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A STUDY OF SELF-EFFICACY AND THE MEDIATING EFFECTS OF PERCEIVED CONTROL IN THE WORKPLACE

By
Janet S. Jones

A DISSERTATION

Submitted to
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A STUDY OF SELF-EFFICACY AND THE MEDIATING EFFECTS OF PERCEIVED CONTROL IN THE WORKPLACE

By
Janet S. Jones

We hereby certify that this document submitted by Janet S. Jones conforms to acceptable standards, and as such is fully adequate in scope and quality. It is therefore approved as the fulfillment of the Dissertation requirements for the degree of Doctor of Business Administration.

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CERTIFICATION STATEMENT

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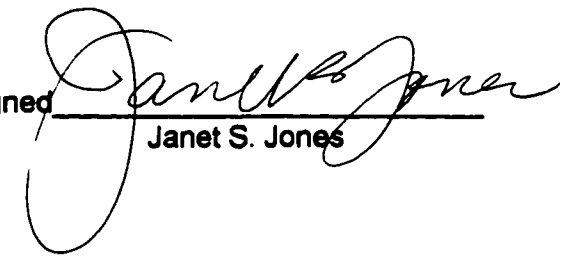
Signed  Janet S. Jones

ABSTRACT

A STUDY OF SELF-EFFICACY AND THE MEDIATING EFFECTS OF PERCEIVED CONTROL IN THE WORKPLACE

by

Janet S. Jones

Although a large body of literature exists pertaining to the construct of self-efficacy, a significant pool of field-based data is lacking. As part of the current research, an organizational study was conducted to explore the correlation between self-efficacy and perceived control within the workplace. Additional research questions dealt with differences in the self-efficacy and sense of control among various demographical divisions. These included: gender, ethnicity, position level within the organization and organizational affiliation. The study results support the proposition that individual self-efficacy is influenced by the individual's perceived sense of control. No support was found for the hypothesis that the self-efficacy and sense of control experienced by males is greater than that of females. Limited support was indicated for the hypothesis that the self-efficacy and sense of control for whites is greater than that of nonwhites. There was no evidence to support the proposition that differences would exist in individual self-efficacy and perceived control across organizational boundaries. Finally, the strongest evidence was indicated in support of the research hypothesis that the higher the position level within the organization, the higher will be individual self-efficacy and sense of control.

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CHAPTER I

INTRODUCTION

The very essence of life, itself, centers around the self. People's behavior, thoughts of themselves, and, interactions with others are all controlled by the self.

William James, one of the founders of modern psychology, described the self as a "process of knowing and thinking, with a subject (the I, the active self) and an object (the me, the self one is aware of)" (Weber, 1992, p. 51). The way people perceive themselves (i.e., how they evaluate their qualities, abilities and intentions) comprises the self-concept.

Thoughts and beliefs of oneself are affected not only by internal forces, but by external influences as well. In fact, most of the information that people collect and believe about themselves comes from their peers or significant others in their lives. For example, it is a short step from "Others tell me I am beautiful" to "I am beautiful" (Weber, 1982).

However, if behavior were dictated entirely by external influences, people would "behave like weathervanes" (Bandura, 1991, p. 249) by continuously changing directions to conform to the situation at hand. In reality, the "self" abilities

that people possess allow them to control their thoughts, feeling motivation and actions.

The aspects of human behavior are addressed in social cognitive theory. Central to all human behavior is the self-regulatory system; and, a pivotal part of this system is the self-efficacy mechanism.

The proposition of self-efficacy theory maintains that the expectancies attained as a part of the individual's self-efficacy influence the behavior of that individual (Sherer & Adams, 1983). Within the organizational milieu of the nineties, this theory has become increasingly important as it relates to employee motivation and performance.

Purpose of Study

The concept of the self is central to understanding human behavior. Central to the self-system is the concept of self-efficacy which, empirical evidence has shown, affects emotional as well as behavioral reactions (Bandura, 1982). Bandura (1982) has suggested further that the inability to influence the social and situational conditions surrounding one's life can lead to depression and feelings of anxiety.

Within the organization, it is particularly relevant to study the signficance of the self-mechanism and its impact on the motivation and performance of the

individual. The construct of self-efficacy, as asserted by Bandura (1977), primarily concerns a situation-specific concept. However, Bandura et. al (1977) also proposed that the experiences of task-specific personal accomplishments could also contribute to a general sense of efficaciousness.

Sherer et. al (1983) proposed that individuals who had numerous experiences from a variety of areas might be expected to have positive self-efficacy expectancies in more situations than individuals with limited experiences. These researchers asserted that the more experienced an individual (with both successes and failures in a variety of areas), the more generalized the expectations would be for the individual in new situations. For the organization, this is particularly relevant in that it is important for employees to be confident and self-assured. One way to accomplish this is to award the individual opportunities to experience a variety of tasks and assignments.

For this study, the researcher plans to examine the self-concept and its influence on the individual within the organizational environment. More specifically, the relationship of self-efficacy and the idea of control will be explored. The researcher believes there is a correlation between the magnitude of an individual's self-efficacy and the perceived influence the individual feels he or she has in the day-to-day decision-making processes of the organization. Some general areas

(See Appendix 2.) relative to the individual's perception of the organizational environment include:

- Feelings about those in power within the organization and their impact on the individual's ability to succeed within the organization (Powerful Others Factor).

- Feelings about the correlation between abilities and success versus luck or fate and success (Control Ideology Factor).

