscientiousness, sportsmanship, and civic virtue. Altruism refers to voluntary behavior to help other individuals with job-related problems (Smith, Organ, & Near, 1993). Conscientiousness refers to behaviors that exceed minimum job requirements (Smith et al., 1993). Courtesy involves behaviors aimed at preventing future problems, such as keeping others informed of decisions that affect them (Organ, 1988). Sportsmanship involves tolerating everyday annoyances and inconveniences without complaining (Organ, 1988). Graham (1986) proposed the dimension of civic virtue, which is reflected in involvement in governance activities of the organization (e.g., attending meetings). Recently, scholars have combined courtesy and altruism into a single dimension of helping (Podsakoff & MacKenzie, 1994).

Each dimension of organizational citizenship behaviors was represented in Herscovitch and Meyer's (2001) definitions of championing, and to a lesser extent, cooperation. As a result, the same factors found to predict organizational citizenship

behaviors would likely relate to active support of change as well. Also, it appears that measures of organizational citizenship behaviors would be a source of items to complement the measures developed by Herscovitch and Meyer (2001).

Resistance to Change

Resistance is defined in this study as behaviors that are intended to thwart the goals of the change effort. Resistance may take many forms: It may be active or passive (Herscovitch & Meyer, 2001; Hultman, 1998), and covert or overt (Clark & Koonce, 1997; Reger et al., 1994). Hultman (1998) defined both active and passive resistance behaviors. Some of the behaviors associated with active resistance included being critical, finding fault, appealing to fear, using facts selectively, sabotaging, intimidating or threatening, starting rumors, and arguing. Some of the passive behaviors included agreeing verbally to support the change but not following through, failing to implement the change, procrastinating or foot dragging, withholding information or other resources, and standing by and allowing the change to fail. These lists of behaviors are based on anecdotal (versus empirical) evidence, and have not been verified by research.

Rusbult, Zambrodt, and Gunn (1982) presented a model of behavioral responses to dissatisfaction. They proposed that behaviors could be located along two dimensions: positive (constructive) to negative (destructive); and active (reacting against the sources of unfairness or actively withdrawing) to passive (where the employee may change his or her perceptions and attitudes, such as reducing level of involvement in the organization). Constructive responses to dissatisfaction warrant further explanation lest they be confused with support. These responses do not support the goals of the change initiative per se, but they are attempts to reduce or eliminate disagreement. In other words, they

can be understood as attempts to influence the organization to modify the change proposal.

Robinson and Bennett (1995) confirmed a different two-factor model in a factor analysis of deviant behaviors. The dimensions they found were the seriousness of the behavior (from minor to serious) and the target of the behavior (against the organization and against other individuals). Herscovitch and Meyer (2001) used the distinction between overt and covert behavior to define active and passive resistance behaviors. Active resistance was defined as overt behaviors that are intended to cause the change to fail. Passive resistance was defined as covert (or subtle) forms of behavior intended to cause the change to fail.

Underlying Structure of the Resistance and Support Behaviors

Behavioral measures of resistance and support were utilized in this study. As mentioned, little is known about these behaviors. Some authors have speculated that resistance and support include active and passive dimensions, but this has not been empirically tested. Furthermore, it is unclear whether resistance and support are separate dimensions or opposite poles on a single continuum. Although there is no clear empirical and theoretical basis for proposing an underlying structure, the following hypothesis was proposed:

Hypothesis 1a. The behavioral measures of resistance and support will consist of two moderately correlated factors corresponding to resistance and support.

This hypothesis was tested against the following two competing hypotheses:

Hypothesis 1b. The behavioral measures of resistance and support will be composed of two independent factors: support and resistance.

Hypothesis 1c. The behavioral measures of resistance and support will be composed of two underlying factors: level of support (from resistance to support) and level of activity (from active to passive).

Retaliatory and Deviant Behavior

Retaliatory and deviant behaviors may be responses to unwanted change. As with resistance behaviors discussed above, these behaviors may be responses to an imposed change that is judged to be unfair. Unlike resistance behaviors, however, retaliatory and deviant behaviors may not be intended to cause the change to fail. Rather, the motivation may be to "restore justice" by taking something away from the organization. While retaliation and deviance are not encompassed by the definition of resistance to change per se, they are nevertheless important reactions to change. In addition, the cognitions and attitudes that underlie retaliation and deviance (in response to a change initiative), are likely the same that underlie resistance. That is, these behaviors can also be expressions of negative attitudes toward the change. Further, as will be discussed in a later section, retaliation and deviance are included as possible behavioral outcomes associated with the organizational justice model of resistance to change. Since retaliation and deviance are possible responses to undesired change, this section will review the literature to derive a set of retaliatory and deviant behaviors in the context of imposed organizational change efforts.

Deviant Behaviors

Deviant behavior has been defined as behaviors that violate company norms, goals, policies, or rules and threaten the well-being of the organization and/or its employees (Hollinger & Clark, 1983; Robinson & Bennett, 1995). There are three

general types of deviant behavior (Robinson & Bennett, 1995). Property deviance involves stealing or destroying property belonging to the organization. Production deviance involves physical withdrawal (e.g., turnover, absenteeism), psychological withdrawal (e.g., daydreaming) and organizational sabotage (e.g., theft). Interpersonal deviance involves making personal attacks against a specific individual (e.g., threats). Social exchange theory predicts that when organizations violate the social exchange relationship by treating employees unfairly, employees may respond with deviant behaviors intended to harm the organization (Cropanzano & Folger, 1989; Folger & Skarliki, 1999; McLean Parks, & Kidder, 1994). Research has provided some support for this hypothesis (Henle & Murphy, 2000).

Retaliatory Behaviors

Folger and Skarliki (1999) proposed that injustice during the implementation of change might also lead to retaliatory behavior. These authors distinguish retaliatory behavior from deviant behavior. According to these authors, retaliatory behavior is not always intended to have negative consequences for the organization. Retaliatory behavior is one of the few ways employees are able to correct injustice in the organization. Retaliation may be positive or "legitimate" if it is intended to change organizational practices in order to reduce the injustice (Rusbult, Zambrodt, & Gunn, 1982). A few retaliatory behaviors Folger and Skarliki (1999) identified include theft, sabotage, withdrawing effort, acts of non-cooperation, and violence. While the intent of the behaviors may differ, the behaviors resulting from retaliation and deviance may be similar. For example, the retaliatory behaviors suggested by Folger and Skarliki (1990) can be classified as property, production, or interpersonal forms of deviance.

The definition of retaliation incorporates deceptive behaviors. Deceptive behaviors are intended to intentionally mislead members of the organization. As with other forms of retaliatory behavior, deceptive behavior may in some cases be in the best interests of the organization. For example, if an employee perceives a change to be harmful to the organization, he/she may provide misleading information to prevent the change from being implemented. Therefore, deceptive behaviors can be viewed as a subset of retaliatory behaviors. Shapiro, Lewicki, and Devine (1995) proposed that individuals might use deceptive tactics to stop an unwanted change.

From the sources previously reviewed, it appears that retaliatory and deviant behaviors may result from the implementation of change, especially when employees perceive procedural injustice has occurred. Therefore, these behaviors were included in the model to complement the behaviors included in the definition of resistance.

Commitment to Change as a Mediating Variable

The model in Figure 1 proposes commitment to change as a mediator between the predictors (i.e. readiness for change) and behavior. Porras and Robertson (1992) recommend that studies in the field of organizational behavior test for underlying causal mechanisms, or mediators, to better understand why predictors have their effects. This understanding is essential for theory development, and it has practical implications as well. A mediator can simplify a model, and lead to a better understanding of the underlying psychological mechanisms, when it can be shown that the effects of several predictors are captured by a single variable. Also, in the case of organizational change, if a measure of commitment to change is constructed and validated, it can be used to predict support and resistance during the implementation of change.

Scholars and organizational change practitioners generally recognize that employee commitment is an essential element of successful change efforts (see Herscovitch and Meyer, 2001 for a review). Commitment to change is defined as "a psychological state "that binds individuals to a course of action deemed necessary for the successful implementation of a change initiative" (Herscovitch & Meyer, 2001, p. 6). Using Meyer and Allen's (1991, 1997) three-component model as a framework, Herscovitch and Meyer (2001) developed a measure of commitment to change with three dimensions: affective, normative, and continuance. Affective commitment to change was defined as a belief that the change initiative is valuable and important. Normative commitment was defined as the perception that one is obliged to support the change. Continuance commitment was defined as recognizing the costs associated with not supporting the change.

The commitment to change construct fits well with the multi-dimensional definition of support and resistance behaviors. High levels of continuance commitment (when other forms of commitment are low) are likely to lead employees to perform only the focal behaviors formally required to support the change (Herscovitch & Meyer, 2001). High levels of affective commitment are more likely to be associated with extra-role behaviors that characterize active support of change. This prediction is consistent with empirical studies showing that affective commitment in other domains is associated with organizational citizenship behaviors. The literature also provides support for commitment as a mediator between justice perceptions and behaviors such as turnover and absenteeism (Mathieu & Zajac, 1990).

In addition to the components of commitment to change defined by Herscovitch and Meyer (2001), this study included an alternative definition of the affective commitment component. Herscovitch and Meyer's (2001) definition reflects the extent to which the individual believes the change is important and valuable. One difficulty with this definition is that it is conceptually similar to the discrepancy component of readiness for change, which is a predictor in this study. Therefore, any correlation between readiness and affective commitment might be artificially inflated due to overlapping conceptual domains of the constructs. In addition, this definition of affective commitment does not have an explicit emotional component, which has been part of the definition of affective commitment in other domains (Meyer & Allen, 1997). The alternative definition of affective commitment used in this study is an emotional connection and identification with the change, and the desire to be involved in the change. The two definitions of affective commitment were tested separately in this study.

Based on the literature previously reviewed, the following hypothesis was proposed:

Hypothesis 2. Commitment to change will mediate the effects of readiness for change, individual needs (need for stability and need for control), organizational justice, and benefits of change on resistance and support behaviors.

Theories of Support and Resistance

Having defined the dependent and mediator variables in the model, the discussion now turns to each of the theories underlying the model, and the associated hypotheses. Empirical studies will be reviewed that directly support the proposed model. In addition,

since empirical studies that have treated resistance and support as behaviors are quite limited, the scope of the review will include empirical studies predicting change-related attitudes as well.

Readiness for Change

Hultman (1998) defines readiness as a state of mind " that reflects receptivity or even a willingness to change the way we think and behave" (p. 96). Hultman also distinguishes readiness from resistance:

> Readiness is manifested in either active initiation of change or cooperation with it. In contrast, resistance is manifested in either active opposition to change or an attempt to escape or avoid it. Readiness is not the opposite of resistance, since an absence of resistance doesn't necessarily mean a readiness to change. (p. 95)

Armenakis, Harris, and Mossholder (1993) define readiness for change as being "reflected in the organizational members' beliefs, attitudes, and intentions regarding the extent to which changes are needed and the organizations' capacity to successfully make those changes" (p. 681). Further, they describe readiness as the "cognitive precursor to the behaviors of either resistance to, or support for, a change effort" (p. 682, emphasis in original).

Armenakis et al. (1993) based the readiness concept on the theories of planned behavior (Fishbein & Ajzen, 1975), and social cognition (Bandura, 1982). This theoretical orientation has several implications. First, it elaborates the underlying psychological mechanisms by which readiness would be created, and how it would

influence behavior. According to Armenakis et al. (1993), and in line with the theory of planned behavior (Fishbein & Ajzen, 1975), creating readiness is a matter of influencing two cognitions: discrepancy and efficacy.

Discrepancy is a perceived gap between current organizational performance and some desired state. When individuals perceive that the gap is large enough, they will form the associated belief that change is needed in order for the organization to be successful. Bullock and Davis (1981) and Umiker (1997) concur that change is likely to be successful only when members of the organization see a clear and compelling need to change.

Efficacy is the perceived ability of the organization to successfully make necessary changes. Bandura (1982), and Fishbein and Ajzen (1975) agree that the ability to take action is a key belief that must be created to influence behavior. Bandura uses the term self-efficacy to describe this belief, while Fishbein and Ajzen (1975) use perceived behavioral control to describe a similar construct. Amenakis et al. (1993) extended the construct of self-efficacy (which is an individual-level cognition) to define a collective form of efficacy.

Based on Fishbein and Ajzen (1975), if an individual believes that positive outcomes would result from supporting a change, they will form a positive attitude toward that behavior. A positive attitude will then create an intention to support the change, and ultimately the individual will act accordingly. Armenakis et al. (1993) recommend that change agents wishing to influence individual behavior intervene by using influence strategies to shape the discrepancy and efficacy beliefs. Beliefs may be changed by persuasive communication, controlling sources of information, and allowing

people to self-discover, through participation, the information necessary to change their beliefs.

The second implication of the theoretical orientation of the resistance to change model is that evidence supporting the theory of planned behavior can be viewed as indirectly supporting the model. This is important since little empirical evidence directly supporting the readiness concept could be found in the literature. There are, however, a few sources indirectly supporting the readiness model. The way organizations frame a change has been shown to influence employee responses (Fairhurst & Sarr, 1996; Pondy, 1978). For example, Rousseau and Tijoriwala (1999) found that restructuring of a nursing division was more successful when nurses believed accounts provided by management were true and legitimate. In addition, the study by Coch and French (1948) was reexamined by Bartlem and Locke (1981) and Gardner (1977). These authors discovered that the procedures used by Coch and French may have differentially created readiness in the experimental and control groups. Thus, readiness could have accounted for the positive findings in the study. Based on the studies reviewed above, the following hypothesis was proposed:

Hypothesis 3. Individuals who report higher levels of readiness for change will be more committed to the change and will demonstrate fewer resistance behaviors and more supportive behaviors.

Perceived Benefits and Costs of Change

As discussed, the theory of planned behavior underlies the readiness for change model. As a general theory to predict a wide variety of behaviors, the theory of planned behavior can be applied more broadly to the prediction of support and resistance by

considering additional change-related beliefs. While readiness included only discrepancy and efficacy as broad beliefs, it is possible to include more detailed change-specific beliefs as predictors. According to the theory of planned behavior, attitudes are formed based on the costs and benefits an individual perceives to be related to performing a given behavior. Therefore, if one expects a number of good outcomes, but few bad outcomes, he or she will have a positive attitude toward a behavior (Fishbein & Ajzen, 1975).

While the theory of planned behavior has strong empirical support for a variety of different behaviors (cf. Manfredo, 1992), it is not without its limitations. The methods outlined by Ajzen and Fishbein (1980) call for an elicitation study to identify costs and benefits that are both specific to the behavior and salient to the respondents. Therefore, the variables used to predict behavior may not be generalizable to other types of change or different populations. This approach, however, does complement more general models of resistance and support because it is likely to capture additional variance that is unique to the specific type of change under study.

Another limitation of the theory is that it does not easily accommodate multiple behaviors of interest. When a behavior is well defined and concrete (e.g., attending a museum) the theory works well. But when behaviors are multidimensional or complex, such as those involved in support and resistance to change, the theory can quickly become unwieldy. Technically, if several behaviors are to be predicted, then an elicitation study would have to be conducted and a set of measures would have to be composed for each one.

To overcome this limitation, costs and benefits were generated by asking elicitation study participants to identify advantages and disadvantages associated with the change, versus any particular behavior. This shift of "reference" from the rather specific outcomes of a behavior, to the more general outcomes of a change initiative, has several implications. First, it creates a measure that is likely to relate to a wider range of behaviors (i.e., behavioral categories) such as any of the support or resistance behaviors of interest in this study. This approach has been used by Manfredo, Fishbein, Haas, and Watson (1990) to predict support of controlled burn policies, and is consistent with the readiness for change construct (Armenakis et al., 1993).

Second, while perceptions that positive outcomes will result from a change are likely to increase the probability that an individual will act to support the change, this relationship is only indirect. Therefore, power of the measure to predict any one of the specific behaviors will likely be reduced (Fishbein & Ajzen, 1975; Fishbein & Manfredo, 1992). However, since there was no way in the current study to know in advance which behaviors were most important, it did not make sense to design a behavior-specific measure of outcomes.

As mentioned, the items generated by the elicitation may have been unique to the specific change initiative and the organization in which it was being implemented. In this study, the organization was implementing a new performance evaluation system and a pay-for-performance compensation system. Therefore, additional items were generated from articles on performance-based pay systems. In particular, costs associated with performance-based pay were derived, in part, from Behn (2000). Behn argues that performance-based pay creates competition among individuals and disrupts teamwork

since only a small percentage of employees are rated as outstanding. This "automatically labels most people as losers," thereby lowering their morale (p. 9). The combined effect of performance-based pay, according to Behn, is to reduce organizational performance.

Behn's comments highlight the fact that organizational change may have costs for the organization, individuals, and teams. These three levels of analysis provided the general structure for the cost and benefit items which was used to structure the elicitation study. Additional items from the literature were also included from sources such as Kerr (1975) and Peters and Waterman (1982). Chapter II provides some examples of these items.

The literature has provided some support for the relationship between expected outcomes of change and resistance (Kotter & Schlesinger, 1979; Zaltman & Duncan, 1977). Indirect support is provided by Shapiro, Lewicki, and Devine (1995), who asked subjects to think about a hypothetical change that they would oppose. Expectations of being punished for deception were found to relate to subject's willingness to use deception to stop the change.

Extrapolating the general findings supporting the theory of planned behavior, the following hypothesis was proposed:

Hypothesis 4. Individuals who perceive more benefits and fewer costs associated with the change will be more committed to the change and will demonstrate fewer resistance behaviors and more support behaviors.

Organizational Justice

While the previous model is concerned with the outcomes of change in terms of costs and benefits, the organizational justice model is concerned with the fairness of

outcomes and the way in which the change is implemented. Organizational justice theory proposes that there are three different but interacting forms of justice: distributive, procedural, and interactional (although some scholars now consider interactional justice to be a component of procedural justice (cf. Tyler & Lind, 1992)). These forms of justice have been proposed to relate to resistance to organizational change (Beugré, 1998; Folger & Skarliki, 1999; Shapiro & Kirkman, in press). Each form of justice will next be reviewed, and ways in which injustice could occur in the context of organizational change will be discussed. With this discussion as background, empirical studies will be reviewed that highlight behavioral responses to the inequity that occurs when rules of justice are violated.

Distributive Justice

Distributive justice is related to the fairness of rewards or decisions. According to the rule of equity, employees expect rewards to be distributed according to each individual's contributions to the organization (Adams, 1965). Conceptually, employees may use a reference point, in terms of a ratio of outcomes (e.g., salary) to inputs (e.g., skill and knowledge) to judge the fairness of rewards. Employees typically derive these reference points from past experience, or base them on promises the organization makes to employees. Individuals may perceive that distributive injustice has occurred if rewards are not distributed according to a uniform ratio across employees, the ratio is reduced from what the individual has received in the past, or the organization fails to live up to its promises (Folger, 1993).

During organizational change, employees may experience and/or perceive distributive injustice in several ways. Change may place additional demands on

employees. For example, employees who work extra hours to implement a change while still being expected to perform their normal duties are increasing their inputs (e.g., workload) with no additional outcomes (e.g., compensation). Change may also benefit some employees more than others. For example, a pay-for-performance plan may have less benefit to long-tenured employees who are at the top of their salary range than it would to newer employees. If a change benefits some employees more than others, the disadvantaged employees are likely to judge the outcomes as unfair. Also, change agents may promise benefits or results that are not fully met by the change.

Procedural Justice

Procedural justice is concerned with the fairness of procedures used to make decisions and distribute outcomes (Leventhal et al., 1980; Thibaut & Walker, 1975). Characteristics of fair procedures include consistency, bias suppression, accuracy, correctability, representativeness, and ethicality (Leventhal et al., 1980). Formal policies and rules, appeal processes, and opportunities to provide input (e.g., voice) are associated with higher levels of procedural justice. During change, if employees perceive that change is not being implemented consistently across the organization, or they are not given ample time and opportunity for participation in design and implementation of the change, then the change process may be judged to be unfair.

Interactional Justice

Interactional justice (i.e. the social aspects of procedural justice) relates to the quality of the interpersonal treatment employees experience with decision-makers. Bies (1987) found that in addition to distributive and procedural justice, interpersonal treatment is an important factor when judging the fairness of decisions. Interactional

justice is more likely to be perceived when individuals are treated with dignity and respect in interpersonal interactions (Greenberg & Scott, 1996; Shapiro & Brett, 1993) and given adequate justifications or explanations of decisions (Bies, 1987).

The importance of interactional justice may be highlighted during times of change (Folger & Skarlicki, 1999). Since organizational change is associated with uncertainty, it may be a source of stress and discomfort for employees (Schweiger & Ivancevich, 1985). Employees may expect the organization to reduce this uncertainty by clearly communicating the outcomes of change, and addressing employees' concerns. Folger and Skarliki (1999) argue that management has a moral obligation to provide adequate explanations and clear reasons for its actions. Employees may interpret lack of such communication as a sign that they are insignificant and unworthy of respect. Such treatment would likely lead to perceptions of inequity among employees.

Empirical Support for the Justice Model

Several scholars have highlighted the important contribution justice theory can make to the study and understanding of organizational change. A number of sources suggest that procedural and interactional justice in particular may be powerful predictors of resistance, support, and commitment to change. Reger et al. (1994) asserted that people do not resist change per se: They actually resist the manner in which they are treated during the change process. Similarly, Cobb et al. (1995) and Kirkman et al. (1996) propose that the way change is implemented and the treatment of employees during change can create resistance to change. Folger and Skarlicki (1999) proposed that employees who perceive that they are treated unfairly during change might become resentful and retaliate against the organization or against agents of the change.