- Feelings about the relationship between office politics and successful careers versus the relationship between hard work and career advancement.(Political Control Factor).

- Feelings about the connection between chance and work roles versus controlling one's own destiny (Personal Control Factor).

Although much of the empirical work that has been completed relative to self-efficacy has been the measurement of task-specific or situation-specific conditions, the researcher believes that appropriate instruments have been developed to measure general self-efficacy (See Appendix 1.) and a general perception of control (See Appendix 2.).

In addition to the correlation between self-efficacy and perceived organizational control, the researcher believes there are other demographical factors that affect an individual's self-efficacy. These include: gender, ethnicity, position

level and organizational affiliation. These independent variables also will be examined as they relate to the self-efficacy of the individual within the organization.

Significance of Study

People who are not confident of their ability to exercise control over their actions tend to undermine their efforts in situations that tax capabilities (Bandura, 1982). Bandura (1982) further proposed that people who believe they have no control over their environments may become despondent, depressed and unable to be motivated adequately to perform.

In today's environment in which the focus is on gaining efficiencies and much attention is given to financial goals, many organizations are continuously assessing their labor resources. More than ever, the employee must deal with a changing environment. This constant state of flux and anxiety tends to erode the sense of control that individuals feel they have over their lives and careers. In the past, if they went to work every day and did their jobs, employees - particularly those in large organizations - could count on being employed as long as they wanted. Today, that is no longer the case.

There seems to be a ubiquitous sense of helplessness throughout the labor force. In their case study, contemporary researchers (O'Neill and Lenn, 1995) have

found there are both individual and social costs associated with downsizing. They propose that while a few employees have been dismissed due to their own past inefficiencies, many have been good performers, but simply have fallen victim to the changing corporate environment.

This universal demise is negatively affecting the motivation of the individual within the organization. The motivation of employees has always been a concern of the organization. Now, more than ever, the organization must address this issue.

Paramount to maintaining productive and financially stable indices will be the ability of the organization to successfully motivate the leaner work force. In order to do this, the organization must be able to develop effective human resource strategies and to ensure that a structure exists which allows the employee the ability, or at the very least, the perception of the ability, to influence the organizational environment.

Theory/Aspect of Theory Being Tested

The theoretical foundation of the self-efficacy concept lies in social cognitive theory. Central to this theory of human behavior is the self-regulatory system.

The self-regulatory system deals with three principle subfunctions. (See Figure 1-1.) These are the monitoring of one's behavior which includes the

determinants and the effects of the behavior; the comparison of one's behavior to personal standards and other environmental factors; and, affective self-reaction (Bandura, 1991).

Figure 1-1

Self-Observation	Judgmental Process	Self-Reaction
Performance • Quality • Productivity • Originality • Sociability • Morality Quality of Monitoring • Informativeness • Regularity • Proximity • Accuracy	Personal Standards • Level • Explicitness • Proximity • Generality Referential Performances • Standard Norms • Social Comparison Valuation of Activity • Valued • Neutral • Devalued Performance Determinants • Personal • External	Evaluative Self-Reactions • Positive • Negative Tangible Self-Reactions • Rewarding • Punishing • No Self-Reaction

Source: Bandura, 1991, p. 249.

According to Bandura (1991), people must observe and analyze their thought patterns and emotional reactions to situations. Through this process, they gain self-knowledge which provides direction for the self-regulatory mechanism. By varying their actions in their daily lives, people determine the things that interest them and

that they can do well. They also are able to make assessments about what motivates them. During this process, people develop personal standards. They do this based not only on their own reactions, but also on the reactions to their behavior by others.

Throughout the self-regulatory process, people develop a sense of self-efficacy. Self-efficacy, which can be described as the belief in one's ability to carry out certain tasks, is a pivotal part of the self-regulatory system. According to Bandura, it is this part of the self-regulatory system that "helps to account for such diverse phenomena as changes in coping behavior produced by different modes of influence, level of physiological stress reactions, self-regulation of refractory behavior, resignation and despondency to failure experiences, self-debilitating effects of proxy control and illusory inefficaciousness, achievement strivings, growth of intrinsic interest and career pursuits" (1982, p. 122).

Peoples' judgments of their capabilities is part of the self-evaluative function of the self-regulatory system. The assessment that people make about their capabilities influences their thought patterns and emotional reactions, both from a situational as well as a global standpoint(Bandura, 1982). The concept can be described as an iterative process whereby self-efficacy is developed through self-evaluation; yet, the thoughts and emotions which are an integral part of the self-regulatory process are impacted by the perceived self-efficacy of the individual.

According to Bandura (1991), the successful process of self-regulation is due in large part to the self-monitoring that an individual undertakes. Any preexisting beliefs that one has about one's abilities as well as how one remembers certain events affect how the individual processes and uses self-evaluative information. This implies that if an individual has a strong sense of self-efficacy or self-confidence in his or her abilities relative to certain situations or tasks, remembered events that are used to support the magnitude of the self-efficaciousness may be distorted. That is, the individual who has accumulated enough perceived successes to build a strong sense of self-efficacy may interpret the outcome of certain experiences as personal victories when in fact others may see the results differently. But, the important factor will be that the individual's perceptions will augment the sense of self-efficacy and thus impact the self monitoring that takes place. Individuals who function in this way are able to continually set higher goals for themselves and to build upon their past experiences.

The self-confidence that the individual feels positively affects the approach to situational experiences. The cumulative effects of varied experiences increases the individual's general sense of self-efficacy which impacts the ability to succeed in a variety of situations.

Another theoretical concept which highly impacts the self-efficacy of the individual is that of perceived control. This process is concerned with the individual's

belief about the extent to which the environment is controllable. Bandura (1991) proposed that there are two relevant aspects to be considered about control. The first is related to a person's self-efficacy as it affects the productive use of individual capabilities (e.g., within the organization). The second deals with the actual environmental constraints and the extent to which these can be controlled or influenced.

Bandura and Wood (1989) proposed that when people believe they can influence or control their environment, they will be motivated to fully use their personal efficacy. This, in turn, will increase the likelihood that they will succeed. Personal successes will be important not only to the individual, but also to the organization. Further, the researchers suggested that both perceived self-efficacy and the environment are dynamic in nature and that individuals must continuously manage both their skills and the environment in order to maintain a strong sense of efficacy.

Another theorist (Litt, 1988) has connected the two constructs of self-efficacy and perceived control. Litt differentiates between the two constructs by linking perceived control with "one's perception of the availability of a response" and self-efficacy with" one's confidence in the ability to effect that response" (p. 149).

Litt cites Averill (1973) who suggested that perceived control as opposed to actual control is all that is needed to impact a particular event. Litt also proposed

that "cognitive, situational and dispositional characteristics interact with perceptions of control to determine outcome in a stressful situation" (p. 150). Litt further suggested that self-efficacy was such a characteristic.

In his research, Averill (1973) suggested that three types of control exist. These include: behavioral control, cognitive control and decisional control.

Relative to behavioral control, Averill proposed that individuals may be able to control the actions or stimuli that impact a situation. That is, the individual may have some influence on who manages the stimuli and how and when these stimuli are carried out.

With regard to cognitive control, Averill suggested obtaining information about situations or events is important to people. He also stressed the importance of interpreting the information. The inference of a link between the acquisition and the processing of information (i.e., interpretation) will be paramount to the current exploration of the theoretical correlation between the social cognitive and control theories.

Averill also discussed the relationship of decisional control and stress that the individual feels. From his analysis of Kelly (1955) and Chein (1972), Averill describes the individual who experiences decisional control as one whose "goals are established by superordinate systems which then can be met by relevant

subordinate behaviors" (p. 299). Averill further discusses Kelly's (1955) proposal that the individual controls his destiny:

> to the extent that he can develop a construction system with which he identifies himself and which is sufficiently comprehensive to subsume the world around him. If he is unable to identify himself with this system, he may be able to predict events determinatively, but he can experience no personal control (p. 299).

From an organizational behavioral standpoint, this concept has relevance in that it is important not only for the individual to recognize and understand the structural confines (and opportunities) of the organization but also to feel that he or she can have some influence, despite the constraints, upon the organization. This concept also will be important to the current research.

Although much of the empirical research linking the constructs of personal control and self-efficacy has dealt with the correlation between the cognitive and physical aspects of coping with emotional and physical stress, the current researcher believes that both the control and self-efficacy theories are relevant to the organization. Thus, the current study will examine the correlation between the two constructs within an organizational environment.

Definition of Terms

Attribution Theory: Theory dealing with antecedent process involved in efficacy judgments where attributions are considered assessments about causes of past behavior. (Gist and Mitchell, 1992)

Cognitive Control: The processing of potentially threatening information in such a manner as to reduce the net long-term stress and/or the psychic cost of adaptation (Averill, 1973, p. 293).

Decisional Control: The range of choice or number of options open to an individual (Averill, 1973, p. 298).

Enactive Attainments: The experience one attains by the performance of given tasks and the factor which provides the most influence on self-efficacy. (Bandura, 1982)

Locus of Control: Concerned with a continuum of associations between decision outcomes and personal behaviors, attributes or capacities. At the lower end of the continuum are internals who believe that reinforcements are contingent upon their own behavior. At the upper end of the continuum, externals believe that reinforcements are not under their personal control but rather are under the control of powerful others, luck, or fate (Anderson & Schneier, 1978, p. 691).

Outcome Expectancy: A person's estimate that a given behavior will lead to certain outcomes (Bandura, 1977, p. 193).

Self-efficacy: The belief in one's ability to perform specific tasks in a given situation.

Self-efficacy Magnitude: A measure of self-efficacy which is formed by summing the total positive responses given by a subject.

Self-esteem: The extent to which one sees oneself as a competent, need-satisfying individual (Brief & Aldag, 1981, p. 81).

Self-perception: An individual's ability to respond differentially to his or her own behavior and its controlling variables (Bem, 1967, p. 184).

Self-regulatory System: A set of psychological subfunctions which include the self-monitoring of one's behavior, judgment of one's behavior in relation to personal standards and environmental circumstances and affective self-reaction. The system deals with the whole process of human thought and action. (Bandura, 1991)

Situational Constraints: Characteristics of the environment that interfere with or restrict employees' performance. (Mathieu et al, 1993)

Social Cognitive Theory: A theory dealing with the human behavioral aspects of thought, motivation and action. (Bandura, 1991)

Vicarious Experiences: The process of observing others' performance of certain tasks and a factor which is thought to contribute to self-efficacy. (Bandura, 1982)

Verbal Persuasion: The act of verbally conveying to people encouragement about their abilities and a factor which is thought to contribute to self-efficacy. (Bandura, 1982)

Research Question

The relationship of perceived self-efficacy to the motivation, performance and general self-evaluation of the individual has been established and will be examined in some detail in subsequent chapters. As discussed previously, the organization will become increasingly concerned with the issue of employee motivation. Integral to the development of ways to stimulate employee motivation will be the understanding by the organization of the concept of self-efficacy and its impact on employee behavior.