Fortunately, empirical studies have examined these questions directly. Shapiro and Kirkman (1999) and Kirkman, Shapiro, Novelli, and Brett (1996) tested a model to predict resistance to implementation of self-managed work teams. They found that procedural justice and anticipated distributive justice were negatively related to the level of resistance of teams, and positively related to the frequency of organizational citizenship behaviors. These variables also related to turnover intentions and commitment to the organization. Kirkman and Shapiro (2000) found that organizational justice related positively to receptivity to team-based rewards.

The literature provides further evidence, though indirect, supporting justice as an important factor in resistance and support of change. Consistent with social exchange theory, negative outcomes are likely to result when individuals experience inequity, and act to resolve their losses (Adams, 1965; Folger & Skarliki, 1999). Employees may choose to reduce their inputs by withholding support of a change, or reducing the effort they put into their jobs. Employees may also attempt to restore equity through retaliatory behaviors such as theft, sabotage, and violence (Folger & Skarliki, 1999). Studies reviewed by Cobb, Wooten, and Folger (1995) have shown that organizational justice is related to: (a) general attitudes such as trust, loyalty, and commitment to the organization and its leaders; (b) positive individual behaviors such as organizational citizenship behaviors; (c) and better organizational functioning through cooperation, communication, planning, and problem solving. These behaviors and outcomes are likely to be important factors in the success of change efforts (Cobb et al. 1995; Porras & Hoffer, 1986).

Based on theories of organizational justice described previously, individuals are likely to react strongly to injustice during the change process, and positively when

employees perceive the outcomes of the change process, the procedures used during the change, and the treatment of individuals to be fair. Justice theory, which has been supported in many other types of organizational decisions, provided a strong theoretical basis for the following hypothesis:

Hypothesis 5a. Individuals who perceive higher levels of distributive, procedural, and interactional justice will be more committed to the change and demonstrate fewer resistance behaviors and more support behaviors.

Furthermore, individuals may feel a need to reduce the inequity associated with an unfair change process (Adams, 1965; Folger & Skarliki, 1999). As a result, these individuals may resort to deviant and retaliatory behaviors (Folger & Skarliki, 1999). Based on social exchange theory, the following hypothesis was proposed:

Hypothesis 5b. Individuals who perceive higher levels of distributive, procedural, and interactional justice will demonstrate fewer deviant and retaliatory behaviors.

The three forms of justice may also produce differing and/or interacting effects on support and resistance behaviors (Folger & Skarlicki, 1999). The concern in this study is not with predicting effects of interactions since little is known about the main effects of the forms of justice on change-related behaviors to substantiate such predictions.

Individual Needs

Individuals may differ in their propensity to support or resist change (Dalton, 1970; Goodman & Dean, 1982; Lawler, 1982). Several sources use theories of the self to predict when organizational change will be resisted. Lawler (1982) proposed that organizational change will be supported when individuals' social, existence, growth and control needs are fulfilled. Dirks, Cummings, and Pierce (1996) proposed a similar

theory with three needs they thought to be relevant to resistance and support of organizational change. The first of these needs was the need for self-enhancement, which was defined as the desire to achieve high self-esteem. The second need was the need for self-continuity, which was defined as the desire to maintain stability of one's self–concept over time and across situations. The third need was the need for control and efficacy, which was defined as a desire to maintain control over one's self, and demonstrate one's ability to cope effectively with the environment. Bullock and Davis (1981) included two of these needs in their model: need for control and need for self-continuity (which they labeled need for stability).

There is some agreement across the three theories presented here. The models differ, however, in their treatment of these needs. Bullock and Davis (1981) and Lawler (1982) treat these needs as individual differences. The model proposed by Dirks et al. (1996), however, is different in three respects.

First, it treats the needs for self-enhancement, self-continuity, and control as basic and universal. Given this assumption, these needs are not explicitly measured since they are always present in the individual. Watson (1979) takes a similar view. He proposes that individuals are predisposed to maintain equilibrium with their environment, and often prefer familiar behaviors to adopting new behaviors, even when old behaviors are ineffective.

Second, Dirks et al. (1996) explain the link between individual needs and organizational change using the concept of psychological ownership. Psychological ownership is defined as "the state where an individual feels as though the target of ownership (or a piece of that target) is his/hers" (Pierce et al., 1996, pp. 14-15). It is a

sense that, to some extent, one's identity is tied to the identity of the organization. As a consequence of high levels of psychological ownership, changes to the organization may threaten the needs of the individual.

Third, Dirks et al. (1996) propose that an individual's level of psychological ownership predicts his/her disposition toward change (i.e. level of resistance or support). The type of change moderates this relationship. The moderating effects are explained in terms of how the change fulfills or frustrates the needs. According to their model, mandatory or imposed change threatens the need for control (when psychological ownership is high) and will therefore be resisted. Revolutionary or discontinuous change threatens the need for self-continuity and will be resisted. Change that results in personal losses, which they label subtractive change, threatens all three needs and will be resisted. Conversely, individuals are likely to support changes that are self-initiated (i.e., when change is undertaken as a result of one's own initiative or volition), evolutionary (i.e., when a change is incremental, results in growth, and leaves an object's core structure intact), and additive (i.e., when new things become part of the object and no parts are lost) and psychological ownership is high. When psychological ownership is low, the needs of the self are neither fulfilled nor frustrated by organizational change.

This study follows the theory proposed by Bullock and Davis (1981) which proposes that individual differences in need for stability and need for control are factors in support and resistance of change. In reviewing the literature, no studies were found that empirically tested the relationship between these variables and resistance or support of change. The theoretical basis for proposing such a relationship can be found in all three theories previously reviewed. According to these theories, individuals have basic

needs to feel in control of their fate and to accurately predict their future circumstances. Change by its very nature conflicts with these needs. In this study, the strength of these needs is proposed to be an individual difference variable. As a result, the following hypothesis was proposed:

Hypothesis 6. Individuals with lower levels of need for stability and need for control will be more committed to the change and will demonstrate fewer resistance behaviors and more support behaviors.

Moderating Effects of Power and Control

A key situational variable affecting reactions to change may be the amount of power individuals have to resist and/or support a change. In this study, the concern is with employees who lack power to influence the change process. If employees lack power, the organization has more opportunity to impose change on employees in the organization and, even if the organization does not impose change, powerless employees may perceive that the change has been imposed (Jermier, Knights, & Nord, 1994) When an organization tries to impose change on employees, reactions may be very strong as described by Strauss (1963):

> Members may fight back through union activity, sabotage, output restriction, and other forms of rational or irrational (aggressive) behavior. Or they may withdraw and engage in regression, sublimation, childish behaviors, or failure to contribute creative ideas or to produce more than a minimum amount of work.

Such reactions to imposed change may be responses to individuals' lack of power and control. In this study, control is defined as the extent to which the individual believes he or she can influence the success or failure of the change. Lack of control is proposed to have three separate effects. First, when control over the change is low, negative reactions may be intensified. For example, when change is imposed upon employees against their will, there may be a natural tendency to fight the change directly by refusing to cooperate, or indirectly through retaliatory behaviors. When change is imposed, many of the principles of procedural and interactional justice may be violated. These principles, and the results of violating them as previously discussed provide some conceptual support for this prediction.

Second, lack of power may limit the constructive responses available to some of those who resist the change. When individuals are unable to modify the change proposal due to not having access, or being unable to persuade decision-makers, it is likely that they will revert to indirect forms of resistance. Withdrawing effort, leaving the organization, or misleading others regarding the consequences of change are examples of behaviors available to less powerful resistors.

Third, assuming control is closely related to power, the consequences of resisting change may be higher for those with less control. Among those who resist a change, those with more influence on decision-makers may be able to engage in more direct resistance behaviors. Those with less power may have to use indirect forms of resistance to avoid punishment.

In sum, this study proposes that lack of control over change has implications for both the amount of resistance and the forms in which the resistance is manifested.

Specifically, those with more control may use more direct, overt, and active forms of resistance, while those with less control may use indirect, covert, and passive forms of resistance. In addition, individuals who lack control may resort to retaliatory and deviant behaviors. Based on this rationale, the following hypothesis was proposed, as shown in Figure 2:

Hypothesis 7. Control over change will moderate the relationship between affective commitment to change and active resistance such that high levels of control will be associated with greater levels of active resistance. Control will also moderate the relationship between affective commitment and passive resistance such that low levels of control will be associated with greater levels of passive resistance. Finally, control will moderate the relationship between affective commitment and retaliatory and deviant behaviors such that lower levels of control will be associated with greater levels of these behaviors.

Chapter II

METHOD

Participants and Procedure

Surveys were mailed to 500 employees in a state government agency that was implementing a new performance evaluation system and a new performance-based pay system. Participants with less than one year with the organization were excluded from the sample because they would have been unfamiliar with how the change was implemented. To ensure that enough supervisors were included in the sample, personnel data were used to randomly select 150 supervisors from the population of supervisors. The personnel data were known to be somewhat inaccurate (some of those not designated as supervisors in the database may actually have been supervisors). As a result, the actual number of supervisors who were administered surveys was not known precisely. Another 350 surveys were mailed to a random sample of the population of "non-supervisors" using the same inaccurate personnel records.

Surveys were sent to participants using the United States mail. A cover letter from the researchers explained the purpose and benefits of the study, the use of the data, and the safeguards taken to protect confidentiality. The surveys and return envelopes did not have any information identifying the participant. Completed surveys were returned directly to the researcher in self-addressed, stamped envelopes. Complete, usable surveys were received from 193 employees, corresponding to a 39% response rate.

Table 1 shows the demographics of the participants. Supervisor status of those returning surveys was determined by responses to the question, "I have responsibility for evaluating the performance of at least one subordinate. Ninety-nine respondents answered "yes" to this question, 89 answered "no" and five did not mark a response.

Of the 189 subjects who reported their gender, 39% were male and 61% were female. These percentages are the same as those of the sample and the organization as a whole. Ages of the participants ranged from 26 to over 56. Length of time with the organization ranged from 1 to over 20 years, as did years as a state employee.

Description of the Change

Legislative mandate required the organization to implement a pay-for-performance plan and eliminate automatic step increases in pay based on years of service. For the 30 years prior to this change, salary was largely a function of years of service and job classification. Salary increases and cost-of-living adjustments were made at each employee's anniversary date. Further, promotion into a higher level within a job classification allowed employees to increase their salaries.

The new performance evaluation system required supervisors to work with each subordinate and develop an individual evaluation plan for the year. In forming the evaluation plan, the supervisor and subordinate had to agree on a set of appropriate goals for the employee that were linked to goals of the organization, and establish ways of measuring goal achievement. The goals became the basis for performance evaluations. Interim performance evaluations were to be conducted every quarter. The final evaluation of the year required supervisors to place their employees into one of three categories: needs improvement, fully competent, and peak performer. Two types of

salary increases could be allocated to employees: base building and non-base building. Non-base building increases affected salary for only one year, and had to be re-earned annually. Base building increases could only be given up to a salary level defined as the job rate. The job rate represented the third quartile salary level for the job classification. A job classification is a general category and typically includes about seven levels (i.e., General professional I to General professional VII).

Table 2 shows how salary raises could be allocated under the pay-for-performance plan. Employees rated as needing improvement were not eligible for salary increases. Employees rated as fully competent were eligible to receive up to a 5% raise, which could include both base and non-base building increases. Employees in this category, however, could not be given a raise that would bring their salary above the job rate. Within the peak performer category, base increases were limited to 10% of salary, and could raise the base salary up to the job rate. Bonus increases could be given to peak performers to allow their salary to exceed the job rate, up to the maximum salary level for the job classification.

The new evaluation and pay plan allowed employees to file grievances if they were unable to reach agreement with their supervisor regarding their evaluation plan, their ratings, or their pay increases. Supervisors were required to develop plans with their subordinates. Failing to do so would result in withholding pay increases from the supervisor, and could result in disciplinary action.

Another aspect, which is important to note, is that within the requirements of the legislative mandate, each agency was permitted to design its own system. Further, each major organizational unit of the agency was allowed to develop its own plan, within some

mandatory constraints. Specifically, each agency had to have written evaluation plans for each employee, and review the evaluations with the employee. Any rating system could be adopted by the organization, but it had to translate to the three rating categories (i.e. needs improvement, fully competent, and peak performer). Within those parameters, agencies were free to design systems that worked for them--multi-source assessments, narrative assessments, checklists, team reviews, etc. Also, the agency could decide how to allocate raises within each of the three categories. For example, salary increases for fully competent employees could range from 0 to 5%, and could include either a base-building or non-base-building award, or a combination of the two. Therefore, there was some flexibility built into the new evaluation and pay system, and employees potentially had input into the design of the plan for their organizational unit.

At the time surveys were sent out in June 2000, the organization was in the process of finalizing the year-end evaluations, and categorizing employees as needs improvement, fully competent, or peak performers. Due to the timing of the survey, subjects had to refer back to past behaviors and attitudes they experienced during design of the change. The new performance evaluation system was implemented in July 1999. The pay-for-performance plan was scheduled to be the sole basis for salary increases starting in July 2000. Up until that time, employees continued to receive 5% anniversary increases in pay. In the middle of May 2000, the state legislature chose not to fund the performance-based salary increases, and extended the time that employees would receive anniversary increases for an additional year.

Measures

At the request of the organization, the two major components of the change (i.e. the performance evaluation and pay-for-performance components) were separately evaluated in the survey. Each item described below was rated on a two-column format. The first column was used for responses to the performance evaluation component of the change. The second column was used for responses to the pay-for-performance component of the change. All items were rated on 5-point Likert scales with anchors of "Strongly Disagree" (1), "Disagree" (2), "Neither Agree nor Disagree" (3), "Agree" (4), and "Strongly Agree" (5). There were a total of 91 questions answered in the two-column format, eight individual need items with a single response column, and six demographic questions. The entire survey required less than 30 minutes to complete. All items are included in the Appendix. Scores for each scale were calculated by taking the mean of scores on the individual items composing the scale.

Readiness for Change

A seven-item readiness for change scale was developed for the purposes of this study. The first dimension of readiness, perceived need for the change, was evaluated by four items. A sample item was, "The organization has good reasons for implementing this component of the change." The second dimension of readiness, perceptions that the change will be successful, was evaluated using three items. A sample item read, "When this component of the change was first described, I believed that it would be successfully implemented." Internal consistency reliability for the scale was .75 for the performance evaluation component and .82 for the pay-for-performance component.

Organizational Justice

Distributive justice perceptions were measured on a four-item scale developed specifically for this study. The scale was meant to assess the fairness of outcomes associated with the implementation of the change. A sample item read, "To implement this component of the change, I had to work extra hours without compensation." Procedural and interactional justice measures were based on Niemhoff and Morman (1993), but the item stems were revised, and several items were dropped from the scales. The revised scales consisted of five procedural justice items and seven interactional justice items. A sample procedural justice item read, "When implementing this component of the change, my manager(s) made decisions in an unbiased manner." A sample interactional justice item was, "When implementing this component of the change, my manager(s) treated me with respect and dignity." Internal consistency reliability for the distributive justice scale was .45 for the performance evaluation component and .50 for the pay-for-performance component. Internal consistency reliability for the procedural justice scale was .87 for both change components. Internal consistency reliability for the interactional justice scale was .95 for both change components.

Individual Needs

The individual needs measure assessed two dimensions: need for stability and need for control. The measure was from Pederson and Daus (in press), and consisted of eight items with a reliability of .90. A sample item read, "I am annoyed when modifications are made to my job." Internal consistency reliability for the scale in this study was .87.

Perceived Costs and Benefits of Change

A 16-item scale was developed for use in this study. The scale is based, in part, on results of an elicitation study which asked respondents to identify the advantages and disadvantages of implementing the performance evaluation and pay system for: (1) themselves, (2) their work group or organizational unit, and (3) their organization as a whole. The questions used in the elicitation study are shown in the Appendix. The use of an elicitation study is consistent with the methods outlined by Fishbein and Ajzen (1985). The intent was to identify the factors most salient and predictive of individuals' attitudes and intentions. This questionnaire was administered to 12 individuals who were randomly sampled. In addition, the questionnaire was administered to two subject matter experts. The organization had conducted extensive surveys on employees' reactions to the change. Therefore, there was ample material from which to draw questions for this scale. The elicitation study results corresponded quite closely with the costs and benefits that had already been identified. Therefore, a preliminary scale was developed and reviewed by four people who were responsible for the employee survey, and no further elicitation study questionnaires were sent out. The reviewers recommended a few minor changes to the wording and the addition of one question.

The final scale consisted of six costs and benefits for the organization, five costs and benefits for the individuals' work team or unit, and five costs and benefits for the individual. A sample organizational item read, "I believe that implementing this component of the change will cause good performers to leave the organization." A sample team or work unit item read, "I believe that implementing this component of the change will encourage unhealthy competition among employees in my unit." A sample

individual item read, "I believe that implementing this component of the change will make it difficult for me to get a salary increase." A single scale was developed from all of the items by taking the mean on all items after reverse coding the "perceived cost" items. Therefore, the scale represents the perceived benefits of the change. Internal consistency reliability for the scale was .92 for the performance evaluation component and .91 for the pay-for-performance component.

Commitment to Change

The commitment to change scale was based on the three dimensions from Herscovitch and Meyer (2001): affective, normative, and continuance commitment. Five affective commitment items were retained from Herscovitch and Meyer (2001) with minor revisions. These authors defined affective commitment to change as "an employee's belief in the value and importance of a change initiative" (p. 3). This definition had considerable overlap with the readiness for change concept. For example, a sample item from Herscovitch and Meyer (2001) read, "This change serves an important purpose." Also, this definition does not directly assess the emotional connection and identification with the change, or the desire to be involved with the change, which are characteristics of affective commitment in other domains (Meyer & Allen, 1993). Therefore, a new measure of affective commitment was added to capture these dimensions, and is reported in all structural equation analyses.

The new scale consisted of five items. A sample item from the new scale read, "It is important to me that this component of the change is implemented." Four normative commitment items were retained from Herscovitch and Meyer (2001) with minor revisions. A sample item read, "I feel a sense of duty to work toward this component of

the change. Continuance commitment was not measured in this study because it has shown minimal correlations with change related behaviors (Herscovitch & Meyer, 2001). Internal consistency reliability for the affective commitment scale was .91 for the performance evaluation component and .89 for the pay-for-performance component. Internal consistency reliability for the normative commitment scale was .87 for the performance evaluation component and .85 for the pay-for-performance component.

Behavioral Measures of Resistance and Support

Measures of resistance and support behaviors were based on items from Herscovitch and Meyer's (2001), although items were substantially revised for this study. The items were written to assess active resistance, passive resistance, passive support, and active support. A sample active resistance item read, "I openly spoke out against this component of the change." A sample passive resistance item read, "I failed to do what was needed to implement this component of the change." A sample passive support item read, "I tried to keep myself informed about this component of the change." A sample active support item read, "I encouraged others to support this component of the change." Scores for the passive resistance, active resistance, passive support, and active support scales were calculated by taking the mean of the associated items. Internal consistency reliabilities of the scales for the performance evaluation component of the change were .90 for active support, .71 for passive support, .85 for active resistance, and .88 for passive resistance. Internal consistency reliabilities of the scales for the pay-for-performance component of the change were .90 for active support, .67 for passive support, .87 for active resistance, and .88 for passive resistance.

A second resistance/support measure consisted of a behavioral continuum scale based on Herscovitch and Meyer (2001), but substantially revised. This item asked respondents to rate their level of support for change on a 100-point continuum ranging from active resistance to active support. Scale anchors at 0, 25, 50, 75, and 100 points described the general type of behavior that was representative of these levels of support.

Retaliatory and Deviant Behaviors

Four items from Shapiro, Devine, and Lewicki (1995) were included in the study to assess retaliatory behaviors that may result from perceptions of injustice. These items had to be substantially revised, however, because the original items were double-barreled questions. For example, one of the original items read, "How likely is it that others in your company would tell the authority that you will take negative action if the change is made when you know you actually would not? The revised item read, "I threatened to leave the organization if this component of the change was implemented." Internal consistency reliabilities of the retaliatory behavior scales were .79 for the performance evaluation component of the change and .78 for the pay-for-performance component of the change.

Five items from Henle and Murphy (in press) were used to assess deviant behaviors. A sample item read, "As a result of this change, I purposely arrived late to work, or left early, without permission." Internal consistency reliabilities of the deviant behavior scales were .90 for the performance evaluation component of the change and .65 for the pay-for-performance component of the change.

Control

A five-item measure of control over change was developed for this study to assess the degree to which individuals were able to support or resist the change. A sample item read, "My suggestions to improve this component of the change were incorporated." Internal consistency reliabilities of the control over change scales were .82 for both components of the change.

Demographics Variables

To protect the identity of respondents, demographic information was limited to general types of information. Items assessed gender, age range, organizational tenure range, years as a state employee, job category and job class. Participants were also asked to indicate whether they were responsible for evaluating performance of other employees. This item assessed supervisor status.