In order to develop an appropriate and effective human resource strategy, the organization must give careful attention to the inherent needs of the individual. Research relative to the self-efficacy concept will be helpful in identifying areas which must be considered in the approach to the development of these strategies.

In this research, it will be important to establish a relationship of self-efficacy to behavior. In addition, it will be important to examine the mediating or moderating factors associated with self-efficacy. In particular, past researchers have identified the element of control as a critical factor in the development of individual self-efficacy. This factor has become an increasingly significant consideration in the current organizational environment.

The question to the organization regards the role of self-efficacy relative to individual behavior and the influence that the organization may have on the development of the efficaciousness of the individual. Clearly, the organization can exercise a significant amount of control of the environment in which the employee must work. Given this, the organization must understand how this environment will influence the self-reactive functions of the individual. In particular, the organization must recognize the relationship between the individual's sense of control and the individual's self-efficacy. The organization must understand this relationship and alter its structural approach such that individual self-efficacy and motivation are in alignment with the organizational goals and strategies.

Specifically, the researcher believes that the following questions are relevant to the organization:

1. Is there a relationship between the factor of control as a mediator which influences the self-efficacy of the individual within the organization?
2. Is there a relationship between the gender of the individual within the organization and the sense of control and self-efficacy of the individual?
3. Is there a relationship between the ethnicity of the individual within the organization and the sense of control and self-efficacy of the individual?
4. Is there a correlation between the self-efficacy of the individual and the individual's organizational affiliation?

5. Is there a relationship between the position level attained within the organization and the sense of control and self-efficacy of the individual?

In the current research, the author will seek to answer these questions. In the process of this research and of answering these questions to the organization, it is important to examine the empirical evidence related to human behavior. In particular, it is relevant to investigate the body of literature concerned with social cognitive theory and the concept of the self-regulatory system. Specifically, the examination of the findings relative to various aspects of the self-efficacy construct will be particularly helpful.

In Chapter Two, the theoretical foundation of the self-efficacy construct and the related concept of perceived individual control will be discussed. The major empirical work in these areas will be reviewed. In addition, the current researcher will present the construct for the paradigm which will be the subject of this undertaking.

CHAPTER II

LITERATURE REVIEW

Human behavior is influenced by both external and internal factors. According to Bandura (1991), people have self-reflective and self-reactive abilities that allow them to control their thoughts, feelings, motivation and actions. Bandura proposed that through this self-diagnostic approach, people make judgments about their capabilities and appropriate behavior relative to social and environmental situations. Central to this human self-regulatory system is the self-efficacy mechanism.

Self-efficacy has been described as a belief in one's ability to perform specific tasks in a given situation...as one's capability to be motivated, to use cognitive resources and to determine certain courses of action to handle given situations or events (Wood and Bandura, 1989). Bandura and Schunk (1981) described self-efficacy as being concerned with judgments about how well one can organize and execute courses of action required to deal with situations which often contain elements of ambiguity, unpredictability and stress. It is important to point out, though, that because personal efficacy is a cognitive factor determined only by the individual, it is based solely on perception.

Self-efficacy plays a major role in the motivation of the individual. People's self-efficacy influences the choices they make, their goals in life, the effort they put forth, their perseverance and coping ability when faced with difficulties and setbacks (Bandura, 1986).

According to Bandura (1982), there are three dimensions to self-efficacy: magnitude, strength and generality. Magnitude refers to the difficulty of the task to be performed; strength measures the degree to which an individual believes he or she can accomplish the task; and, generality deals with the general applicability of the self-efficacy precept to various situations.

A Theoretical Review

As discussed in Chapter One, the theoretical foundation of the self-efficacy construct is derived from social cognitive theory which deals with the self-regulation aspects of human behavior. Bandura (1989) described the self-regulatory construct as a reciprocal causation model where several factors (e.g., actions, cognition, affective and other personal factors, and environmental events) interact. The self-regulation aspects can include self-evaluation, self-satisfaction, self-directedness, self-esteem, self-motivation, and self-management.

Bandura (1991) has posited that nearly all purposive human behavior is governed by forethought. He proposed that people set goals and develop plans to achieve these goals based on their perceived abilities. Moreover, by monitoring their past performances, individuals are able to gather the information that allows them to set realistic goals for themselves. Successful achievement of these goals contributes to self-efficacy.

People differ in their self-evaluations. Bandura (1991) suggested that those individuals with a strong sense of identity will have a high level of self-directedness. Those who do not will simply try to adapt their behavior to the situation at hand.

Bandura emphasized that the assessment of some types of behavior is relatively simple and objective. Judgments about riding a bicycle, driving a car, or reading a book, for example, are relatively straightforward -- either you can or you cannot. However, other performance evaluations, particularly within organizational or social settings, are more complex. Judgments about performance or abilities in these environments are often subjective and referential in nature. For example, in these situations, people often are compared to their peers or their peers' accomplishments; and, performance judgments are made based upon the opinion, as opposed to objective measurement, of others.

Even so, to a great extent, it is on the basis of self-precepts of efficacy that people make choices about what activities they perform and how much effort they

put into these activities (Bandura, 1986). Therefore, it is important to consider how individuals actually form judgments of self-efficacy.

Bandura (1982) proposed that people form their efficacy perceptions based on four principal sources of information: enactive attainments, vicarious experiences, verbal persuasion and physiological arousal. Enactive attainments or personal accomplishments provide the most significant influence on an individual's self-efficacy. However, Bandura concluded that people are influenced more by how they perceive performance successes rather than by the successes, per se. Vicarious experiences or the observation of others' accomplishments also can have a positive effect on the individual's perceived self-efficacy. Likewise, verbal persuasion can promote a sense of personal efficacy by providing the encouragement and confidence to perform successfully. In addition, a person's physiological state may influence judgments of self-efficacy. For example, if a stressful situation is encountered, a person may feel that failure is inevitable; or, if fatigue occurs, the individual may feel physically inefficacious and unable to perform successfully.

Further, self-efficacy indirectly influences individual development (i.e., the higher a person's self-efficacy precepts, the greater will be the participation in developmental activities) (Noe and Wilk , 1993). The more people participate in activities to enhance their abilities, the more efficacious they will become.

Another important aspect of the self-regulatory system is peoples' belief about their ability to control the environment (Bandura & Wood, 1989, Bandura, 1991). Bandura and Wood (1989) saw the control factor as one of the most central and pervasive of all the mediators in the self-regulatory mechanism. Bandura proposed that people are not totally autonomous. On the other hand, neither are they simply "mechanical conveyers" of the environment. A critical aspect of people's lives is their ability to predict situations and to have the means to exercise some kind of control over the daily events that affect their lives. When people possess the knowledge and means to exercise control, they can more readily attain their goals (Bandura, 1982).

Litt (1988) discussed this concept in terms of perceived control, which he described as individuals' beliefs that they can respond situationally to aversive events. In his review, Averill (1973) also emphasized the idea of perceived control:

> The perception of control would seem to be a common predictor of the response to aversive events regardless of species...the sense of control, the illusion that one can exercise personal choice, has a definite and a positive role in sustaining life (Lefcourt, 1973, p. 286).

Averill (1973) suggested that two types of control exist. These are behavioral control, which involves some direct action relative to the environment, and, cognitive control, which refers to the way a potentially harmful event is interpreted.

Certain situational factors may actually counteract the effective use of skills. For example, the presence of a highly confident person may cause an otherwise

skilled individual to perform inadequately. Or, when people are placed in subordinate roles or are categorized as inferior in some way, they may perform less well than when they do not carry the subordinate position or label (Bandura, 1982).

Bandura (1991) cited two aspects of control that are relevant. These deal with the level of the individual's self-efficacy and with environmental constraints or opportunities. Relative to the organization, Phillips and Freedman (1984) suggested that, to the extent a sense of control is lost, situational constraints may adversely affect employees by negating the influence that other motivational strategies (e.g., goal setting, pay incentives, etc.) might have on performance.

Bandura (1991) purported that individuals with high levels of self-efficacy more likely will be able to effect some degree of change; whereas, those with low self-efficacy will not be able to effect changes in the environment. Further, he proposes that when people believe they can control their environment, they will be motivated to exercise the full potential of their efficacy, which in turn, will increase the likelihood of success. Continued successes will validate the feelings of self-efficacy and the belief that the environment can be controlled. On the other hand, if people feel the environment cannot be controlled, they will not be motivated to fully exercise their efficacy that will lead to failure. A succession of failures will erode the individual's feelings of self-efficacy and will lead to the belief that the environment cannot be controlled.

In addition, Bandura (1989) discussed the importance of perceived control relative to the individual's coping abilities. For example, people who believe they can exercise control over threatening situations will maintain a sense of confidence and calm. Whereas, those who believe they have no control over potential threats will tend to experience high levels of stress and anxiety. They will dwell upon their inability to cope, which, in turn will further impair their capability to function.

Bandura (1991) further suggested that people who have judged themselves as inefficacious most likely will not effect changes, even in an environment where opportunities exist for change. On the other hand, individuals who are highly efficacious may be able to exercise some control over a highly constrained environment that exhibits limited opportunities for change. For example, in the organizational environment, people who believe in their abilities will be more likely to seek out opportunities to provide input into the organizational decision-making process.

Empirically, it has been determined that people must have some sense of situational control. For example, Parker (1993) studied the relationship of workers' perceived control, their levels of self-efficacy and their belief that environmental changes could be made. Her research was based on a study of nurses. Specifically, she examined their willingness to engage in dissent where injustice was perceived and their intention to leave an unsatisfactory environment.

The study results indicated that willingness to engage in dissent was positively related to perceived level of control. Nurses who believed that management would consider their opinions in the decision-making process were more likely to attempt to effect changes in the situation than those who believed they had no voice. The results also supported Parker's hypothesis that perceived control would be inversely related to exit. That is, if people think they can exercise no influential role in the decision-making process, they will leave the organization, provided they have a viable exit opportunity.

In addition to the relationship of the control factor and self-efficacy, researchers also have studied the impact of self-influence on the cognitive mechanism of motivation. (Bandura & Schunk, 1981; Bandura & Cervone, 1986) Research in this area has suggested that self-evaluation, self-efficacy and self-set goals influence the motivation of an individual.