Chapter III

RESULTS

A series of chi square analyses were conducted to see if respondents were representative of the entire sample. The results of the analysis show that age had a significant chi-square (χ^2= 8.4, df = 3, p = .04). It appears that younger participants (26-35 years old) were less likely to respond to the survey, and older participants (56 and older) were more likely to respond. Gender and years of service had non-significant chi-squares. Chi square analyses could not be performed for years as a state employee and supervisor status since these characteristics of the sample population were not known.

Response rates were relatively uniform across the various job classes of the sample. Several job classes, however, exceeded the average response rate of 39%. Managers and general professionals responded at a rate of approximately 60%. Only two job classes had response rates significantly lower than the average. These job classes will not be identified since they are highly specialized positions, and naming them could possibly compromise the identity of the participating organization.

Descriptive Statistics, Scale Reliabilities, and Correlations

Means, standard deviations, and reliability coefficients for the variables of interest are summarized in Table 3. Overall, the results show that average levels of support were moderate for the two change components. The mean score on the support continuum for

the performance evaluation component was 63.8 (out of 100) and 50.6 for the pay-for-performance component.

Overall, most of the scales had means near or slightly above the mid-point of the scales and distributions that were approximately normal. As expected, however, the retaliatory and deviant behavior scales were skewed toward lower scores. Log transformations of these scales had virtually no effect on the distribution or the correlations between these measures and other variables. Therefore, all results reported for the retaliatory and deviant behavior scales are based on the non-transformed scales. Passive resistance had mean scores that were somewhat low (2.03 and 2.10 out of 5.0 for the performance evaluation and pay-for-performance components of the change, respectively). These scores are lower than means on the retaliatory behavior scales, which is somewhat surprising.

Overall, the performance evaluation component had higher means on each of the predictors, commitment to change, and the measures of support. In particular, readiness for change and affective commitment to change had means that were more than half a point above the means for the pay-for-performance component. Both components of the change had relatively high means on the organizational justice scales (procedural justice had a mean of 2.96, and interactional justice had a mean of 3.30 for the performance evaluation component; procedural justice had a mean of 2.83, and interactional justice had a mean of 3.17 for the pay-for-performance component), indicating that on average, the change was perceived to have been implemented fairly.

The distributive justice scales had unacceptable levels of reliability. Internal consistency for the measures were .45 and .50 for the performance evaluation component

and pay-for-performance component, respectively. After removing the fourth item, reliabilities increased to .60 and .61 respectively, but did not reach acceptable levels (Nunnally & Bernstein, 1994). The three-item measure of distributive justice was initially included in the structural equation measurement models, but as will be discussed later, was found to have a high amount of unexplained variance and so was removed. All other scales had reliabilities ranging from .75 to .95, which are acceptable for research purposes (Nunnally & Bernstein, 1994).

Correlations among the variables are shown in Table 4. Correlations below the diagonal are for the performance evaluation component, and correlations above the diagonal are for the performance evaluation component. Correlations on the diagonal represent the consistency of responses across the two types of change. For example, responses on the readiness scale for the performance evaluation component were correlated with responses on the readiness scale for the performance evaluation component at a level of $\underline{r} = .48$. This indicates that individuals were somewhat likely to have different responses for the two change components. In contrast, interactional justice showed significant consistency across the two components ($\underline{r} = .92$), indicating that individuals perceived little difference in interactional justice for the two components of the change.

With the exception of supervisor status, demographic variables had negligible correlations with the predictors and criterion variables. For both components of the change, supervisor status showed moderate correlations with each of the predictor, commitment, and behavioral measures as shown in Table 4. Generally, when group variables such as supervisor status have significant main effects, they are treated as

moderators in structural equation models. That is, separate models for supervisor and non-supervisor would be compared. Unfortunately, the sample size in this study was not large enough to split the data into the two groups. As a result, this method of analysis could not be employed. Even though supervisor status was not included in the structural equation models, the overall results of these analyses should still be conservative since variance explained by supervisor status would show up in the error terms (e.g., unexplained variance).

Individual Effects of Predictors on Commitment and Behavior

Results of correlational analyses are consistent with Hypothesis 2. Affective and normative commitment measures showed significant correlations with the behavioral measures. For the performance evaluation component of the change, affective commitment and normative commitment had significant correlations with each of the behavioral measures. For the performance evaluation component of the change, affective and normative commitment had significant correlations with all the behavioral measures with the exception of passive resistance.

Hypotheses 3-6 were supported based on the results of correlational analyses. The new affective commitment to change scale had significant correlations with each of the predictors for both components of the change. Correlations with normative commitment were also significant in all cases. All predictors also had significant correlations with the each of the behavioral measures. Only two of the correlations were marginally significant ($p < .05$): The correlation between interactional justice and passive support for the performance evaluation component; and the correlation between interactional justice and active resistance for the pay-for-performance component.

Hypothesis 5b predicted that organizational justice would be associated with lower levels of retaliatory and deviant behaviors. This hypothesis was supported for the retaliatory behavior scales for both the performance evaluation component and the performance evaluation component. The deviant behavior scale, which was highly skewed, failed to correlate significantly with any of the justice measures.

Overall, the pattern of correlations provides support for each of the predictors. Based on the simple effects of these variables, readiness for change and perceived benefits of the change appear to have the strongest relationships with the commitment and behavioral measures. In nearly every relationship, readiness for change had the strongest correlations with the commitment and behavioral measures. This pattern was consistent for both components of the change. Hypothesis 4 was also strongly supported. Perceived benefits of change demonstrated a consistent pattern of moderate to high correlations with the commitment and behavioral measures.

Factor Analysis of Support and Resistance Behaviors

Prior to testing Hypothesis 1, the measurement model was tested using confirmatory factor analysis with one latent factor for each of the following scales: active support, passive support, active resistance, and passive resistance. This analysis revealed that the fourth passive support item had high unexplained variance. This item was eliminated from all further analyses.

Hypothesis 1 was tested using confirmatory factor analysis of three competing models. The first model, corresponding to Hypothesis 1a, proposed that passive resistance, active resistance, passive support, and active support behaviors would be described by two correlated higher order factors representing resistance and support. This

model and the results of the confirmatory factor analysis are shown in Figure 3 for the performance evaluation component of the change. The fit of the model was modest with a comparative fit index (CFI) of .81 and a χ^2 of 693 based on 186 degrees of freedom (df), but the higher order factors explained most of the variance in the active resistance ($\underline{R}^2$ = .78), passive support ($\underline{R}^2$ = .92), and active support factors ($\underline{R}^2$ = .92). A smaller portion of the variance in the passive resistance factor was explained by the higher order support and resistance factors ($\underline{R}^2$ = .25). Overall, the model explained 40% or more of the variance of the behavioral items, with the exception of the first active resistance item. The support and resistance factors were moderately correlated ($\underline{r}$ = -.53) as predicted. From these results, it appears plausible that support and resistance are separate but correlated factors.

Hypothesis 1b predicted that the behaviors would fit a model with two independent higher order factors of support and resistance. This hypothesis was tested by removing the covariance term between the higher order support and resistance factors in Figure 3. This model did not fit the data as well as the model corresponding to Hypothesis 1a based on the χ^2 difference test (χ^2 = 29, df = 1, $\underline{p} < .01$). Overall, the model also explained less variance than the model with correlated higher order factors ($\underline{R}^2$ = .38 for active resistance, $\underline{R}^2$ = .75 for passive support, $\underline{R}^2$ = .63 active support scales and $\underline{R}^2$ = .42 for passive resistance).

Hypothesis 1c predicted that the behaviors would fit a model with two factors representing support and level of activity. This model included four factors: resistance, support, active, and passive. The model was constructed by loading each behavioral item on the two factors relevant to it. For example, active support items were loaded on both

the active and support factors. Results of the confirmatory factor analysis were not interpretable because some of the items did not load in the expected direction. Specifically, many of the passive support items loaded negatively on the passive factor, and active support items loaded negatively on the active factor. From these results, it was concluded that Hypothesis 1c was not supported by the data.

Hypothesis 1 was also tested using data from the pay-for-performance component of the change. Figure 4 shows the model corresponding to Hypothesis 1a, and the results of the confirmatory factor analysis. Results, including path coefficients, are similar to those for the performance evaluation component of the change. The fit of the model was modest (CFI = .80, χ^2= 627, df = 186), but the higher order factors explained much of the variance in the active resistance (R^2 = .48), passive support (R^2 = .93), and active support scales (R^2 = .90). A smaller portion of the variance in passive resistance was explained (R^2 = .29). Overall, the model explained 40% or more of the variance of the behavioral items, with the exception of the first active resistance item. The support and resistance factors were moderately correlated (r = -.59) as predicted.

The model had better fit than the model corresponding to Hypothesis 1b based on the χ^2 difference test (χ^2 = 27, df = 1, $p < .01$), and explained more variance in the four first order factors. Hypothesis 1c was not tested using this data set since the analysis using the evaluation component data showed that the hypothesis was not plausible.

By comparing the three confirmatory factor analysis models across both components of the change, it appears that Hypothesis 1a is most plausible. The behavioral items had reasonable loadings on the intended first order factors, and the higher order factors were moderately correlated.

Structural Equation Models

Structural equation modeling was used to test Hypotheses 2 through 6 with the EQS computer program (Bentler, 1995). A two-step process (Mueller, 1996) was used in which the measurement and structural equation models were examined in separate steps. First the measurement models were analyzed to test the adequacy of the hypothesized factor structure for all variables. Second, several structural models representing the hypothesized structural relationships between latent and measured variables were evaluated.

To test Hypothesis 2, which proposed that commitment to change would mediate the effects of the predictors, three competing models were required: a direct effects model, a mediated model, and a combined (i.e., direct plus mediated effects) model following procedures described by Byrne (1994). These models also provided tests of Hypotheses 3-6. In addition to structural equation models, mediating effects of commitment to change on each of the predictors were examined separately using structural equation models for each factor.

Measurement Models

The measurement model to be used in structural equation models was constructed with latent factors, each of which had multiple indicators. The readiness for change factor was composed of the two subscales: perceived need for the change and anticipated success of the change. The perceived benefits of change factor was composed of three subscales corresponding to benefits to the organization, benefits to the work unit, and benefits to the individual. The organizational justice factor was initially composed of the three-item distributive justice sub-scale and the interactional and procedural justice sub-

scales. The model explained less than 10% of the variance in distributive justice, so distributive justice was removed from the measurement model. Individual needs was composed of the need for control and need for stability subscales. Commitment was composed of the affective commitment to change and normative commitment to change subscales. The support and resistance scales also were composed of multiple indicators based on the measurement scales.

The factors resulting from the confirmatory factor analysis of the behavioral items were not used in the measurement model of support and resistance. Rather, the passive resistance, active resistance, passive support, active support, and the behavioral support continuum scales were used directly to define two latent factors corresponding to resistance and support. This was done because the sample size was not large enough to provide reliable estimates of the large number of parameters that would have to be estimated when the factors derived from confirmatory factor analysis of the individual behavioral items were combined with the parameters to be estimated in the structural model. The behavioral support continuum scale was cross loaded on both the support and resistance factors.

Analysis of the measurement model resulted in moderate to high fit statistics for the performance evaluation component with a χ^2 of 182 based on 82 degrees of freedom (df); a comparative fit index (CFI) of .94; a non-normed fit index (NNFI) of .92, and a goodness of fit index (GFI) of .89. Results for the pay-for-performance component were similar (χ^2 = 160, df = 82; CFI = .95, NNFI = .92, GFI = .90). The percentage of error (i.e. unexplained variance) was high for the passive support scales (73% for the performance evaluation component model and 89% for the pay-for-performance

component model). Results of Lagrange Multiplier tests (Bentler, 1995) indicated that fit of the measurement model would have been improved by adding passive resistance as an indicator to the support factor ($\chi^2 = 23$, df = 1, $p < .01$ for the performance evaluation component, and $\chi^2 = 16$, df = 1, $p < .01$ for the pay-for performance component of the change). This change was not made because multiple crossloadings would have made the support and resistance scales more difficult to interpret. The alternative of creating a single support-resistance factor would have significantly reduced the model fit based on the difference test ($\chi^2 = 94$, df = 6, $p < .01$). Therefore, the measurement models were not modified.

The remaining error variances for each sub-scale fell between 56% and 1% for the performance evaluation component and between 73% and 0% for the pay-for-performance component of the change. For the pay-for-performance component, the active resistance and anticipated success of the change subscales also had high error variances (61% and 73%, respectively). Overall, the error variances and global fit statistics indicate that some improvement could be made by re-specifying the model and/or by developing better measurement scales, but that the hypothesized factor structure fit the data reasonably well.

Structural Model Analyses With All Predictors Combined

The second step in the analysis was to run the structural models depicting the hypothesized relationships between factors. The hypotheses were tested using several different models. First, the proposed direct effects between the predictors and the outcome variables were modeled. The resulting model for the evaluation component of the change is shown in Figure 5. The global fit indexes were good ($\chi^2 = 188$, df = 84;

CFI = .94, NNFI = .91, AGFI = .83), which indicated that the data are consistent with the direct effects model. Readiness for change had the strongest relationships with commitment to change (β = .99, p < .01), resistance (β = -.99, p < .01) and support (β = .89, p < .01), which clearly supported Hypothesis 3. The only other path coefficient that was significant and in the predicted direction was between organizational justice and commitment to change (β = .18, p < .05). Perceived benefits of the change had significant path coefficients in the opposite direction to those proposed by Hypothesis 4 (β = -.35, p < .01) with commitment to change; (β = -.44, p < .01) with support, and (β = .48, p < .01) with resistance. Given that correlations between perceived benefits and the commitment to change, active support, passive support, active resistance, and passive resistance scales were in the predicted direction, it appears that a suppressor effect was present. The model explained 92% of the variance in commitment to change, 85% of resistance to change, and 41% of support. In general, it appears that the predictors shared a substantial amount of common variance, and did not contribute unique variance above the effects of readiness for change. Correlations among the four predictor factors are shown in Table 5 for the performance evaluation component of the change. Readiness, perceived benefits, and organizational justice had moderate to high correlations, while individual needs had small correlations with the other three factors.

Results for the pay-for-performance component of the change were similar. The direct model, shown in Figure 6, had good global fit indexes (χ^2 = 161, df = 84; CFI = .95, NNFI = .92, AGFI = .84), indicating that the data were consistent with the direct effects model. Readiness for change had the strongest relationships with commitment to change (β = .99, p < .01), resistance (β = -.85, p < .01) and support (β = .51, p < .01).

Individual needs had a significant path coefficient with commitment to change ($\beta = .22$, $p < .05$), but this was not in the predicted direction. The model explained 92% of the variance in commitment to change, 72% of resistance to change, and 36% of support. Correlations among the four predictor factors, shown in Table 6, were similar to those for the performance evaluation component. Readiness, perceived benefits, and organizational justice were moderately correlated, while individual needs had small correlations with the other three factors.

Hypothesis 2 predicted that commitment to change would mediate the effects of readiness for change, individual needs, organizational justice, and perceived benefits of the change on support and resistance. To evaluate this hypothesis, a mediated model was tested in which the predictors relate directly to commitment to change, but have no direct relationships with the behavioral factors. Figure 7 depicts this model for the performance evaluation component of the change. The fit indexes were good ($\chi^2 = 196$, df = 90; CFI = .94, NNFI = .92, GFI = .89). Path coefficients between commitment to change and resistance ($\beta = -.88$, $p < .01$) and support ($\beta = .61$, $p < .01$) were strong, significant, and in the predicted direction. Only readiness for change had a significant path coefficient with commitment to change ($\beta = .87$, $p < .01$). Results for the pay-for-performance component of the change, shown in Figure 8, were similar ($\chi^2 = 172$, df = 90; CFI = .94, NNFI = .92, GFI = .90). Based on these results, the mediated model also appears plausible.

The third test of mediation would have compared the mediated model to a full model, which includes both direct and mediated paths for each predictor. If the mediated model fit as well as the full model, based on the chi-square difference tests, then it would

have been concluded that the mediated model was sufficient to account for the data. In other words, the mediated model explained the data equally well as the full model when parsimony of the models is considered. The full model with all predictors combined was not analyzed since only readiness for change had a significant effect that could have met the criteria for mediation. Therefore, as planned, tests of mediation were conducted separately for each predictor.

Structural Model Analyses for Each Predictor

Mediation was also tested with separate tests for each predictor. Three structural equation models were analyzed for each predictor: direct, mediated, and full (i.e. direct and mediated effects). Mediation was tested using decomposition of effects. This is a procedure in EQS in which the total effect of an independent variable on a dependent variable is broken down into its indirect and direct effects.

Tests of Mediation Using Model Fit Comparisons

To test the adequacy of the mediated model to explain the data, chi-square difference tests were computed between the mediated and full models. These comparisons are shown Table 7 for both change components. A non-significant chi-square indicates that the mediated model is sufficient to explain the data. From these results, the mediation hypothesis was supported for perceived benefits and organizational justice for the performance evaluation component. The chi-square difference test was marginally significant for readiness for change. Mediation was not supported for individual needs. For the pay-for-performance component, mediation was supported for readiness, perceived benefits, and organizational justice. The chi-square difference test

was marginally significant for individual needs. Based on these results, support for Hypothesis 2 is mixed.

Tests of Mediation Based on Direct and Indirect Effects

The model comparisons presented above examine whether the mediated model is sufficient (i.e. is more parsimonious than the full model). Structural equation modeling also provides tests of mediation that are roughly equivalent to traditional multiple regression tests for mediation.

A mediated model must pass four tests (Baron & Kenny, 1986). First, the predictors must be related to the outcome variables. The path coefficients between each predictor and outcome variable in the direct model were used to test this requirement. These results are shown in Table 8 for both components of the change. For the performance evaluation component, path coefficients between resistance and the predictors were significant (β = -.82 for readiness; β = -.65 for perceived benefits; β = -.51 for organizational justice; β = .42 for individual needs). Path coefficients between support and the predictors were also significant (β = .48 for readiness; β = .39 for perceived benefits; β = .31 for organizational justice; β = -.29 for individual needs). For the pay-for-performance component, path coefficients between resistance and the predictors were significant (β = -.77 for readiness; β = -.63 for perceived benefits; β = -.44 for organizational justice; β = .35 for individual needs). Path coefficients between support and the predictors were also significant (β = .54 for readiness; β = .39 for perceived benefits; β = .34 for organizational justice; β = -.26 for individual needs). On the basis of the results, the requirements for the first test of mediation were met in all cases.

Second, the predictors must have significant relationships with the mediator. This requirement was tested by running direct models between each predictor and commitment to change and testing the path coefficients for significance. These results are also shown in Table 8. For the performance evaluation component, path coefficients between commitment and the predictors were significant (β = .87 for readiness; β = .73 for perceived benefits; β = .57 for organizational justice; β = -.27 for individual needs). For the pay-for-performance component, path coefficients between commitment and the predictors also were significant (β = .94 for readiness; β = .73 for perceived benefits; β = .48 for organizational justice; β = -.26 for individual needs). Based on these results, the requirements for the second test of mediation were met in all cases.

Third, the mediator must have significant unique effects on the outcome variables when the predictor variables are included in the model. Structural equation modeling provides a convenient test of this requirement. Full effects models, which combine direct and mediated paths, were developed for each predictor. Figure 9 shows the direct and full models for readiness for change, which is representative of the models used for all other predictors. From these models, the indirect effects of each predictor can be determined. If the indirect effect is significant, the requirements for the third test of mediation are met. Table 9 shows the results of this analysis for both components of the change. For the performance evaluation component, all indirect effects with resistance were significant (β = -.48 for readiness; β = -.63 for perceived benefits; β = -.49 for organizational justice; β = .22 for individual needs). The indirect effects with support were significant for readiness (β = .80), perceived benefits (β = .51), and organizational justice (β = .37). The indirect effect of individual needs was non-significant (β = .16, $p >$

.05). For the pay-for-performance component, the indirect effects with resistance were significant for readiness (β = -.76), perceived benefits (β = -.61), and organizational justice (β = -.39). The indirect effect of individual needs was non-significant (β = -.15, p > .05). The indirect effects with support were significant for readiness (β = .93), perceived benefits (β = .51), and organizational justice (β = .27). The indirect effect of individual needs was non-significant (β = -.12, p > .05). Overall, the requirements of the third test of mediation were met for all of the predictors except individual needs.

Fourth, full mediation requires that the predictors fail to explain a significant amount of variance in the outcome variables above the effects of the mediator variable. This requirement is also easily tested using full effects models. The direct effect in the full model represents the unique effect of the predictor on the outcome variable. If the direct effect is non-significant, then the requirements of the fourth test of mediation are met. The direct effects of each predictor are shown in Table 9 for both components of the change. For the performance evaluation component, direct effects with resistance were non-significant for perceived benefits (β = -.02) and organizational justice (β = -.02). The direct effects with resistance were significant for readiness for change (β = -.35) and individual needs (β = .20). The direct effects with support were non-significant for perceived benefits (β = -.12), organizational justice (β = -.06), and individual needs (β = -.13). The direct effects were significant for readiness for change (β = -.32) but in the opposite direction compared to the direct effects model. In this case, commitment to change acted as a suppressor, causing the direct effect of readiness to become negative in the full effects model. This was also the case for perceived benefits and organizational justice, but these path coefficients were non-significant.

For the performance evaluation component, direct effects with resistance were non-significant for perceived benefits (β = -.02) and organizational justice (β = -.02). The direct effects with resistance were significant for readiness for change (β = -.35) and individual needs (β = .20). The direct effects with support were non-significant for perceived benefits (β = -.12), organizational justice (β = -.06), and individual needs (β = -.13). The direct effects were significant for readiness for change (β = -.32). Commitment to change acted as a suppressor for readiness and perceived benefits.