Bandura and Cervone (1986) found that highly efficacious individuals are motivated to continuously expend the effort necessary to attain a challenging goal. In another study, Bandura and Cervone (1983) found that performance motivation from goal systems results in part through the self-evaluative and self-efficacy mechanisms. Through self-evaluation, the individual will determine some level of satisfaction. If the individual is dissatisfied with the performance level and has a strong sense of self-efficacy for the goal attainment, he or she will intensify the

efforts to reach the goal. In addition, individuals with a high sense of personal efficacy tend to be more resilient in the face of setbacks. In fact, this resiliency is developed by the effort put forth to overcome these setbacks.

The authors further concluded that self-set goals contribute to motivation. The exception in their study was that individuals who fell far short of goal attainment often experienced a sense of diminished efficacy. As a result, some lowered their standards. However because of their self-doubts, it would be difficult for these individuals to sustain the necessary effort to reach their goals.

In their research, Bandura and Schunk (1981) studied the roles of self-motivators, self-efficacy and intrinsic interest. They found that people have a propensity to divide future goals into more attainable subgoals. This greatens the successful completion of goals and thus increases the individual's perceived self-efficacy as well as the interest in the activities associated with goal attainment. However, Bandura (1986) has suggested that success increases the individual's self-efficacy only if the individual views the accomplishment as a function of ability rather than luck or other external factors.

In addition to social cognitive theory, self-efficacy is also related to expectancy theory. Expectancy, as reviewed and defined by Eden (1988), is "a momentary belief concerning the likelihood that a particular act will be followed by a

particular outcome" (p. 640). Locke, Frederick, Lee and Bobko(1984) found that efficacy-performance correlations and expectancy performance were very similar.

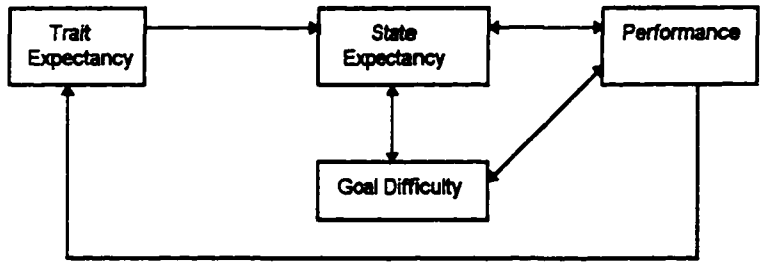
As opposed to expectancy of goal attainment, which is negatively related to goal difficulty, performance expectancy and self-efficacy have been found to increase with goal difficulty and to be positively related to task performance (Bandura and Cervone, 1983; Locke et al., 1984). That is, people who are given difficult goals believe they can perform at a higher level that those people who are given less difficult goals.

Locke, et al (1984) proposed that goals affect people's self-efficacy in several ways. First, goals give the individual a sense of purpose and direction and provide an incentive to act. Goals clarify expectations and measurements. That is, goals provide people with standards against which they can evaluate their performance and from which they can develop a sense of efficacy.

However, Lock and Latham pointed out that goals by themselves are not motivators. Rather, it is the discrepancies between actual performance and the standards created by the goals that cause people to determine a level of satisfaction. Any discrepancy caused by this self-evaluation will produce the response necessary to close the gap between the desired standard and the discrepancy.

In addition to expectancy as an antecedent of performance, Eden (1988) also suggested a relationship between goals and expectancy. (See Figure 2-1.) He differentiated between state expectancy and trait expectancy. State expectancy can be described as a state or a temporal belief that one can perform a certain task or can handle a specific situation. Trait expectancy refers to a general feeling about

Figure 2-1



Source: Eden, 1968, p. 647.

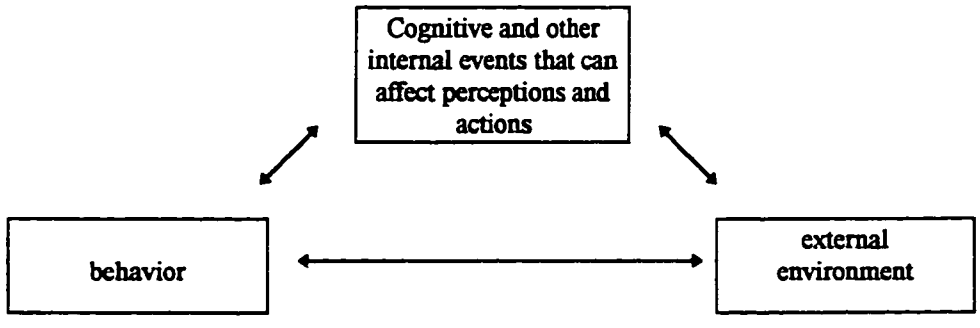
one's abilities. Whereas state expectancy may vary with the situation, trait expectancy is relatively stable among situations.

In a study conducted by Eden and Shani(1982), and replicated by Eden and Ravid (1982), a relationship was established between expectancy and performance. The study results indicated that by raising the expectations of instructors in a military

setting trainees learned more. The researchers concluded that when high expectations are communicated by an authority figure, subordinates are led to expect more of themselves and to perform accordingly.

Along these same lines, Brief and Aldag (1981) examined the relationship of the self-mechanism as it relates to the organization. Like Eden, they included expectancy theory as part of their proposed construct. They based their review on a conceptualization of Bandura's self-regulatory system. (See Figure 2-2.)

Figure 2-2



Source: Brief & Aldag, 1981, p. 75.

Specifically, they examined the concepts of self-reinforcement, self-efficacy and self-management. Brief and Aldag chose to use the idea of expectations to integrate these concepts within the scope of the organization.

These researchers identified two cognitive sources of motivation. The first dealt with Bandura's proposal that human behavior is regulated by forethought and with Vroom's response-outcome expectations theory. Specifically, they suggested that through the self-regulatory process people are able to create expectations that behavior can produce certain outcomes. The second cognitive source dealt with personal attainment expectations or self-efficacy.

Brief and Aldag saw goal setting and self-evaluation as mediators of self-efficacy. That is, people will set performance goals, assess their abilities to reach these goals, and attribute their success or failure to either internal or external influences. In addition, Brief and Aldag linked self-reinforcement and intrinsic motivation. They suggested that self-reinforcement encourages people to expend the efforts necessary to complete a task because this will keep them from feeling guilty. They also proposed that people use self-reinforcement to improve their skills and abilities. The self-satisfaction the individual obtains from reaching goals and acquiring skills will cause even higher achievement levels to be sought. This self-reinforcement process is an integral part of self-efficacy development.

Although there appears to be a relationship between the expectancy theory and self-efficacy, some differences should be noted. Gist (1987) made two such distinctions between the two concepts. First, she noted that expectancy focuses on the individual's belief that effort will lead to a desired outcome, while self-efficacy implies that one can perform adequately to reach a certain goal. Bandura (1977) suggested this differentiation is important because people can believe that the execution of a particular behavior will produce certain outcomes; but, if they have serious doubts about their capability to adequately perform, their behavior will not be influenced.

Another difference relates to the measurement of the two constructs. When evaluating one's self-efficacy, the individual assesses expectations for a wide range of performance levels, whereas, when assessing effort-performance expectancy, the individual considers only one performance goal.

Another construct often compared to self-efficacy is that of self-esteem. Brockner (1988) described self-esteem as being related to the individual's self-evaluation (e.g, feelings of self-worth, self-acceptance, etc.). It also has been defined as the extent to which one sees oneself as a competent, need-satisfying individual (Brief and Aldag, 1981).

In her review of the self-esteem construct, Tharenou (1979) cited other definitions: 1) "The evaluation which the individual makes and customarily maintains

with regard to the self: It expresses an attitude of approval or disapproval and indicates the extent to which the individual believes the self to be capable, significant, successful and worth." (Coopersmith, 1967, pp. 4-5); and, 2) The evaluation or judgment of the self in terms of self-acceptance, self-confidence, self-respect, self-satisfaction, sense of competence or self-ideal congruence (Wells and Marwell, 1976).

Self-confidence is mostly an acquired trait based on a continuous succession of accomplishments of a given task. Bandura (1986) expressed a similar observation about the development of self-efficacy precepts in that efficacy perceptions are gradually acquired based on skill development and experiences.

Other researchers have defined self-esteem in terms of operational characteristics. For example, Korman (1970, 1976) as reviewed by Tharenou (1979) suggested that self-esteem could be based upon: 1) a chronic level of self-esteem that occurs consistently across situations, 2) one's self-perceived competence concerning a particular task, and, 3) the expectations of others. Similarly, Simpson and Boyle (1975), as reviewed by Tharenou, discussed self-esteem in terms of specific types: 1) global (or a person's general self-evaluation); 2) specific (the individual's self-perception in terms of a situation or role); and 3) task specific (a person's feeling of competence in a particular activity). In addition, Tharenou also

found that White (1959) proposed that individuals develop a sense of competence through their capacity and abilities to interact effectively with the environment.

Based on the self-esteem construct, then, the motivation to achieve is influenced by a desire to maintain a high self-image of ability (Schunk, 1984). Even though failure may destroy the individual's self-image, Schunk proposed that the individual can protect the perception of high ability (and thus, high self-image) by attributing failure to other factors such as insufficient effort or bad luck. In the self-esteem view, perceived ability strongly impacts achievement cognition and behavior. Similarly, Schunk suggested that the self-efficacy model assumes that people who think of themselves as highly capable will select the tasks and put forth the effort required for success.

Generally, it would seem that a person with high self-efficacy would also have a high sense of self-esteem. However, Brockner (1988) pointed out that an individual may be highly efficacious, yet have low self-esteem. That is, individuals may be confident that their abilities will enable them to perform effectively, while at the same time, may not like themselves.

Determinants of Self-efficacy

In reviewing the self-efficacy construct, some researchers have related the self-efficacy construct to attribution theory. Gist and Mitchell (1992) described attributions as "assessments about causes of past behavior" (p. 192). Self-efficacy, on the other hand, deals with judgments about future performance. They recognized a causal relationship between certain antecedents (i.e., effort, ability, luck, task difficulty) and a person's formation of efficacy judgments.

In their review of attribution theory, Gist and Mitchell (1992) and Schunk (1984) found that Weiner (1979) purported that certain distinctions (i.e.,internal/external,stable/unstable, controllable/ uncontrollable) could be used to categorize the factors that affect self-efficacy judgments. Weiner's model further proposed that these causal attributions for prior outcomes contribute significantly to future expectancies of success or failure.

Schunk (1984) pointed out that the constructs of both self-efficacy theory and attribution theory emphasize the cognitive process involving the evaluation of environmental, performance and expectation factors. However, he stressed that the two theories differ relative to the range of influence the judgmental factors have on behavior.