On the basis of the results for both change components, the fourth test of mediation was supported in all cases for perceived benefits and organizational justice. Commitment to change mediated the effects of individual needs on support, but not on resistance. Commitment to change appears to have mediated the effects of readiness for change on support, but the significant suppressor effect makes interpretation of the results less clear.

In cases where full mediation was not supported, it is possible to use the structural equation model results to test for partial mediation. The test for partial mediation using structural equation models requires some explanation. In multiple regression, partial mediation is confirmed if the $\underline{R}^2$ of the predictor is significantly reduced when the mediator is entered into the regression equation. In structural equation modeling, a similar test is conducted by comparing the direct path coefficients in the direct and full models. If the path coefficient decreases significantly, but remains significant, partial mediation is supported. Furthermore, the direct effect will decrease by the amount of the indirect effect. This is due to the fact that the total effect is the same for the direct and full models, and the total effect is the sum of the direct and indirect effects. As a result,

the significance of the indirect effect is equivalent to the significance of the decrease in the predictor variable's direct influence on the outcome variable.

Table 9 shows the significance of the indirect paths. For the performance evaluation component, commitment to change partially mediates the effects of readiness for change on resistance and support. Commitment to change also partially mediates the effects of individual needs on resistance. For the pay-for-performance component, commitment to change mediates the effects of readiness for change on support.

Up to this point, all tests of mediation have been based on statistical tests. When full or partial mediation are supported, Baron and Kenny (1986) and Holmbeck (in press) recommend further analyses to determine the strength of the mediating effects. These authors recommend calculating the proportion of the direct relationship between predictor and outcome variables that is accounted for by the mediator. In structural analysis terms, this is equal to the ratio of the indirect to total effects. The results of these analyses are shown in Table 9. The results for the performance evaluation component show that, for resistance, commitment to change accounted for a 58% of the total effect of readiness for change, 97% of the total effect of perceived benefits, 96% of the total effect of organizational justice, and 52% of the total effect of individual needs. The results for support show that affective commitment accounted for 55% of the direct effect of individual needs. Ratios for the other predictors would have exceeded 100% due to the fact that the indirect effects were greater than the total effects.

The results for the performance evaluation component show that, for resistance, commitment to change accounted for a 99% of the total effect of readiness for change, 97% of the total effect of perceived benefits, 89% of the total effect of organizational

justice, and 43% of the total effect of individual needs. The results for support show that affective commitment accounted for 79% of the direct effect of organizational justice, and 50% of the total effect of individual needs. Ratios for the other predictors would have exceeded 100% due to the fact that the indirect effects were greater than the total effects.

Overall, the results of individual tests of mediation using direct and indirect effects provided strong support for Hypothesis 2. In many cases, commitment fully mediated the effects of the predictors. While commitment failed to mediate the effects of individual needs, full or partial mediation was supported for all the other predictors. In addition, a significant portion of the total effects of the predictors occurred through the proposed mediator variable.

Moderating Effects of Control Over Change on Resistance and Retaliatory Behaviors

Hypothesis 7 states that control over change will moderate the relationships between affective commitment and behavior. Specifically, lower levels of control were proposed to relate to higher levels of passive resistance, retaliatory behaviors, and deviant behaviors when affective commitment is low. Higher levels of control were proposed to relate to higher levels of active resistance. Hypothesis 7 was tested using multiple regression based on methods prescribed by Baron and Kenny (1986). Separate regression analyses were developed for each type of behavior. The results of this analysis are shown in Table 10 for the performance evaluation component of the change and in Table 11 for the pay-for-performance component. The only significant moderating effect was for the prediction of passive resistance ($\Delta R^2 = .03$, $p < .01$) for the performance evaluation component.

Although the interaction effect on passive resistance was weak, post-hoc probing analyses were conducted to better understand the nature of the interaction. Separate regression analyses were run for high control (one standard deviation above the mean), and low control (one standard deviation below the mean). The results are shown in Figure 11. The slope between affective commitment and passive resistance was negative and statistically significant for the high control condition. The slope for low control was negative but non-significant. This pattern of results did not support Hypothesis 7. Contrary to what was expected, the level of passive resistance for the low control group was not higher than the high control group when affective commitment was low. Also, when affective commitment was high, levels of passive resistance for both groups were expected to be low and nearly equal.

Overall, the results provide little support for control over change as a moderating variable. Only one of the moderating effects was significant, and the pattern of results based on post-hoc probing was not as predicted.

Chapter IV

DISCUSSION

Evaluation and Implications of the Theoretical Model

The model proposed in this study was largely supported. Confirmatory factor analysis showed that the two proposed higher order factors of support and resistance fit the behavioral items reasonably well. Individually, all predictors related to commitment to change, support, and resistance behaviors. Further, the structural equation models explained a substantial portion of variance in commitment to change, support, and resistance. The proposed mediating effects of commitment to change were partially supported. Predictions related to the moderating effects of control, however, were not supported. The findings of this study have a number of implications for both research and practice of organizational change.

Resistance and Support Behaviors

One of the main objectives of this study was to better define the behaviors that constitute resistance and support, and better understand the nature of these constructs. Expanding our knowledge of important constructs is, of course, necessary for theory development. In addition, understanding the conceptual domain of constructs enables better measures to be created for research and practice.

Although the behavioral items were based largely upon existing measures developed by Herscovitch and Meyer (2001), this study extended their work in several

important ways. First, the underlying structure of the behavioral items was examined using confirmatory factor analysis to determine whether support and resistance were separate factors. The results supported an underlying structure with two moderately correlated factors of resistance and support. The data did not support an active-passive factor, which some scholars have proposed. These results indicate that the distinction between passive and active forms of resistance, and passive and active forms of support, may not be a primary concern when operationalizing support and resistance. Perhaps other dimensions, such as perceived effectiveness and consequences of behavior are more salient to resistors and supporters, and therefore are more likely to influence the individual's choice of behaviors.

The data also indicate that support and resistance, at least as operationalized in this study, are distinct though moderately correlated factors. Generally, individuals acting in support of change will not also act to resist the change. But the moderate correlation between the factors suggests that there are exceptions. While this may be a measurement artifact, it is also possible that patterns of behavior may be complex, and on the surface contradictory. For example, an individual with a negative attitude toward the change may overtly act in support of the change, but covertly resist the change at the same time. Furthermore, individuals may at times act according to their personal attitudes toward the change, but at other times act according to social norms or other influences.

Second, this study also expanded on the work of Herscovitch and Meyer (2001) by including measures of retaliatory and deviant behaviors. Theories of organizational justice provided the rationale for including these behaviors. While deviance was highly

skewed, and therefore had no significant correlations, retaliatory behavior was related to levels of procedural and interactional justice. Organizational justice was not the only factor, however, to correlate with retaliation. Therefore, the causes of retaliatory behavior may not be distinct from those associated with other forms of resistance.

The retaliatory behavior scale also correlated highly with the active resistance scale, indicating that the constructs are closely related. Also, for both change components, the means on both scales were nearly identical. This result was somewhat surprising since retaliatory behavior would seem to represent more severe forms of "resistance", and might place individuals at greater risk of being punished than other forms of resistance. In addition, according to the definition of retaliation, these actions seem to be less direct attempts at preventing the change from being implemented. These results suggest that it may be reasonable to extend the definition of resistance to include behaviors not specifically intended to cause the change effort to fail.

Factors Relating to Resistance and Support

The second major objective of this study was to compare various theories of resistance and support to determine which ones best account for behavioral responses to change.

Comparison of Predictor Effects

Overall, readiness for change was the best predictor of commitment to change, support, and resistance. Perceived benefits of the change also had strong relationships with these variables. It is interesting to note that social cognition is a common theoretical framework underlying both of these models. The theory of planned behavior, and the more basic theories of motivation upon which it is based, seem to describe one of the key

underlying mechanisms of both support and resistance. Individuals may carefully evaluate the consequences of a change, and weigh the benefits against the costs before committing themselves to resisting or supporting the change. Such a rational approach stands in stark contrast to more emotional reactions to change.

According to the theory of individual needs, individuals may resist change if they feel their needs for control and stability are threatened. According to this theory, individuals have an almost automatic negative reaction to changes that will cause them to lose personal control, or upset their sense of stability. In this study, individual needs had the weakest relationships with commitment to change, support and resistance. It seems plausible, therefore, that the degree to which individuals feel threatened or uncomfortable with a change may have little to do with whether they support or resist it. Rather, individuals may realize that these are feelings they need to work through on their own, but they do not allow fear and discomfort to be a basis for resisting change in their lives. For example, Miller et al. (1994), found that the ability to cope successfully with change was not related to the tendency to support it. The current study suggests that rather than automatically resisting change, individuals consider the consequences of the change before acting for or against it. As a result, the case of individuals playing the "defender's role" (Klein, 1969) in which they resist change because they perceive negative consequences for the organization, may be more common than change agents realize.

Organizational justice was also found to relate to levels of commitment, support, and resistance in this study. These results suggest that the way a change is implemented is also important. Communication, bias suppression, opportunities for voice, and other characteristics of organizational justice may reduce resistance and increase levels of

support. On the other hand, lower levels of organizational justice may be sufficient to cause resistance even if the change proposal itself is viewed as fair. While this study supports the main effects of procedural and interactional justice, it did not investigate their interactions with distributive justice. Research showing interactions between distributive and procedural justice would suggest that when fair procedures and personal interactions convey the organization's value and respect for employees, employees may accept a less than desirable change.

All four predictors in this study were related to levels of support and resistance. These results suggest that change agents should attend to cognitive factors, organizational justice, and individual needs since each predictor represents a potentially viable factor influencing individuals' responses to an organizational change. It may be unwise to ignore any one of these factors, since situations may arise where one of the factors, if not attended to during the implementation of change, may alone be sufficient to cause resistance. For example, if change agents create readiness but are not effective at ensuring that the implementation of the change is perceived as fair, it is plausible that resistance may still occur to a high degree.

Measures for Research and Practice

Several measures included in this study may have value for practice of organizational change.. Particularly impressive are the strong relationships with the readiness for change measure. This measure, which is composed of two basic cognitions (i.e. need for change and anticipated success of change), can be applied to almost any change effort, and can be assessed early on in the change process. Furthermore, this

relatively simple measure appears to predict commitment to change and supportive and resistive behaviors quite well.

Commitment to change, which was supported as a mediator of readiness for change, perceived benefits of change, and organizational justice, may provide a good overall evaluation of the level of support and resistance in the organization. This measure, however, may not provide the same diagnostic benefits as some of the other measures since it does not identify specific causes of high or low support.

These measures may also be useful for assessing the effectiveness of change strategies. For example, communication strategies may be shown to relate both to readiness and levels of support. If so, measures of readiness could be used to indicate the effectiveness of communication strategies. This is just one of the ways in which the current theoretical model can be extended to enhance practice and theory of organizational change. Further discussion of extensions to the current model will be taken up in more detail in a later section.

Readiness, Commitment, and Support

Perhaps the most striking finding in this study is the extremely strong relationship between readiness for change and commitment to change. For example, the beta weight in the mediated model for the performance evaluation component of the change was .87 between these factors. These results, however, should be interpreted with caution since there are several reasons to suspect that the relationships are inflated. First, as will be discussed in more detail later, all measures were taken at a single point in time, and are based on self-reports. Therefore, it is likely that common method bias is present. Second, readiness and commitment, as operationalized in this study, may have

considerable conceptual overlap. A new affective commitment measure was developed for this study to reflect the "emotional" components of affective commitment in other domains, and to reduce the similarity of items with the readiness scale. However, some redundancy may still exist in some of the items. For example, the readiness item "To be effective, this organization needs to implement this component of the change" and the commitment item "It is important to me that this component of the change is implemented" may both reflect the need for the change.

To test for redundancy of the measures empirically, a post-hoc structural equation model was analyzed based on the mediated model shown in Figure 7. If readiness and commitment are redundant factors, then removing the relationship between them (i.e. setting the path coefficient to 0) should not result in a decrease of fit. The results of the constrained model are shown in Figure 10. Global fit indices were as follows: $\chi^2 = 238$, df = 91; CFI = .91, NNFI = .87, GFI = .87. The original model had better fit based on the chi-square difference test ($\chi^2 = 42$, df = 1; $p > .01$). In addition, in tests of mediation, commitment explained additional variance above the direct effects of readiness for change. These findings indicate that, while highly related, readiness and commitment to change are not redundant factors.

While the relationship between readiness and commitment may be inflated, each measure has theoretical importance. One key distinction between the constructs is that the unit of analysis in the readiness measure is the organization, and the unit of analysis in the affective commitment measure is the individual. Second, readiness is meant to be an early indicator of support, and may act as a filter affecting how communication and implementation strategies are perceived. Affective commitment to change would be

expected to develop over time, and represents the individual's emotional connection to the change. Cases might certainly exist where a change that is beneficial to the organization does not result in this type of attachment by the individual.

Affective commitment may also have an inflated relationship with support and resistance for the same reasons cited above. In this case similarity of items is more striking. For instance, the affective commitment item, "I am willing to work hard to implement this component of the change" and the active support item, "I worked consistently toward making this component of the change successful" both reflect a personal investment in the success of the change. Again, however, both constructs should be retained because they have theoretical importance. Commitment to change is expected to predict behaviors related to supporting change. This relationship is similar to an intention predicting behavior in the theory of planned behavior. When commitment and behavior are measured simultaneously, commitment is to a large extent a redundant measure. This would not be the case, however, if commitment was measured in order to predict behavior. Perhaps more important, the power of the commitment construct is not only in helping predict behavior, but to explain it by elaborating the mechanisms underlying individuals' behavior.

Moderating Effects

This study did not support control over change as a moderator. This lack of a finding may be a function of the behaviors included in the resistance measure. It seems logical to expect that subordinates will be limited in their responses compared to supervisors. Supervisors should have more influence and control over resources that they could potentially use to support or resist change. Despite this logic, however, it is not

clear whether supervisors will be more selective in their methods of supporting or resisting change. Having access to more effective methods of resistance (and support) may mean that supervisors need only to use a few behaviors to influence the change process. Subordinates, on the other hand, may attempt to use all methods of resisting (or supporting) that are at their disposal. The current study cannot adequately address these questions. A valuable direction for future research may be to include some measure of the perceived effectiveness of various methods of resistance and support. The effectiveness ratings could then be used to weight each behavior in order to calculate a total resistance/support score.

Limitations of Current Study

One limitation of this study is that it relied exclusively on self-reports. If subjects had felt that their identity could be discovered, they may have provided more socially desirable responses, especially with regard to resistance behaviors. Therefore, it was important for subjects to understand and believe that procedures were used to protect their confidentiality. Such procedures were used, and were described to the participants, which should have minimized response bias. In addition, all measures, with the exception of the deviant behavior scales, were approximately normally distributed, indicating that no significant range restriction was present. Without an independent measure of behavior, however, it is impossible to be sure if response bias significantly altered the results of the study.

In addition to response bias, the data from self-reports has an unknown amount of common method bias. One way to reduce common method bias would have been to have supervisors provide an independent assessment of the behaviors in which their

subordinates' engaged. This approach was not taken since procedures required to match participants to their supervisors could have potentially compromised the identity of the participants. Due to the sensitive nature of some of the questions, procedures which would potentially compromise anonymity were judged to pose serious threats to validity. Therefore, the decision was made to accept the common method bias rather than potentially increasing response bias Future studies using independent supervisor ratings of behavior would complement the approach used in this study. Behavioral ratings by participants should still be included in these studies, however, for two reasons: (1) this would allow the effects of common method bias to be estimated; and (2) it is uncertain whether supervisors would be able to rate their subordinates on some of the more covert or passive forms of resistance and support.

Another limitation of the study is that only one organization was sampled. Therefore, unique characteristics of the sample may reduce the generalizability of these findings. In addition, the results of the study may not generalize to other types of change initiatives. A further complication is that surveys were collected at one point in time, after the performance evaluation component was implemented, and prior to the pay-for-performance component taking effect. Resistance and support may have varied throughout various stages of the change. Therefore, responses may not generalize to other stages of change. Also, some of the questions were retrospective, requiring participants to recall their initial reactions to the change, which introduces the possibility of recall errors or bias. Future research should include longitudinal methods to study the effects of the stage of change on behaviors.

Finally, the response rate achieved in the study was somewhat low (39%). Further, older participants were somewhat more likely to respond than younger participants. Therefore, the results of the study may not be entirely generalizable even across the organization itself.

Future Research

This study has identified a number of areas where future research would be valuable. In particular, there are a number of ways to improve and extend the current model. Behavioral measures of resistance and support can be improved, and situational, contextual, and outcome variables can be added to the model.

Improving Behavioral Measures

The behavioral items used in this study were, for the most part, derived from existing measures. It is likely, therefore, that items that better fit the underlying theory of resistance and support could be developed through further research. Before launching into such an endeavor, the first step should be to determine the most theoretically and practically meaningful dimensions of these behaviors. Once the underlying dimensions of support and resistance behavior are identified, these dimensions can be operationalized by a large number of items, and the best items can be selected on the basis of confirmatory factor analysis, and tests of convergent and divergent validity.

This study tested level of support and level of passivity as factors underlying support and resistance behaviors. While level of support is obviously an important dimension of these behaviors, level of passivity may not be a useful or meaningful dimension. In addition to level of support, several other dimensions should be considered. One of the most meaningful dimensions, from the standpoint of

understanding how individuals' behaviors contribute to success or failure of organizational change, is the effectiveness of the behaviors. Further, two aspects of effectiveness may be important to consider: actual and perceived. Actual effectiveness of support and resistance behaviors will tell us how individuals influence the success or failure of change. The effectiveness as perceived by individuals will help us understand, in part, how individuals choose certain behavioral responses.

A third dimension to consider is the distinction between prescribed and discretionary behaviors. This dimension is important to consider for several reasons. First, discretionary behaviors may be representative of a higher level of commitment to change and support. According to Meyer and Herscovitch (2001), when levels of affective commitment are high, individuals are more likely to become champions of change and engage in discretionary behaviors. On the other hand, continuance commitment in the absence of normative and affective commitment, may lead individuals to perform only those behaviors formally prescribed by the change. Second, the antecedents of discretionary behavior are already well understood. The literature on organizational citizenship behaviors suggests that perceptions of organizational justice are associated with extra-role behaviors. According to social exchange theory, when individuals are treated with fairness and respect, they feel an obligation to repay the organization. Literature on social influence and motivation also suggests antecedents of discretionary behavior. Discretionary behaviors are not subject to the organization's formalized system of rules and guidelines. Therefore, non-punitive methods of influence must be employed to motivate individuals to perform these behaviors. Sussman and Vecchio (1985) suggest that discretionary behavior is more likely when individuals have

internalized the need to act. Internalization can be created by appealing to an individual's values. When individuals act out of cooperation or even compliance, discretionary behavior is less likely. Ambrose and Harland (1995) suggest that individuals' reactions to influence attempts differ depending upon the tactic that is employed. In particular, they suggest that influence tactics that are perceived as unfair are more likely to result in resistance.

A fourth dimension of support and resistance that may be important, especially in regard to resistance and retaliatory behaviors, is the perceived consequences and risks of certain behaviors. Individuals may avoid behaviors that could result in punishment or other negative consequences. In general, covert acts of resistance are less likely to be detected than overt acts, but both forms of resistance may have negative consequences for the individual. Individuals may avoid behaviors that they perceive to be too risky. In addition, risk adverse individual may choose not to resist or retaliate at all.

Finally, the target of behavior may be an important dimension to consider. If the definition of resistance is expanded to include retaliatory and deviant behaviors, then multiple targets of behavior are possible. An individual's behavior may target the change proposal, the organization, or individual members of the organization.

Each of the above dimensions appears to have practical and theoretical importance. Measures that incorporate these dimensions would certainly advance research in the area of support and resistance to organizational change.

Extending the Current Model

The model tested in this study was reasonably comprehensive in terms of the number of theories of resistance and support that were tested. Included in the model were

variables related to social cognition, organizational justice, and individual differences. Despite the breadth of the model, it failed to address two basic questions. First, how can the organization and/or environment influence readiness for change, perceived benefits of change, and perceptions of organizational justice? Second, what is the relationship between individual behavior (e.g.,. support, resistance, retaliation) and success or failure of the change effort? A comprehensive model should be able to address these questions. Such a model can be created by adding two levels of analysis to the model tested in the current study: contextual variables and outcomes.

Contextual Variables

To be useful, a model of resistance and support should be able to account for some of the situational and contextual variables that are often associated with change. The organizational development literature identifies a number of factors that have been shown to relate to resistance and support, although the mechanisms by which these variables have their effects has not been elaborated or empirically tested in most cases. These variables may be related to change implementation strategies or climate of the organization.

Change intervention strategies. A number of change intervention strategies have been identified in the literature and advocated in the practice of implementing organizational change. This section will address two strategies in particular: communication and participation.

Practitioners of change management often advocate communication as a method of reducing resistance to change. Change agents may select a range of communication strategies. Communication may be intended to provide information to employees

attempting to persuade them to support the change. These messages may provide employees with information on the change, the organization's strategy for implementing the change, and the positive and negative benefits that employees can expect from the change. Communication early in the change process may clarify the reasons for making the change, and the need for the change. An informational communication strategy may be effective because it reduces some of the uncertainty inherent in change, and also demonstrates that the organization is considerate toward its employees. In addition, communication sends a signal to employees that they are valued and respected, thereby increasing perceptions of interactional justice and procedural justice. Alternatively, change agents may choose a more aggressive communication strategy that attempts to create positive attitudes toward the change among employees.

Communication has been advocated as a way of influencing individual cognitions (Bandura, 1977; Fishbein & Ajzen, 1975), and is therefore appropriate for creating readiness and support for the change. A persuasive communication strategy is generally more effective if the source of the message is credible and the situation is ambiguous. For example, Ellis (1992) found that positive attitudes toward change were associated with source credibility, uncertainty, and the interaction of credibility and uncertainty. A persuasive communication may backfire if employees perceive that the change agent is putting too positive of a "spin" on the change in attempt to sell it to employees. The persuasive communication strategy may also polarize attitudes toward the change if there is a large discrepancy between the message and existing attitudes.

Two research studies found empirical support for the effects of communication on resistance to change. Schweiger and DeNisi (1991), in a field experiment, found that

communication through a realistic merger preview reduced the level of uncertainty employees experienced with regard to how aspects of their work life would change following a merger. One of two plants received the merger preview, and reported higher levels of trust in the organization, job satisfaction, and performance (based on self-ratings) compared to the control plant. Uncertainty was related to these and other outcomes, including stress, intention to remain with the organization, absenteeism, and turnover. In addition, employees receiving the realistic merger preview reported lower levels of uncertainty even three months after the merger. Wanberg and Banas (in press) found that employees who received more information about a reorganization of their workplace reported higher levels of change acceptance.

Participation of employees in the change process has been recommended as a way to reduce resistance, and is often a key component of practitioner models. Coch and French (1948) found that employees who were allowed to participate in the design of the change showed higher levels of production and less resistance to change afterwards compared to work units who had less participation in design of the change. Wanberg and Banas (in press) found that employees who had more opportunity to participate in the change had a more positive view of the change.

Participation has many effects. It can be viewed from a justice perspective as improving the fairness of procedures and outcomes. Participation may also create readiness for change. For example, when employees are allowed to participate from the beginning of the change process (e.g., joint diagnosis of problems), they may gain first-hand knowledge that leads them to see the need for change (Novelli et al; 1995), and their input may result in an improved change design. Further, frequent opportunities to

provide input and feedback, or voice, are typically associated with greater acceptance of outcomes (Folger & Konovsky, 1989; Thibaut & Walker, 1975).

Climate Variables

Characteristics of the organization that are important to consider may include organizational cynicism and anticipatory injustice. These are beliefs that are formed as a result of past experiences of change attempts in the organization. Past experiences with change can indirectly affect the success of new changes through lasting effects on cultural variables such as organizational cynicism and trust.

Organizational cynicism. Employees will be less supportive of change when the organizational climate is characterized by cynicism. Organizational cynicism is a belief that attempts to solve problems of the organization will be futile due to inherent shortcomings in the system or organization (Vance, Brooks, & Tesluk, 1995). In theory, when organizational members believe that efforts to change will fail, they may withhold their support or even resist the proposed change. Vance, Brooks and Tesluk (1995) developed a measure of organizational cynicism specifically designed to predict resistance to change.

As a climate variable, cynicism has been shown, in longitudinal studies, to be relatively stable. The direction of causality between resistance and cynicism appears to be reciprocal; past experiences with change can lead to increases or decreases in levels of organizational cynicism. For example, cynicism decreased after an organization successfully implemented self-managing work teams. The opposite effect may also occur: Failure of past change initiatives may increase organizational cynicism, resulting in increased resistance to new changes.

Anticipatory injustice. Anticipatory injustice is a term used to describe the expectation that distributive, procedural, or interactional injustice will occur. Employees are more likely to anticipate injustice if they have experienced injustice in the past. Shapiro and Kirkman (in press) argue that individuals who expect injustice will also be likely to perceive or expect that injustice will occur when new changes are implemented. This proposition is based on the confirmatory bias phenomena well established in social psychology: Individuals will seek out and interpret information in such a way that they confirm their preconceptions (Snyder & Swann, 1978). In other words, anticipation of injustice may lead to perceptions of injustice even when the outcomes, procedures and interactions associated with the change are fair. Anticipatory injustice, in turn, is likely to lead to retaliatory behaviors and other forms of resistance (Folger & Skarliki, 1999). Therefore, past experience with injustice may indirectly affect resistance to future change efforts.

Outcomes of Change Efforts

The rationale for this study was based on the premise that successful implementation of change requires that individuals change their attitudes and behaviors. Empirical tests of this linkage have shown mixed results (see Porras & Robertson, 1992 for a review of this literature). Research in this area may be aided by a multidimensional measure of success, such as institutionalization of change (Goodman & Dean, 1982). But equally important is the need to define the specific behaviors that relate to success or failure of change, and to address questions of how individual behaviors aggregate to influence the success or failure of change. For example, some resistance behaviors may

be only mildly effective on an individual level, but may have a strong effect when a majority of employees exhibit these same behaviors.

Other outcomes of change efforts are also important to consider, including unintended consequences such as property and production losses, withdrawal, and turnover. In some cases, a change effort may result in negative perceptions of the organization, including a loss of trust, that carries over to future changes.

Addressing the Dynamics of Organizational Change

Organizational change is a dynamic and complex process. For instance, the change initiative itself may evolve if the change agents face resistance, or learn more about the organization's needs. Resistance and support may also change over time. Watson (1969) describes five stages of change. According to this model, resistance is low when a change initiative is being developed. But as implementation begins, resistance becomes a majority view. As details of the change become clear, resistance may become more heated, and more specifically targeted toward details of the change proposal. Active resistance is likely to reach a head when the decision is made to go forth with the change. Once it appears that the change will be implemented, resistors may reluctantly cooperate with the change, but are unlikely to become fully committed to the change. Dynamics such as these will be difficult to capture fully, but our understanding of resistance and support may be improved through longitudinal, control group, and laboratory studies.

Addressing Social Influence Processes

The model tested in this study is insufficient to understand the complex social processes that are likely to influence individuals' behaviors during organizational change.

It is difficult to speculate the extent to which individual behavior in response to change is influenced by such variables as social norms, peer pressure, and social influence. But it is likely that peers, supervisors, subordinates and others influence individuals' responses to organizational change. Each individual may be influenced by multiple sources over time. Also, individuals in a social setting are simultaneously targets and initiators of persuasion attempts. These interactive effects can be easily lost in a real life setting. Furthermore, the social system may have a reciprocal relationship on the change initiative itself. For example, as coalitions form to oppose a change, agents may reshape the change initiative and the implementation strategy. Research that provides a better understanding of the social influence processes that take place during implementation of organizational change would be valuable. Sophisticated methodologies will be needed to make sense of all the interdependencies and dynamics of the social influence processes.

Conclusion

Research in the field of organizational development has much to gain from continuing to examine the ways in which individuals react and behave during organizational change. The basic premise of this study is that success of organizational change efforts can be improved by better understanding the factors that cause individuals to resist or support change. Underlying this premise is the assumption that organizational change will not be successful unless individuals change their behaviors and attitudes. Further, it seems plausible that organizations will implement change more successfully to the extent that they can gain enthusiastic support versus grudging compliance. Given that change is necessary for organizational survival, and many change efforts are

unsuccessful, further research of support and resistance has much to offer the field of organizational development.

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Appendix

Elicitation Study Questions

1. If you think about the potential benefits or advantages associated with this change, what thoughts come to your mind with regard to:

   - Benefits/advantages for yourself:

   - Benefits/advantages for your workgroup or organizational unit:

   - Benefits/advantages for [redacted] as a department:

2. If you think about the costs or disadvantages associated with the change, what thoughts come to your mind with regard to:

   - Costs/disadvantages for yourself:

   - Costs/disadvantages for your workgroup or organizational unit

   - Costs/disadvantages for [redacted] as a department

Scales Used in Study

Readiness for Change

Need for change

1. This organization has good reasons for implementing this component of the change
2. To be effective, this organization needs to implement this component of the change
3. In our business environment, this component of the change is necessary
4. It is difficult to justify the need for this component of the change*

Success of change

When this component of the change was first described, I believed that ...

5. It would be successfully implemented
6. It would not really accomplish what was intended
7. This organization was not capable of implementing it

Organizational Justice

Distributive justice

1. To implement this component of the change, I had to work extra hours without compensation
2. Compared to others, I worked much harder to make this component of the change happen
3. I was not recognized or rewarded for my contributions to implementing this component of the change
4. If this component of the change is implemented, it will result in the benefits that this organization promised

Procedural justice

When implementing this component of the change, my manager(s)...

5. Made decisions in an unbiased manner
6. Made sure that employee concerns were heard before making decisions
7. Collected accurate and complete information
8. Made decisions consistently across all affected employees
9. Allowed employees to appeal decisions

Interactional justice.

10. Treated me with kindness and consideration
11. Treated me with respect and dignity
12. Was sensitive to my needs
13. Dealt with me in a truthful manner
14. Discussed the implications of his/her decisions with me
15. Offered adequate justification for his/her decisions
16. Explained his/her decisions very clearly

Benefits of Change

I believe that implementing this component of the change will ....

1. Make those employees not rated as peak performers feel inadequate
2. Make those employees not rated as peak performers feel they were unfairly evaluated
3. Lower morale among employees at this organization
4. Cause good performers to leave this organization
5. Make this organization more successful in the long run

6. Motivate poor performers to leave this organization
7. Reduce cooperation within my team or unit
8. Encourage unhealthy competition among employees in my unit
9. Cause employees to question the fairness of evaluations within my unit
10. Make my unit more effective
11. Make others with whom I work more accountable for their performance
12. Make it difficult for me to get a salary increase
13. Cause tension between myself and my supervisor
14. Challenge me to perform my best
15. Help me know what is expected of me regarding my performance
16. Provide a better evaluation of my performance

Commitment to Change

Herscovitch's affective commitment scale (Revised)

1. I believe in the value of this component of the change
2. This component of the change is a good strategy for this organization
3. I think that management is making a mistake by introducing this component of the change
4. This component of the change serves an important purpose
5. Things would be better without this component of the change

Alternative affective commitment scale

6. I am willing to work hard to implement this component of the change
7. I am quite pleased with this component of the change
8. It is important to me that this component of the change is implemented

9. I would be disappointed if this component of the change failed

10. I have positive feelings about this component of the change

Normative commitment

11. I feel a sense of duty to work toward this component of the change

12. I don't think it would be right of me to oppose this component of the change

13. I would feel badly about opposing this component of the change

14. I do not feel any obligation to support this component of the change

Control Over Change

1. I had significant input into the design of my office/unit the change plan
2. My suggestions to improve this component of the change were incorporated
3. Management was open to my suggestions regarding this component of the change
4. I could have made it difficult for my office/unit to implement this component of the change
5. Without my support, this component of the change would not be successful in my unit (e.g., would not accomplish what was intended)

Behavioral Support

This part of the survey asks about things you may have done in response to this component of the change. **Please recall how you acted while the change was being implemented.**

Active resistance

1. I argued with my supervisor about this component of the change
2. I openly spoke out against this component of the change
3. I openly criticized this component of the change

Retaliatory (revised deceptive behaviors)

4. I told my manager(s) that most employees were against this component of the change
5. I told my manager(s) that I would fight this component of the change if it was implemented
6. I threatened to leave this organization if this component of the change was implemented
7. I told my manager(s) that valued employees would not cooperate with this component of the change

Passive resistance

1. I verbally agreed to support this component of the change but did not actually do so
2. I failed to do what was needed to implement this component of the change
3. I withheld information or other resources that would have supported this component of the change
4. I stood by without helping as management struggled to implement this component of the change

5. I gave minimal effort to tasks required to implement this component of the change
6. I did no more than was absolutely necessary to implement this component of the change
7. I performed change-related tasks only when specifically directed to do so

Passive support

8. I spoke positively about this component of the change to others
9. I actively participated in meetings regarding this component of the change
10. I tried to keep myself informed about this component of the change
11. I was tolerant of temporary disruptions and/or ambiguities in my job that resulted from this component of the change

Active support

12. I worked consistently toward making this component of the change successful
13. I encouraged others to support this component of the change
14. I helped co-workers who had difficulty implementing this component of the change
15. I tried to find ways to overcome difficulties related to this component of the change
16. I tried to help co-workers overcome their resistance to this component of the change
17. I worked extra hours to implement this component of the change
18. I volunteered to help implement this component of the change
19. I tried to explain the benefits of this component of the change to others

Deviant behavior

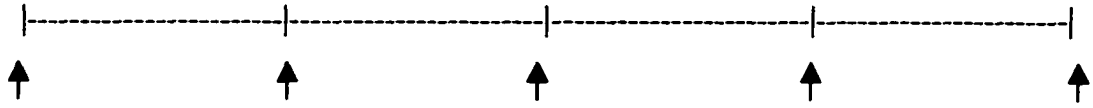
As a result of this component of the change...

1. I put less effort than normal into my work
2. I used work hours for personal matters instead of working on assigned job duties
3. I purposely arrived late to work, or left early, without permission
4. I called in sick when I was not
5. I intentionally worked slower or sloppier than I could have worked

Support Continuum

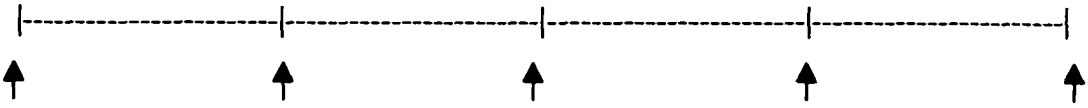
The following scale represents a range of reactions that you may have experienced in response to the two components of the change. The scales range from **strong resistance** on the far left to **strong support** on the far right. Please place a slash through the portion of the scale which you feel best represents ***your reaction to this component of the change***. Please read each of the descriptions carefully before making your decision. ***You may place the slash anywhere on the scale.***

1. My response to the **performance evaluation system** of the change is best described as....



Strong Resistance	**Moderate Resistance**	**Neutral**	**Moderate Support**	**Strong Support**
(I actively tried to stop the new evaluation system from being implemented)	(I opposed the new evaluation system but was not active in trying to stop it from being implemented)	(I did the minimum that was required to implement the new evaluation system, and may have been somewhat reluctant to do so)	(I willingly went along with the new evaluation system and did what was expected of me to help implement it)	(I spoke positively about the new evaluation system tried to get others to support it, and/or volunteered to help make the change successful)

2. My response to the **pay-for-performance system** of the change is best described as....



Strong Resistance	**Moderate Resistance**	**Neutral**	**Moderate Support**	**Strong Support**
(I actively tried to stop the new pay-for-performance system from being implemented)	(I opposed the new pay-for-performance system but was not active in trying to stop it from being implemented)	(I did the minimum that was required to implement the new pay-for-performance system, and may have been somewhat reluctant to do so)	(I willingly went along with the new pay-for-performance system and did what was expected of me to help implement it)	(I spoke positively about the new pay-for-performance system tried to get others to support it, and/or volunteered to help make the change successful)

Individual needs

This section asks about your **general reactions to changes to your job**. The term "job" is meant to refer to your responsibilities, job duties, reporting relationships, benefits, and other aspects of your work.

1. I am annoyed when modifications are made to my job
2. Changes made to my job are an inconvenience
3. I would prefer that my job stay the way it is
4. I dislike having to learn new ways to perform my job
5. I do not see a benefit from making changes to my job
6. When changes are made to my job, I feel as though I lose control over the situation
7. I can get stubborn when I face changes to my job
8. There is no need for changes made to my job

Demographics

The information below will help determine if there are differences in responses according to gender, age category, years at [redacted], supervisory status, and job type. All the responses to these questions will be aggregated so that no individual answers will be distinguishable.

Please provide the following information about yourself by circling the appropriate response (questions 1-4) or writing a response in the space provided.

1. Gender ...	M	F			
2. Age	25 or under	26-35	36-45	46-55	56 or older
3. Years of service	4 or less	5-10	11-15	16-20	Over 20
4. Years of service with the state	4 or less	5-10	11-15	16-20	Over 20

5. Are you responsible for evaluating the performance of other employees? Y N

6. What is your job class and level (e.g., General Professional III) _____

Survey Instrument (Administered July 2000)

General Instructions

This survey will ask you a variety of questions related to your reactions to [THE NEW PLAN]. [THE NEW PLAN] has two basic components:

1. A new performance evaluation system: This system is used to evaluate your job performance and classify you into one of three categories: needs improvement, fully competent, or peak performer.
2. A pay-for-performance system. [THE NEW PLAN] would have tied your pay raises to your performance evaluation. Although the pay-for-performance component will not be implemented this year, we are still interested in your reactions to it. ***For the purposes of this survey, please assume that pay raises will be based on your performance. In other words, pretend that the pay-for-performance component of [THE NEW PLAN] is still in effect***

The questions in this survey will ask you about the two components of Colorado Peak Performance described above.

The main purpose of this study is for research. However, the survey will also help identify your concerns and responses to [THE NEW PLAN]. When [THE NEW PLAN] is replaced by a new system, the results of the survey may help [THE ORGANIZATION] to better address your concerns.

As mention in the cover letter, your participation is completely voluntary. Your responses will remain anonymous. No information that compromises your identity (e.g., name, social security number) will be known to the researcher. Therefore, it is hoped that you will feel comfortable providing candid and honest responses to the survey questions.

The survey should take you less than 30 minutes to complete. You are welcome to complete the survey during working hours. When you are finished, simply place the completed survey in the return envelope provided. **Please return the survey by July 21**. If you have questions or concerns, please contact Michael Orth, whose phone number is on the cover sheet.

Thank you for your participation.

Part I

To ensure that the above instructions were clear, please respond to the following statement by circling T (for true) or F (for false)

T F For the purposes of this study, I should respond as if [THE NEW PLAN] is still in effect.

Instructions for Responding to Items

This survey will require you to respond to a number of statements. Each statement will have two columns of numbers for your response. The first column will be used to record your response to the performance evaluation system. The second column will be used to record your response to the pay-for-performance system. Throughout the survey, the scale show below will be used to indicate your level of agreement with each statement. The scale will appear on the top of each page for easy reference.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

Part II

	Performance Evaluation Component	Pay-for-Performance Component
1. [THE ORGANIZATION] has good reasons for implementing this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
2. To be effective, [THE ORGANIZATION] needs to implement this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
3. In our business environment, this component of [THE NEW PLAN] is necessary	1 2 3 4 5	1 2 3 4 5
4. It is difficult to justify the need for this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5

When this component of [THE NEW PLAN] was first described, I believed that...

5. It would be successfully implemented	1 2 3 4 5	1 2 3 4 5
6. It would not really accomplish what was intended	1 2 3 4 5	1 2 3 4 5
7. [THE ORGANIZATION] was not capable of implementing it	1 2 3 4 5	1 2 3 4 5

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

Part III

	Performance Evaluation Component	Pay-for-Performance Component
1. To implement this component of [THE NEW PLAN], I had to work extra hours without compensation	1 2 3 4 5	1 2 3 4 5
2. Compared to others, I worked much harder to make this component of [THE NEW PLAN] happen	1 2 3 4 5	1 2 3 4 5
3. I was not recognized or rewarded for my contributions to implementing this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
4. If this component of [THE NEW PLAN] is implement, it will result in the benefits that [THE ORGANIZATION] promised	1 2 3 4 5	1 2 3 4 5

When implementing this component of [THE NEW PLAN], my manager(s)...

5. Made decisions in an unbiased manner	1 2 3 4 5	1 2 3 4 5
6. Made sure that employee concerns were heard before making decisions	1 2 3 4 5	1 2 3 4 5
7. Collected accurate and complete information	1 2 3 4 5	1 2 3 4 5
8. Made decisions consistently across all affected employees	1 2 3 4 5	1 2 3 4 5
9. Allowed employees to appeal decisions	1 2 3 4 5	1 2 3 4 5
10. Treated me with kindness and consideration	1 2 3 4 5	1 2 3 4 5
11. Treated me with respect and dignity	1 2 3 4 5	1 2 3 4 5
12. Was sensitive to my needs	1 2 3 4 5	1 2 3 4 5
13. Dealt with me in a truthful manner	1 2 3 4 5	1 2 3 4 5
14. Discussed the implications of his/her decisions with me	1 2 3 4 5	1 2 3 4 5
15. Offered adequate justification for his/her decisions	1 2 3 4 5	1 2 3 4 5
16. Explained his/her decisions very clearly	1 2 3 4 5	1 2 3 4 5

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

Part IV

I believe that implementing this component of [THE NEW PLAN] will ...

	Performance Evaluation Component	Pay-for-Performance Component
1. Make those employees not rated as peak performers feel inadequate	1 2 3 4 5	1 2 3 4 5
2. Make those employees not rated as peak performers feel they were unfairly evaluated	1 2 3 4 5	1 2 3 4 5
3. Lower morale among employee at [THE ORGANIZATION]	1 2 3 4 5	1 2 3 4 5
4. Cause good performers to leave [THE ORGANIZATION]	1 2 3 4 5	1 2 3 4 5
5. Make [THE ORGANIZATION] more successful in the long run	1 2 3 4 5	1 2 3 4 5
6. Motivate poor performers to leave [THE ORGANIZATION]	1 2 3 4 5	1 2 3 4 5
7. Reduce cooperation within my team or unit	1 2 3 4 5	1 2 3 4 5
8. Encourage unhealthy competition among employees in my unit	1 2 3 4 5	1 2 3 4 5
9. Cause employees to question the fairness of evaluations within my unit	1 2 3 4 5	1 2 3 4 5
10. Make my unit for effective	1 2 3 4 5	1 2 3 4 5
11. Make others with whom I work more accountable for their performance	1 2 3 4 5	1 2 3 4 5
12. Make it difficult for me to get a salary increase	1 2 3 4 5	1 2 3 4 5
13. Cause tension between myself and my supervisor	1 2 3 4 5	1 2 3 4 5
14. Challenge me to perform my best	1 2 3 4 5	1 2 3 4 5
15. Help me to know what is expected of me regarding my performance	1 2 3 4 5	1 2 3 4 5
16. Provide a better evaluation of my performance	1 2 3 4 5	*

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

Part V

	Performance Evaluation Component	Pay-for-Performance Component
1. I believe in this value of this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
2. This component of [THE NEW PLAN] is a good strategy for [THE ORGANIZATION]	1 2 3 4 5	1 2 3 4 5
3. I think that management is making a mistake by introducing this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
4. This component of [THE NEW PLAN] serves an important purpose	1 2 3 4 5	1 2 3 4 5
5. Things would be better without this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
6. I am willing to work hard to implement this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
7. I am quite pleased with this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
8. It is important to me that this component of [THE NEW PLAN] is implemented	1 2 3 4 5	1 2 3 4 5
9. I would be disappointed if this component of [THE NEW PLAN] failed	1 2 3 4 5	1 2 3 4 5
10. I have positive feelings about this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
11. I feel a sense of duty to work toward this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
12. I don't think it would be right of me to oppose this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
13. I would feel badly about opposing this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
14. I do not feel any obligation to support this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

Part VI

	Performance Evaluation Component	Pay-for-Performance Component
1. I had significant input into the design of my office/unit [THE NEW PLAN] plan	1 2 3 4 5	1 2 3 4 5
2. My suggestions to improve this component of [THE NEW PLAN] were incorporated	1 2 3 4 5	1 2 3 4 5
3. Management was open to my suggestions regarding this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
4. I could have made it difficult for my office/unit to implement this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
5. Without my support, this component of [THE NEW PLAN] would not be successful in my unit (e.g., would not accomplish what was intended)	1 2 3 4 5	1 2 3 4 5

Part VII

This part of the survey asks about things you may have done in response to this component of [THE NEW PLAN]. **Please recall how you acted while [THE NEW PLAN] was being implemented.**

1. I argued with my supervisor about this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
2. I openly spoke out against this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
3. I openly criticized this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
4. I told my manger(s) that most employees were against this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
5. I told my managers(s) that I would fight this component of [THE NEW PLAN] if it were implemented	1 2 3 4 5	1 2 3 4 5
6. I threatened to leave [THE ORGANIZATION] if this component of [THE NEW PLAN] was implemented	1 2 3 4 5	1 2 3 4 5

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

Part VII-continued

	Performance Evaluation Component	Pay-for-Performance Component
7. I told my manger(s) that valued employees would not cooperate with this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
8. I verbally agreed to support this component of [THE NEW PLAN] but did not actually do so	1 2 3 4 5	1 2 3 4 5
9. I failed to do what was needed to implement this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
10. I withheld information or other resources that would have supported this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
11. I stood by without helping as management struggled to implement this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
12. I gave minimal effort to tasks required to implement this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
13. I did no more than was absolutely necessary to implement this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
14. I performed change-related tasks only when specifically directed to do so	1 2 3 4 5	1 2 3 4 5
15. I spoke positively about this component of [THE NEW PLAN] to others	1 2 3 4 5	1 2 3 4 5
16. I actively participated in meetings regarding this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
17. I tried to keep myself informed about this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
18. I was tolerant of temporary disruptions and/or ambiguities in my job that resulted from this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

Part VII-continued

	Performance Evaluation Component	Pay-for-Performance Component
19. I worked consistently toward making this component of [THE NEW PLAN] successful	1 2 3 4 5	1 2 3 4 5
20. I encouraged others to support this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
21. I helped co-workers who had difficulty implementing this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
22. I tried to find ways to overcome difficulties related to this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
23. I tried to help co-workers overcome their resistance to this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
24. I worked extra hours to implement this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
25. I volunteered to help implement this component of [THE NEW PLAN]	1 2 3 4 5	1 2 3 4 5
26. I tried to explain the benefits of this component of [THE NEW PLAN] to others	1 2 3 4 5	1 2 3 4 5

<u>As a result of this component of [THE NEW PLAN]...</u>

27. I put less effort than normal into my work	1 2 3 4 5	1 2 3 4 5
28. I used work hours for personal matters instead of working on assigned job duties	1 2 3 4 5	1 2 3 4 5
29. I purposely arrived late to work, or left early, without permission	1 2 3 4 5	1 2 3 4 5
30. I called in sick when I was not	1 2 3 4 5	1 2 3 4 5
31. I intentionally worked slower or sloppier than I could have worked	1 2 3 4 5	1 2 3 4 5

Part VIII

The following scale represents a range of reactions that you may have experienced in response to the two components of the change. The scales range from **strong resistance** on the far left to **strong support** on the far right. Please place a slash through the portion of the scale which you feel best represents ***your reaction to this component of the change***. Please read each of the descriptions carefully before making your decision. ***You may place the slash anywhere on the scale.***

3. My response to the **performance evaluation system** of the change is best described as....

Strong Resistance	**Moderate Resistance**	**Neutral**	**Moderate Support**	**Strong Support**
(I actively tried to stop the new evaluation system from being implemented)	(I opposed the new evaluation system but was not active in trying to stop it from being implemented)	(I did the minimum that was required to implement the new evaluation system, and may have been somewhat reluctant to do so)	(I willingly went along with the new evaluation system and did what was expected of me to help implement it)	(I spoke positively about the new evaluation system tried to get others to support it, and/or volunteered to help make the change successful)

4. My response to the **pay-for-performance system** of the change is best described as....

Strong Resistance	**Moderate Resistance**	**Neutral**	**Moderate Support**	**Strong Support**
(I actively tried to stop the new pay-for-performance system from being implemented)	(I opposed the new pay-for-performance system but was not active in trying to stop it from being implemented)	(I did the minimum that was required to implement the new pay-for-performance system, and may have been somewhat reluctant to do so)	(I willingly went along with the new pay-for-performance system and did what was expected of me to help implement it)	(I spoke positively about the new pay-for-performance system tried to get others to support it, and/or volunteered to help make the change successful)

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

Part IX

This section asks about your **general reactions to changes to your job**. The term "job" is meant to refer to your responsibilities, job duties, reporting relationships, benefits, and other aspects of your work.

1. I am annoyed when modifications are made to my job	1 2 3 4 5
2. Changes made to my job are an inconvenience	1 2 3 4 5
3. I would prefer that my job stay the way it is	1 2 3 4 5
4. I dislike having to learn new ways to perform my job	1 2 3 4 5
5. I do not see a benefit from making changes to my job	1 2 3 4 5
6. When changes are made to my job, I feel as though I lose control over the situation	1 2 3 4 5
7. I can get stubborn when I face changes to my job	1 2 3 4 5
8. There is no need for changes made to my job	1 2 3 4 5

Part X Demographic Information

The information below will help determine if there are differences in responses according to gender, age category, years at [THE ORGANIZATION], supervisory status, and job type. All the responses to these questions will be aggregated so that no individual answers will be distinguishable.

Please provide the following information about yourself by circling the appropriate response (questions 1-4) or writing a response in the space provided.

1. Gender ..... M F
2. Age ..... 25 or under 26-35 36-45 46-55 56 or older
3. Years of service 4 or less 5-10 11-15 16-20 Over 20
4. Years of service with the state 4 or less 5-10 11-15 16-20 Over 20
5. Are you responsible for evaluating the performance of other employees? Y N
6. What is your job class and level (e.g., General Professional III) _____

Part XI Comments

Please feel free to provide any additional comments in the space provided below. You may want to comment on [THE NEW PLAN] or the content of the survey.

Please look back over the survey and verify that you did not miss any questions.

Then return to Michael Orth in the envelope provided. Please do not put any information on the survey or return envelope that may compromise your identity. This includes your name, office, or address.

Thanks again for your participation!

Table 1

Response Frequencies for Demographic Variables

Variable	N
Gender (Total)	189
M	74
F	115
Age Category (Total)	189
25 or under	0
26-35	14
36-45	57
46-55	91
56 or older	27
Years with Organization (Total)	184
4 or less	34
5-10	42
11-15	42
16-20	25
over 20	41
Years with State (Total)	189
4 or less	26
5-10	41
11-15	48
16-20	28
over 20	46
Supervisor (Total)	188
Y (=1)	99
N (=2)	89

Table 2

Monetary Awards Under the New Performance Evaluation Plan

	Performance Awards	
	Employee's Current Salary Range	
Performance Level	Below Job Rate	At or Above Job Rate
Needs Improvement	0%	0%
Fully Competent	0-5% base and or non-base building. Base building and non-base building awards are not to exceed job rate. Any non-base building award must be re-earned annuallv.	0%
Peak Performer	0-10% base and or non-base building. Base building and non-base building awards are not to exceed job rate. Any non-base building award must be re-earned annually.	Up to range maximum as a non-base building award that must be re-earned annually.

Note.

Performance awards are a function of both the employees' performance level and current salary (whether it is above or below the job rate).

Table 3
Scale Means, Standard Deviations, and Reliabilities

Variable	Mean	Std. Dev.	Alpha	Items
Individual needs	2.27	.68	.87	8
Performance Evaluation Component				
Readiness	3.01	.91	.75	7
Distributive justice	2.86	.72	.45	4
Procedural justice	2.96	.94	.87	5
Interactional justice	3.30	1.00	.95	7
Benefits of change	2.61	.78	.92	16
Affective commitment (Hers.)	3.03	1.08	.92	5
Affective commitment (new)	2.97	.99	.91	5
Normative commitment	3.08	.94	.87	4
Control over change	2.74	.88	.82	5
Active support	3.21	.74	.90	8
Passive support	3.57	.65	.71	3
Active resistance	2.52	1.00	.85	3
Passive resistance	2.03	.69	.88	7
Retaliatory behavior	2.18	.70	.79	4
Deviant behavior	1.46	.60	.90	5
Support continuum	63.8	24.9	N/A	1
Pay-for-Performance Component				
Readiness	2.40	.87	.82	7
Distributive justice	2.72	.75	.50	4
Procedural justice	2.83	.93	.87	5
Interactional justice	3.17	1.00	.95	7
Benefits of change	2.33	.75	.91	16
Affective commitment (Hers.)	2.33	1.04	.89	5
Affective commitment (new)	2.34	.97	.89	5
Normative commitment	2.58	1.02	.85	4
Control over change	2.55	.86	.82	5
Active support	3.02	.75	.90	8
Passive support	3.40	.67	.67	3
Active resistance	2.94	1.15	.87	3
Passive resistance	2.10	.73	.88	7
Retaliatory behavior	2.34	.79	.78	4
Deviant behavior	.75	1.52	.65	5
Support continuum	50.6	28.3	N/A	1

Table 4
Correlation Matrix

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Readiness	.45	.09	.35	.29	.57	.75	.67	.61	.44	.44	.36
2. Distributive justice	.08	.73	.13	.16	.15	.10	.15	.07	-.05	-.13	-.20
3. Procedural justice	.37	.14	.81	.74	.40	.33	.38	.42	.37	.32	.25
4. Interactional justice	.37	.19	.77	.93	.31	.27	.27	.34	.31	.20	.17
5. Benefits of change	.65	.15	.53	.43	.82	.69	.69	.60	.39	.46	.29
6. Affective commitment (Hers.)	.71	.02	.40	.39	.66	.51	.79	.70	.37	.54	.32
7. Affective commitment (new)	.67	.08	.46	.41	.64	.77	.42	.72	.42	.49	.31
8. Normative commitment	.62	-.03	.43	.40	.54	.70	.73	.56	.37	.54	.35
9. Control over change	.36	-.09	.48	.43	.44	.39	.42	.41	.73	.43	.27
10. Active support	.43	-.22	.29	.22	.37	.44	.51	.56	.47	.82	.67
11. Passive support	.34	-.21	.18	.14	.30	.30	.34	.42	.30	.74	.81
12. Active resistance	-.49	-.07	-.31	-.32	-.44	-.57	-.59	-.44	-.35	-.32	-.21
13. Passive resistance	-.31	.07	-.27	-.22	-.24	-.35	-.32	-.28	-.27	-.49	-.46
14. Retaliatory behavior	-.42	-.14	-.29	-.32	-.44	-.48	-.47	-.40	-.26	-.32	-.28
15. Deviant behavior	-.10	.03	-.05	-.10	-.09	-.05	-.11	-.12	-.06	-.21	-.27
16. Support continuum	.62	.02	.35	.35	.47	.60	.64	.63	.37	.61	.48
17. Individual needs	-.20	.09	-.15	-.16	-.20	-.28	-.19	-.23	-.19	-.24	-.16
18. Gender	.05	-.03	.01	-.01	.01	.03	.11	.03	-.09	-.01	-.08
19. Age category	-.10	.07	.03	-.06	.02	-.10	-.04	-.07	.01	-.01	.01
20. Years with org.	-.08	.00	-.11	-.19	-.06	-.15	-.14	-.11	.03	.09	.11
21. Years with state	-.06	-.05	-.08	-.13	-.04	-.10	-.11	-.07	.04	.10	.14
22. Supervisor status	-.26	.13	-.25	-.17	-.24	-.34	-.26	-.40	-.33	-.38	-.30

Note.
Correlations below the diagonal are for the performance evaluation component of the change. Correlations above the diagonal are for the pay-for-performance component of the change. Correlations on the diagonal represent the consistency of the measures across the two components of the change.
Correlations above .16 are significant at the $p = .01$ level

Table 4
Correlation Matrix (Continued)

Variable	12	13	14	15	16	17	18	19	20	21	22
1. Readiness	-.38	-.18	-.30	-.04	.56	-.29	-.11	.00	-.08	-.02	-.18
2. Distributive justice	-.05	.08	-.13	.05	.02	.05	-.07	.03	.05	-.01	.08
3. Procedural justice	-.11	-.15	-.13	-.02	.29	-.15	-.03	-.03	-.04	-.04	-.25
4. Interactional justice	-.17	-.15	-.20	-.09	.24	-.20	-.05	-.08	-.15	-.10	-.21
5. Benefits of change	-.39	-.19	-.35	.01	.51	-.25	-.03	.02	-.02	.01	-.19
6. Affective commitment (Hers.)	-.41	-.13	-.38	.06	.65	-.26	-.07	.01	-.08	.00	-.27
7. Affective commitment (new)	-.43	-.07	-.34	.05	.66	-.15	-.05	.11	-.01	.02	-.17
8. Normative commitment	-.34	-.10	-.29	.00	.62	-.23	-.12	-.02	-.06	-.04	-.33
9. Control over change	-.35	-.19	-.24	-.05	.37	-.21	-.08	.09	.05	.06	-.28
10. Active support	-.28	-.38	-.25	-.10	.57	-.18	-.04	.02	.05	.08	-.37
11. Passive support	-.13	-.29	-.12	-.16	.43	-.17	-.08	.02	.11	.15	-.24
12. Active resistance	.66	.33	.69	.12	-.47	.29	-.12	-.05	.07	.00	.18
13. Passive resistance	.37	.81	.45	.35	-.29	.27	-.09	-.01	.00	-.03	.30
14. Retaliatory behavior	.71	.52	.72	.22	-.41	.30	-.07	.00	.13	.04	.21
15. Deviant behavior	.19	.40	.28	.84	-.06	.16	-.05	-.01	.01	.03	.03
16. Support continuum	-.54	-.44	-.53	-.18	.56	-.23	-.09	-.03	-.02	.02	-.30
17. Individual needs	.30	.29	.30	.19	-.22		-.09	-.12	-.04	-.11	.23
18. Gender	-.10	.02	-.05	-.06	.03	-.09		-.04	.04	.03	-.00
19. Age category	.02	.02	.08	-.01	-.05	-.12	-.04		.32	.41	.01
20. Years with org.	.09	-.03	.12	.00	-.09	-.04	.04	.32		.93	-.11
21. Years with state	.02	-.06	.04	.00	-.03	-.11	.02	.41	.93		-.11
22. Supervisor status	.27	.37	.29	.08	-.40	.23	.01	.01	-.11	-.11	

Table 5

Correlations Among Latent Predictor Factors for the Performance Evaluation Component

Factor	1	2	3
Measurement Model			
1. Readiness			
2. Perceived Benefits	.80		
3. Justice	.48	.60	
4. Individual Needs	-.30	-.24	-.15
Direct Model			
1. Readiness			
2. Perceived Benefits	.84		
3. Justice	.51	.60	
4. Individual Needs	-.31	-.24	-.15
Mediated Model			
1. Readiness			
2. Perceived Benefits	.79		
3. Justice	.48	.60	
4. Individual Needs	-.31	-.28	-.19

Table 6

Correlations Among Latent Predictor Factors for the Pay-for-Performance Component

Factor	1	2	3
Measurement Model			
1. Readiness			
2. Perceived Benefits	.78		
3. Justice	.41	.44	
4. Individual Needs	-.38	-.28	-.10
Direct Model			
1. Readiness			
2. Perceived Benefits	.80		
3. Justice	.43	.44	
4. Individual Needs	-.39	-.28	-.10
Mediated Model			
1. Readiness			
2. Perceived Benefits	.78		
3. Justice	.43	.45	
4. Individual Needs	-.41	-.32	-.16

Table 7

Model Fit Statistics and Fit Comparisons for Direct, Mediated, and Full Models for Individual Predictors

	Global Fit Statistics		Fit Comparison
	Mediated Model $\chi 2$ (df)	Full Model $\chi 2$ (df)	Mediated and Full $\chi 2$ (df) difference
	Performance Evaluation Component of the Change		
Readiness	80 (22)	74 (20)	6* (2)
Perceived Benefits	98 (30)	97 (28)	1 (2)
Justice	66 (22)	65 (20)	1 (2)
Individual Needs	81 (22)	71 (20)	10** (2)
	Pay-for-Performance Component of the Change		
Readiness	76 (22)	75 (20)	1 (2)
Perceived Benefits	86 (30)	86 (28)	0 (2)
Justice	71 (22)	68 (20)	3 (2)
Individual Needs	90 (22)	83 (20)	7* (2)

Note. A non-significant χ^2 difference between mediated and full models indicates that the mediated model is sufficient to explain the data. Probability of $\chi 2$ difference test: *$p < .05$, **$p < .01$. All $\chi 2$ of the models were significant at $p < .01$.

Table 8
Direct Effects for Individual Factors Predicting Commitment, Resistance and Support

Predictor	Resistance (β)	Support (β)	Commitment (β)
	Performance Evaluation Component of the Change		
Readiness	-.82**	.48**	.87**
Benefits	-.65**	.39**	.73**
Justice	-.51**	.31**	.57**
Individual Needs	.42**	-.29**	-.27**
	Pay-for-Performance Component of the Change		
Readiness	-.77**	.54**	.94**
Benefits	-.63**	.39**	.73**
Justice	-.44**	.34**	.48**
Individual Needs	.35**	-.24**	-.26**

Note.
*$p < .05$, **$p < .01$

Table 9

Decomposition of Effects for Individual Factors Predicting Commitment, Resistance and Support Based on the Full (Direct Plus Mediated) Model

Predictor	Resistance			Support		
	Direct Effect (β)	Indirect Effect (β)	Indirect/ Total	Direct Effect (β)	Indirect Effect (β)	Indirect/ Total
	Performance Evaluation Component of the Change					
Readiness	-.35**	-.48**	.58	-.32**	.80**	***
Benefits	-.02	-.63**	.97	-.12	.51**	***
Justice	-.02	-.49**	.96	-.06	.37**	***
Individual Needs	.20*	.22*	.52	-.13	-.16	.55
	Pay-for-Performance Component of the Change					
Readiness	-.01	-.76**	.99	-39**	.93**	***
Benefits	-.02	-.61**	.97	-.12	.51**	***
Justice	-.05	-.39**	.89	.07	.27**	.79
Individual Needs	.20*	.15	.43	-.12	-.12	.50

Note. Full mediation is supported when the direct effect in the full model is non-significant and the indirect effect is significant. Partial mediation is supported if the direct effect is significant and the indirect effect is significant. The ratio of indirect effect to total effect is the amount of the independent variable's total effect on the dependent variable that occurs through the mediator (Baron & Kenny, 1986).

*$p < .05$, **$p < .01$

Table 10

Moderating Effects of Control Over Change for the Performance Evaluation Component of the Change

Variable	β	ΔR^2	F_{change}
Active resistance			
Model 1		.35	
Aff. Commit. (AC)	.53**		
Control (C)	.13		
Model 2		.35	
Step 1			
Aff. Commit. (AC)	.48**		
Control (C)	.08		
Step 2		.00	.08
ACxC	.08		
Passive resistance			
Model 1		.12	
Aff. Commit. (AC)	.25**		
Control (C)	.16*		
Model 2		.15	
Step 1			
Aff. Commit. (AC)	-.19		
Control (C)	-.29		
Step 2		.03	5.94*
ACxC	.77*		
Retaliatory behavior			
Model 1		.22	
Aff. Commit. (AC)	-.44**		
Control (C)	-.07		
Model 2		.23	
Step 1			
Aff. Commit. (AC)	-.14		
Control (C)	.23		
Step 2		.01	2.90
ACxC	-.51		

Note.

β and SE β are for the full models. Following methods proposed by Aiken and West (1991), all predictor variables were centered by subtracting the sample mean from all individuals' scores on the variables. None of the relationships with deviant behavior were significant. * $p < .05$, ** $p < .01$.

Table 11

Moderating Effects of Control Over Change for the Pay-for-Performance Component of the Change

Variable	β	ΔR^2	F_{change}
Active resistance			
Model 1		.25	
Aff. Commit. (AC)	.38**		
Control (C)	.20**		
Model 2		.25	
Step 1			
Aff. Commit. (AC)	.18		
Control (C)	.04		
Step 2		.01	1.19
ACxC	.31		
Passive resistance			
Model 1		.04	
Aff. Commit. (AC)	.01		
Control (C)	.18*		
Model 2		.05	
Step 1			
Aff. Commit. (AC)	-.31		
Control (C)	-.07		
Step 2		.01	2.55
ACxC	.50		
Retaliatory behavior			
Model 1		.13	
Aff. Commit. (AC)	-.30**		
Control (C)	-.10		
Model 2		.13	
Step 1			
Aff. Commit. (AC)	-.23		
Control (C)	-.05		
Step 2		.00	0.14
ACxC	-.11		

Note.

β and SE β are for the full models. Following methods proposed by Aiken and West (1991), all predictor variables were centered by subtracting the sample mean from all individuals' scores on the variables. None of the relationships with deviant behavior were significant. * $p < .05$, ** $p < .01$.

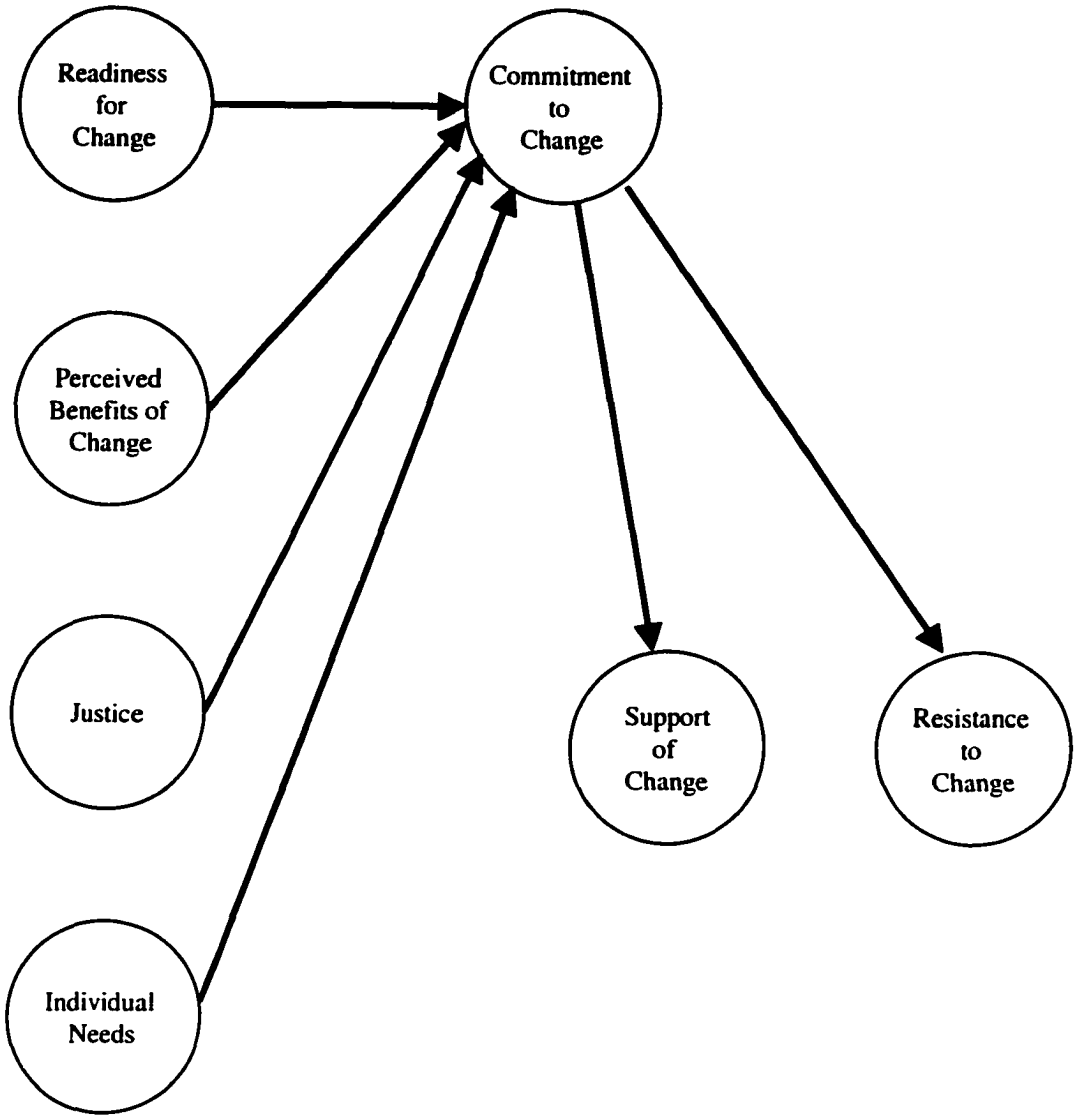


Figure 1. Proposed fully mediated model predicting support and resistance of organizational change.

Note: Correlations among latent factors not shown.

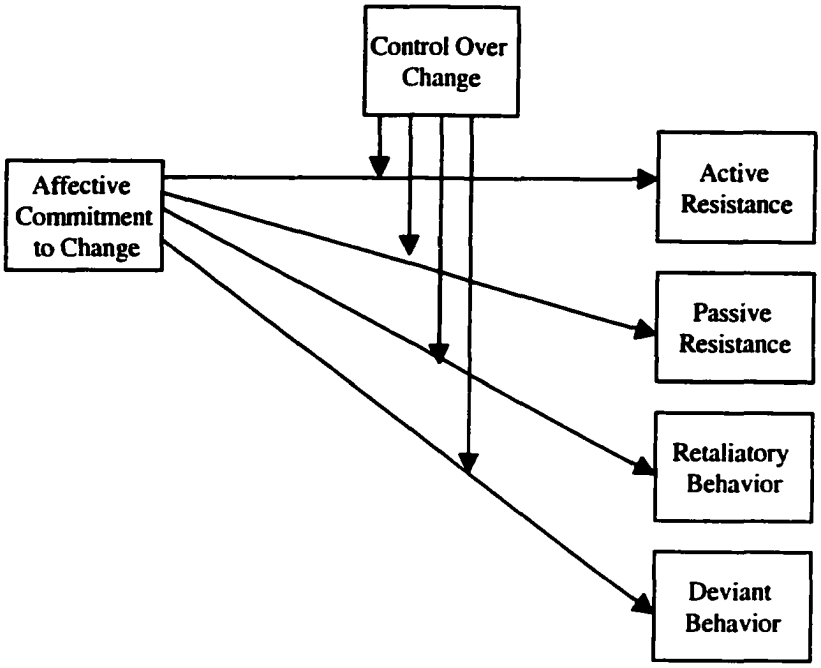


Figure 2. Proposed moderating effects of control over change.

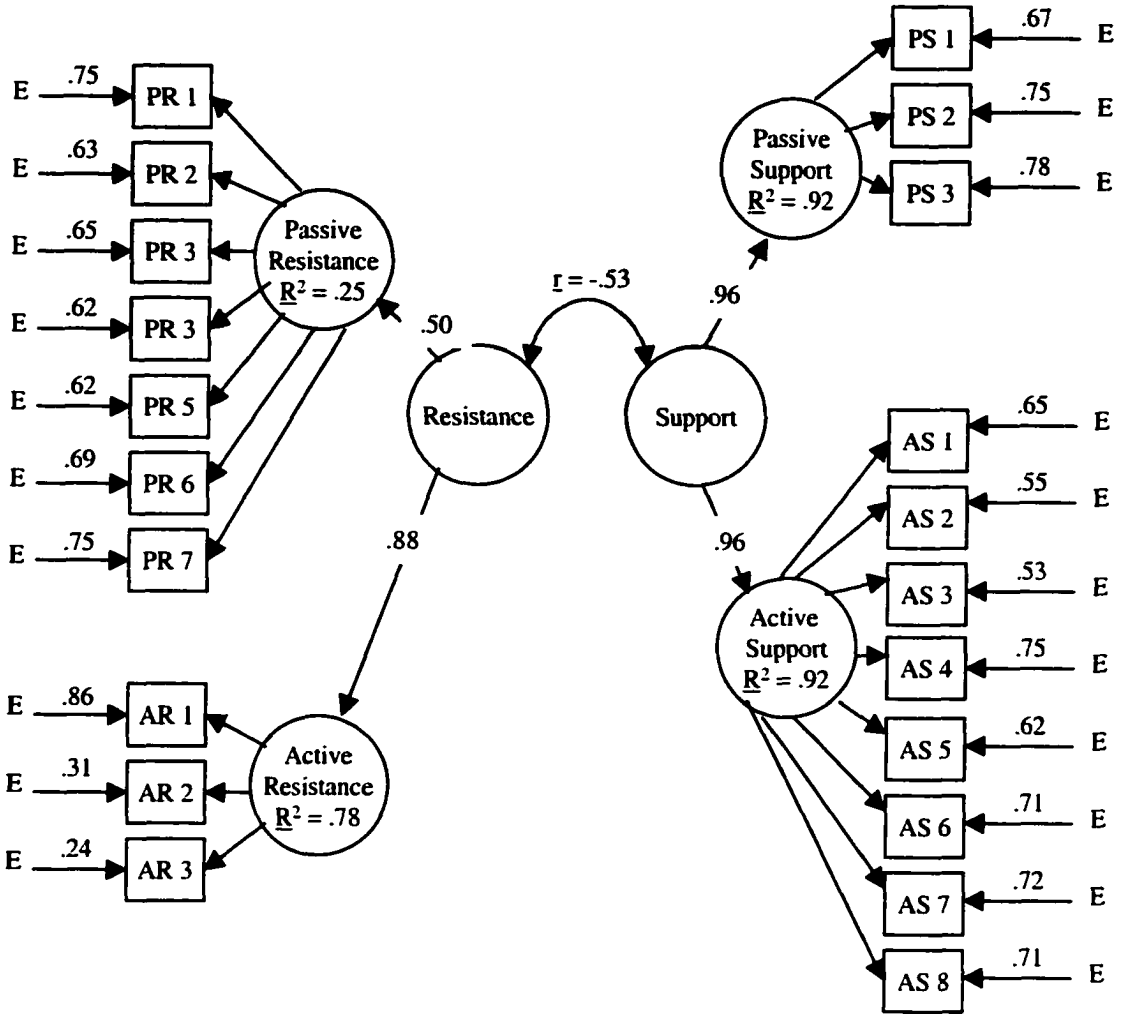


Figure 3. Confirmatory factor analysis of behavioral items for the performance evaluation component of the change.

Note: Standardized coefficients shown. Fit indices are as follows: $\chi^2 = 693$, df = 186; GFI = .71; NNFI = .78; CFI = .81. All path coefficients and item loadings were significant at the $p < .01$ level. PR=passive resistance, AR=active resistance, PS=passive support, AS=active support, E= error.

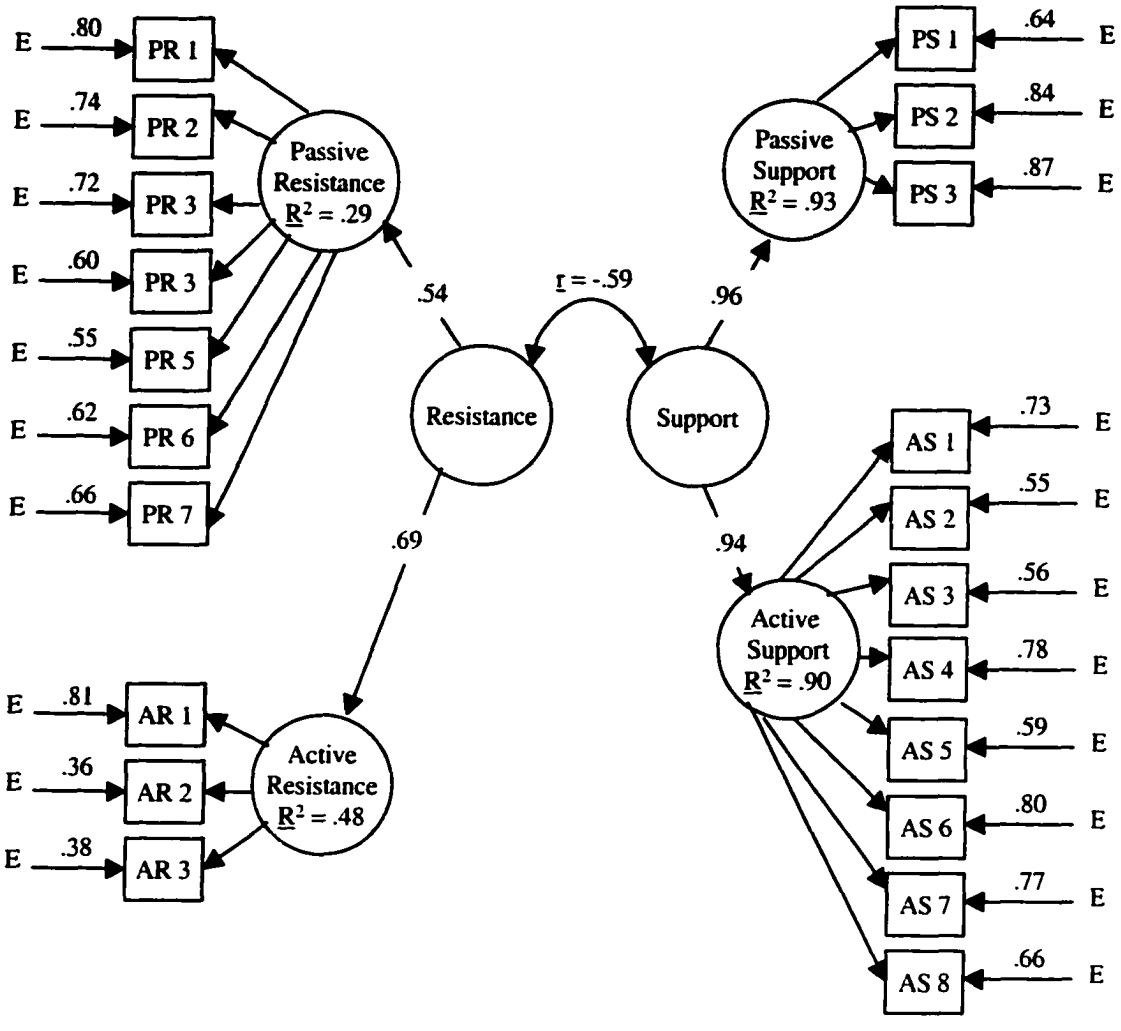


Figure 4. Confirmatory factor analysis of behavioral items for the pay-for-performance component of the change.

Note: Standardized coefficients shown. Global fit indices are as follows: $\chi^2 = 627$, df = 186; GFI = .74; NNFI = .78; CFI = .80. All path coefficients and item loadings were significant at the $p < .01$ level. PR=passive resistance, AR=active resistance. PS=passive support, AS=active support, E= error.

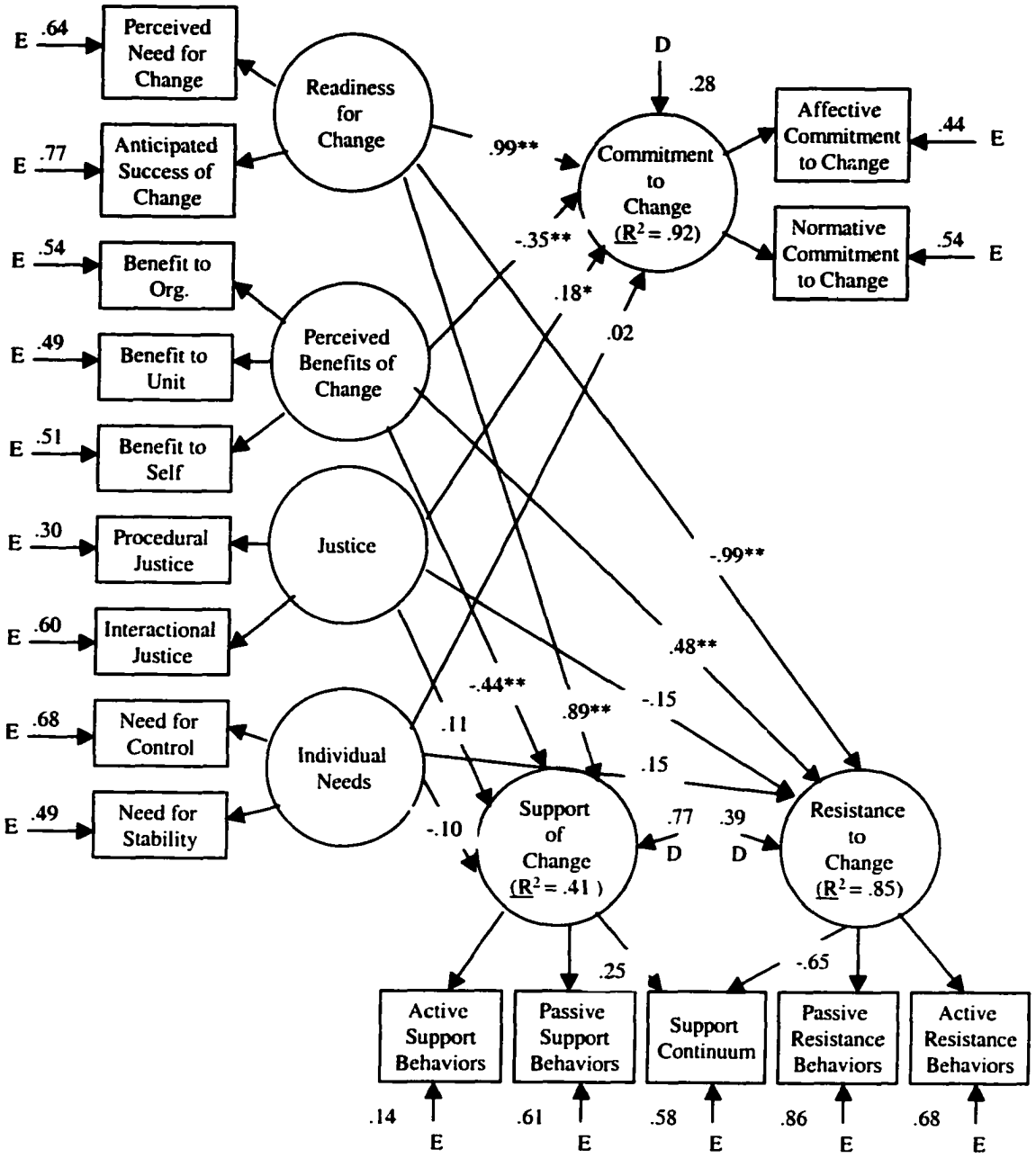


Figure 5. Structural equation model of direct effects for the performance evaluation component of the change.

Note: Correlations among predictors were modeled, but lines omitted from figure for legibility. Standardized loadings and path coefficients are shown. Global fit indices are as follows: χ^2 = 188, df = 84; AGFI = .83; NNFI = .91; CFI = .94. E= error, D= disturbance. *p < .05, **p < .01.

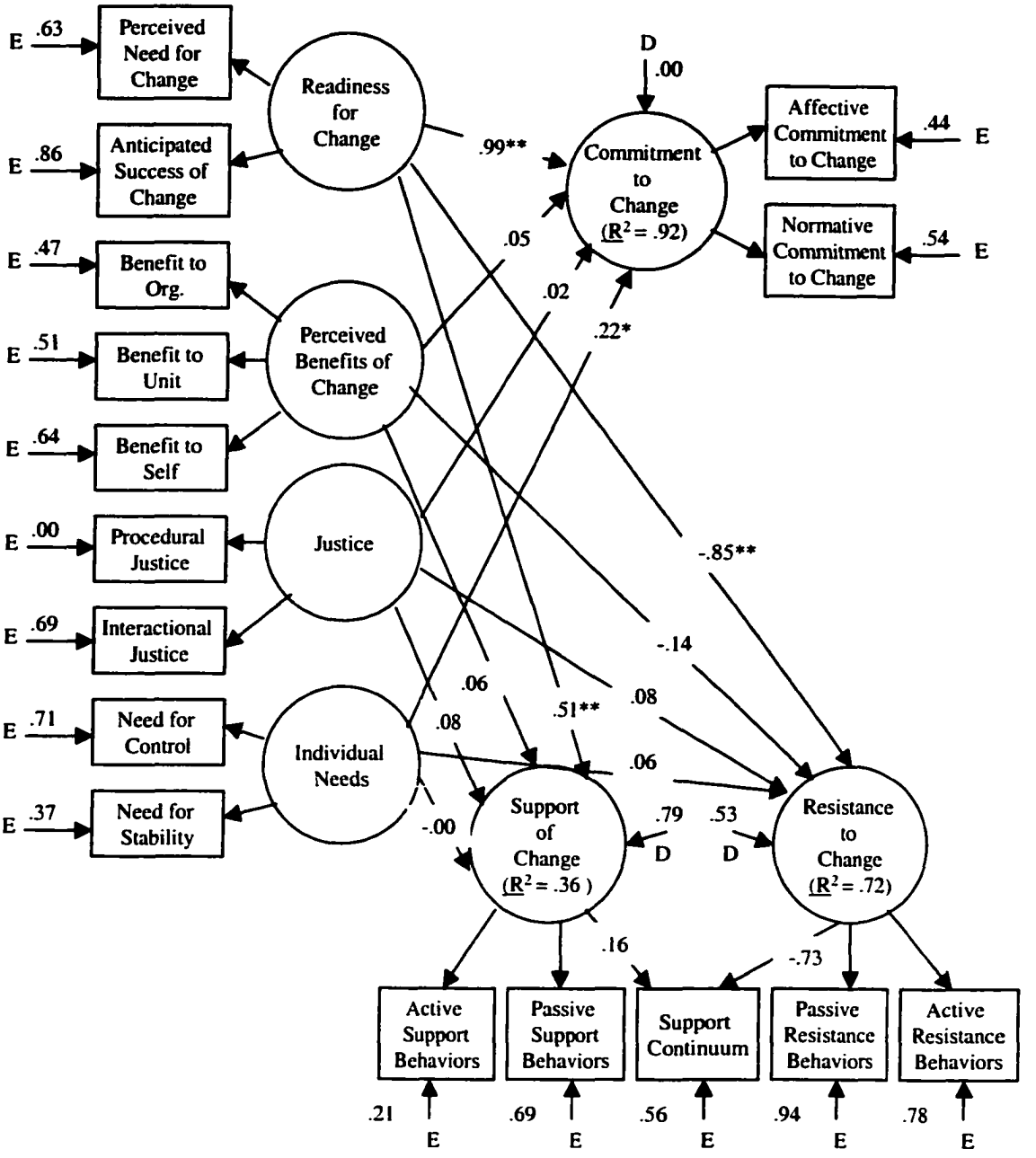


Figure 6. Structural equation model of direct effects for the pay-for-performance component of the change.

Note: Correlations among predictors were modeled, but lines omitted from figure for legibility. Standardized loadings and path coefficients are shown. Global fit indices are as follows: χ^2 = 161, df = 84; AGFI = .84; NNFI = .92; CFI = .95. E= error, D= disturbance. *p < .05, **p < .01.

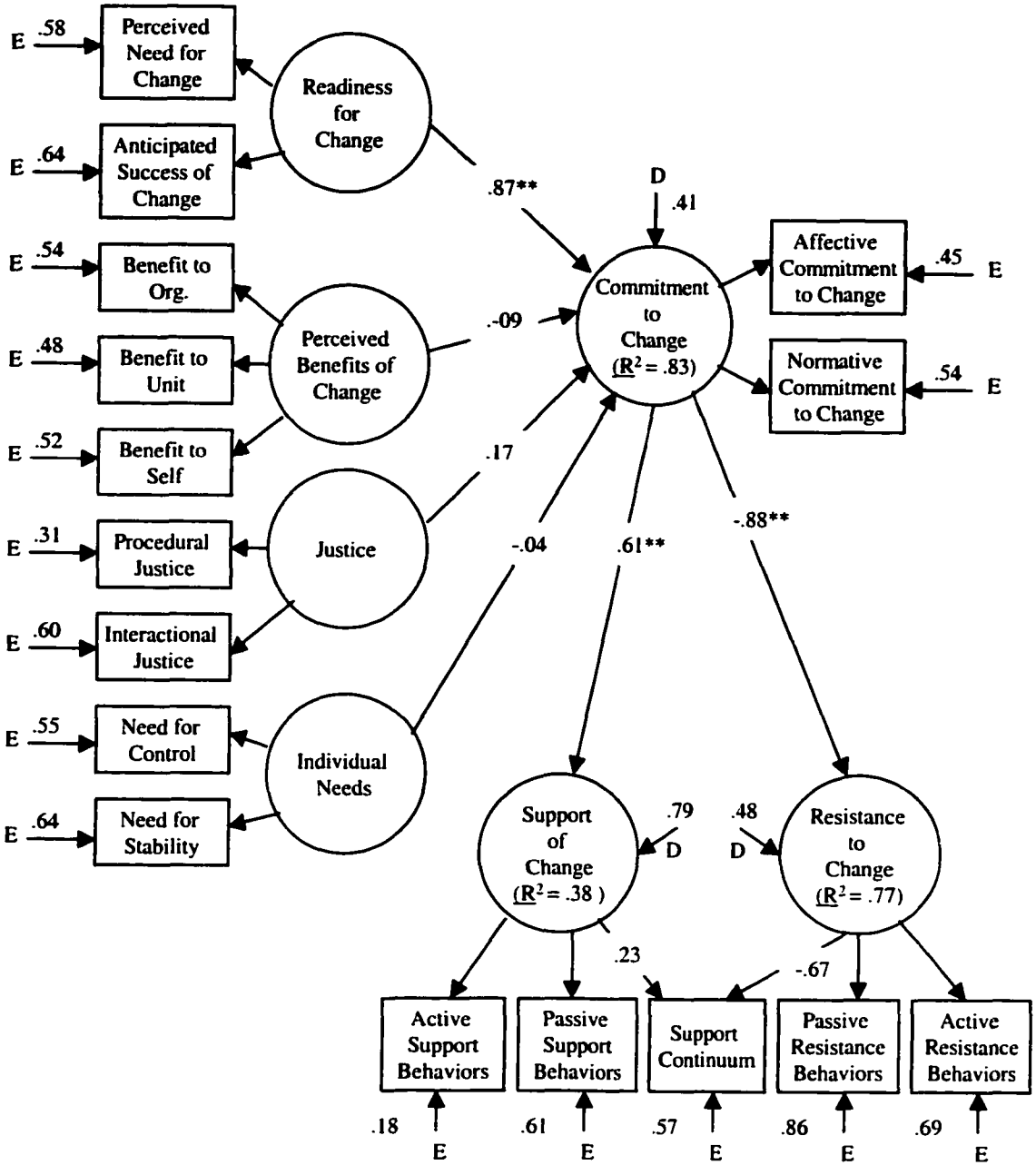


Figure 7. Structural equation model of mediated effects for the performance evaluation component of the change.

Note: Correlations among predictors were modeled, but lines omitted from figure for legibility. Standardized loadings and path coefficients are shown. Global fit indices are as follows: χ^2 = 196, df = 90; GFI = .89; NNFI = .92; CFI = .94. E= error, D= disturbance.

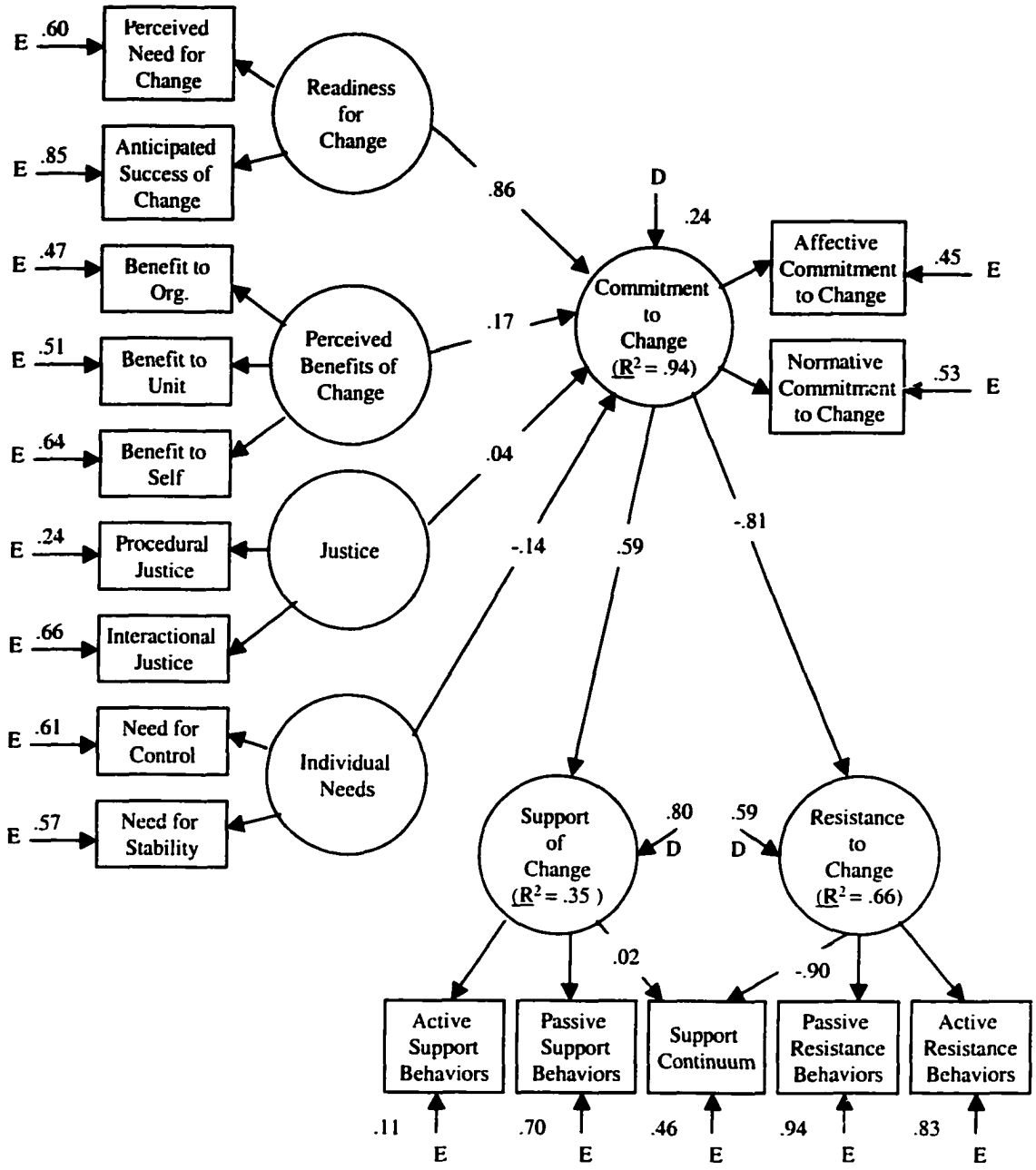


Figure 8. Structural equation model of mediated effects for the pay-for-performance component of the change.

Note: Correlations among predictors were modeled, but lines omitted from figure for legibility. Standardized loadings and path coefficients are shown. Global fit indices are as follows: χ^2 = 172, df = 90; GFI = .90; NNFI = .92; CFI = .94. E= error, D= disturbance.

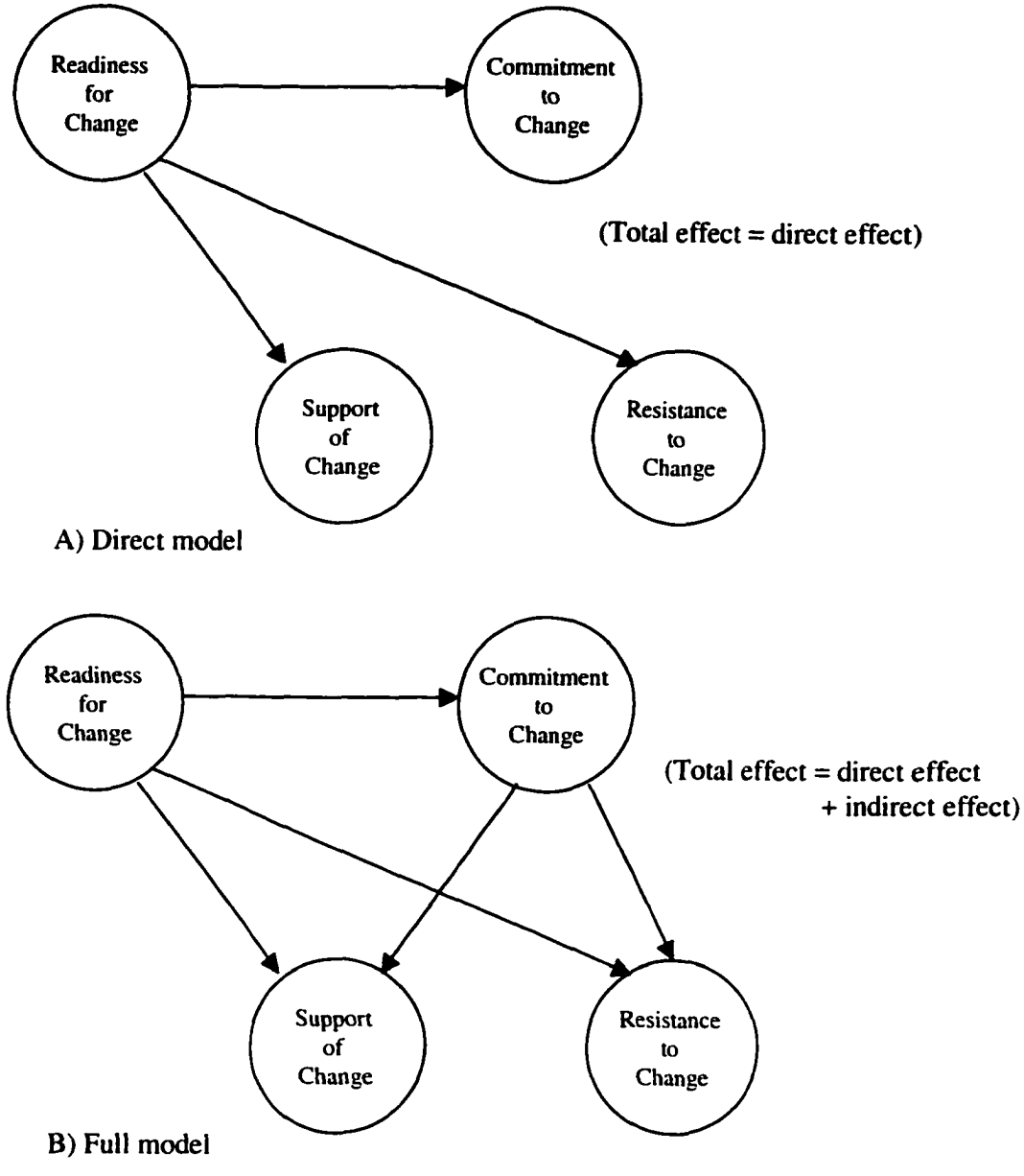


Figure 9. Direct and full effects structural equation models for readiness for change predicting support and resistance.

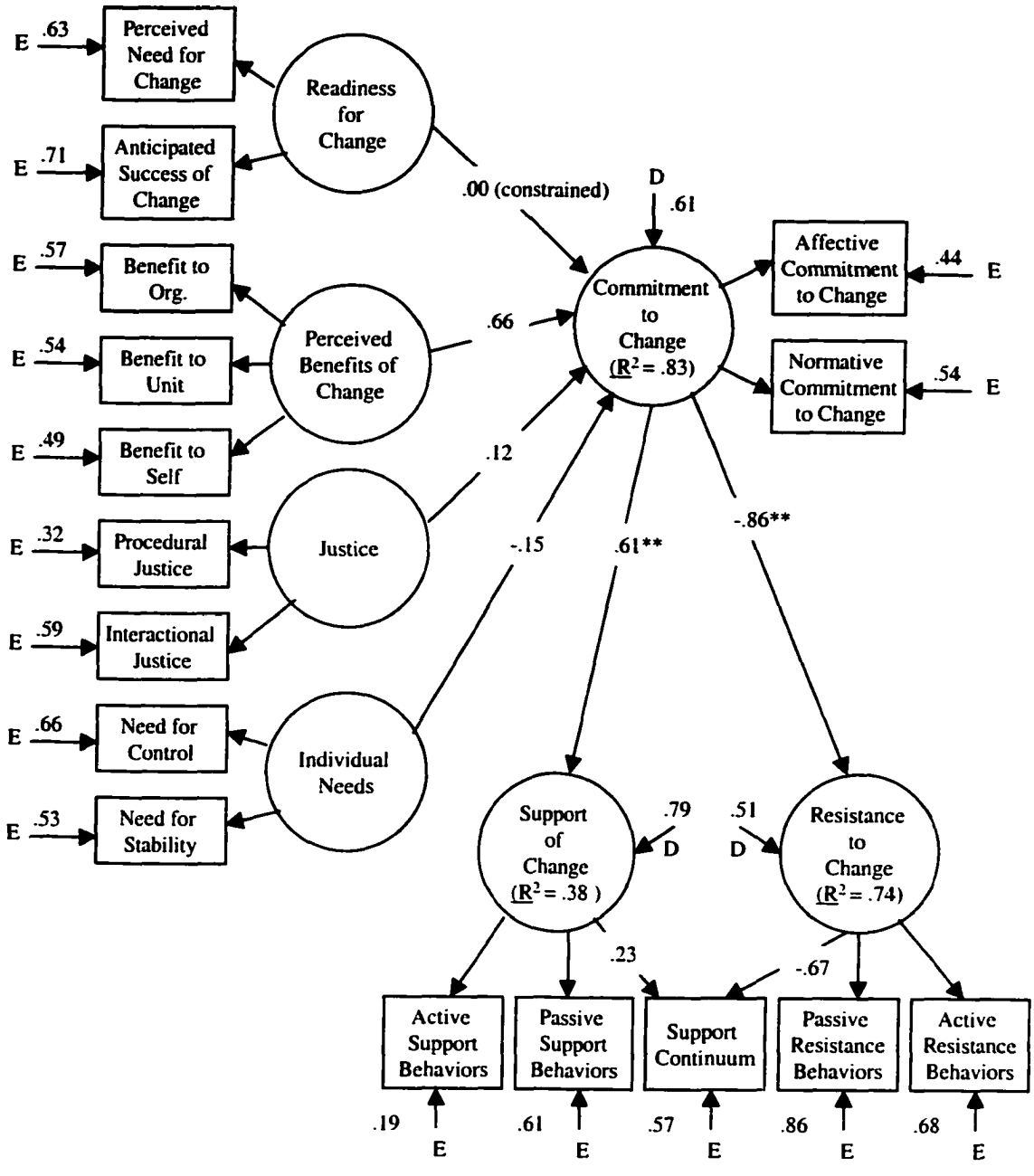


Figure 10. Structural equation model of mediated effects for the performance evaluation component of the change.

Note: Correlations among predictors were modeled, but lines omitted from figure for legibility. Standardized loadings and path coefficients are shown. Global fit indices are as follows: $\chi^2 = 238$, df = 91; GFI = .89; NNFI = .89; CFI = .91. E= error, D= disturbance.

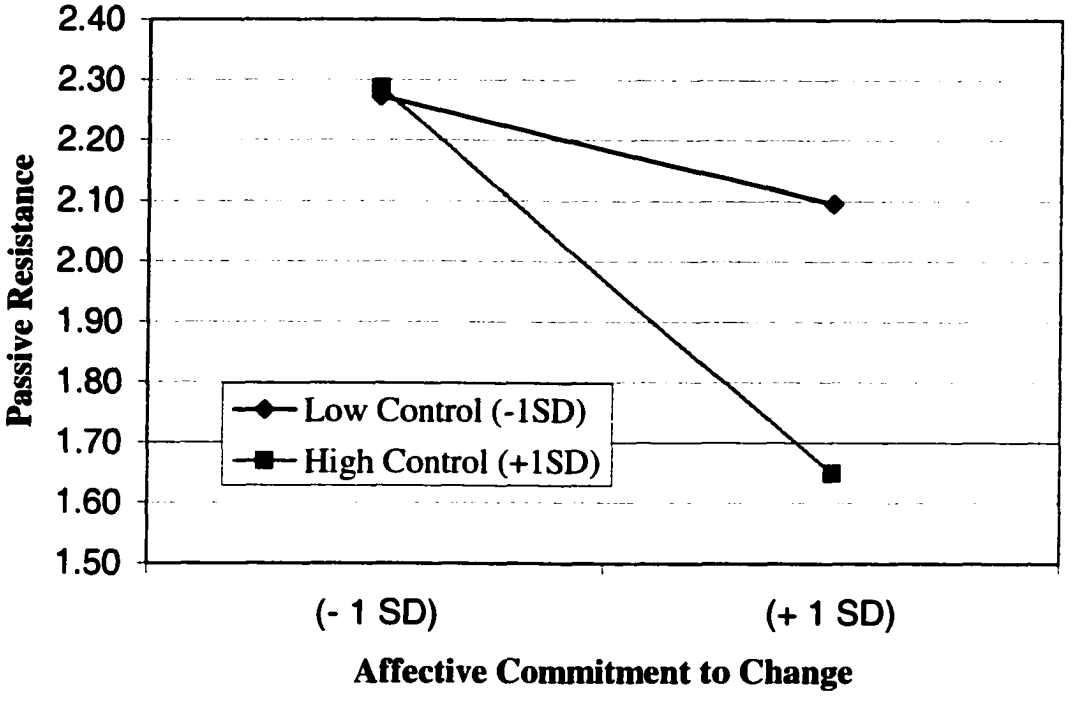


Figure 11. Moderating effects of control over change on passive resistance for the performance evaluation component of the change

Note: +1 SD = one standard deviation above the mean, -1 SD = one standard deviation below the mean.