For example, in the framework of the self-efficacy construct, attributional factors such as the amount of effort expended and evaluations about task difficulty influence performance indirectly through a person's feelings of efficacy. Specifically,

Schunk proposed that people who succeed by putting forth a great deal of effort will judge themselves as having less ability (and thus less self-efficacy) than those who succeed with little effort.

On the other hand, from an attributional perspective, Schunk cited factors such as patterns of successes and failures, number of performance aids, situational circumstances under which prior performances occur, social comparative information and forms of persuasion as having direct influence.

In assessing their efficacy, people will consider their ability to control a situation. Internal factors are generally under personal control, whereas external factors are usually under the control of the organization or the environment. Individuals will perceive their control to be greater over internal rather than external factors.

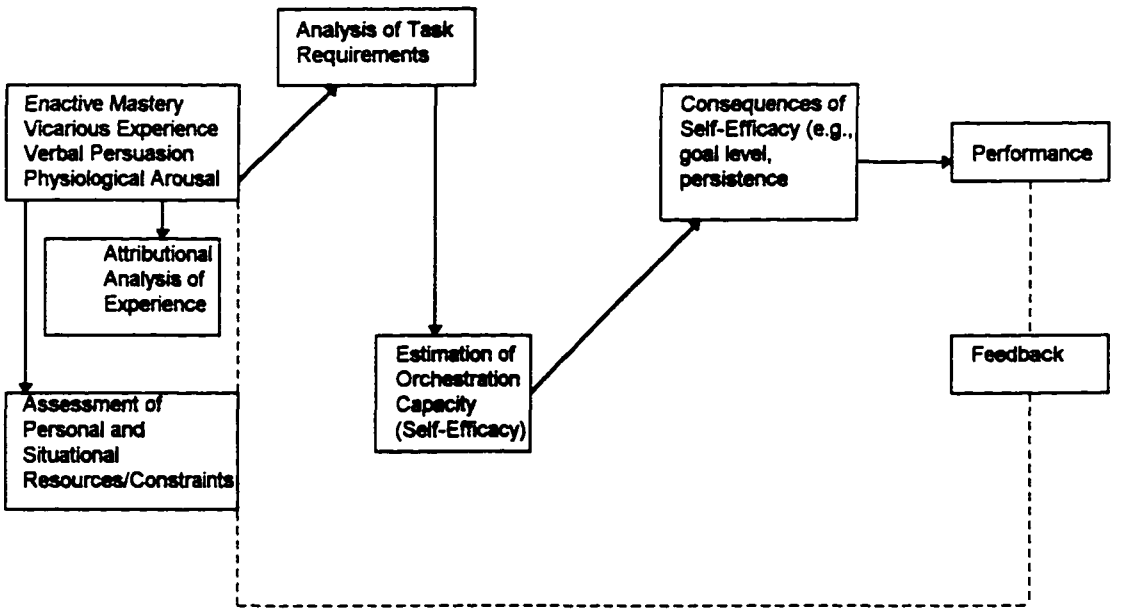
The person with a high level of self-efficacy more than likely also will be a self-actualized individual. In a broad sense, Maslow (1970) described self-actualization as the full use of one's talents and capabilities. This implies that the development of one's capabilities involves the continued use or practice of certain skills and talents.

This inference corresponds to Bandura's (1982) suggestion that there are four major categories of experience used in the development of self-efficacy

(personal attainments, vicarious experiences, verbal persuasion, and, physiological arousal).

In an attempt to define the process by which these experiences contribute to the development of self-efficacy, Gist and Mitchell (1992) proposed a model which suggested that the individual first assesses the task or situation at hand and determines what will be required (e.g., abilities, time, etc.) to perform at various levels. (See Figure 2-3.) If the individual has performed the task previously, he or she will make judgments or attributions about past performances.

Figure 2-3



Source: Gist and Mitchell, 1992, p. 189.

The individual may also make an evaluation based on the observation of others performing the same task or from encouragement from others. In addition, a person will examine specific personal as well as situational factors that may impact performance.

Gist and Mitchell have proposed that this process of integrating several factors applies to early judgments of self- efficacy. They have argued that as time passes, the individual's efficacy assessment will be made more automatically.

This argument also has been made by Mitchell, Hopper, Daniels, Falvy and James (1994). They proposed that as skills are acquired, the process for estimating self-efficacy becomes fairly simple and effortless. However, their research supported the proposal that self-efficacy is a better predictor of initial performance. Their study results also indicated that once a task becomes well learned, the individual's expectations and goals are better predictors.

In addition, the research of James and Brett (1984) has contributed to the significance of attribution theory as it relates to self-efficacy. From a theoretical perspective, James and Brett determined that a causal relationship exists between an antecedent and performance or outcome.

Bandura (1982), as well, has suggested that a link exists between performance and self-efficacy. This causal relationship has been supported by a study conducted by Locke, Frederick and Bobko (1984). Specifically, Locke et al.

examined the relationships between self-efficacy and goals on task performance. They found that self-efficacy can be a predictor of future performance.

Several other researchers (Eden & Ravid, 1982; Eden & Shani, 1982; Gist, Schwoerer & Rosen, 1989; Gist, 1989; Gist, Bavetta, Stevens, 1990; Tannenbaum & Mathieu, 1991; Mathieu, Tannenbaum & Salas, 1992; Mathieu, Martineau & Tannenbaum, 1993; Mitchell, Hopper, Daniels, Falvy & James, 1994; Saks, 1995) have studied this causal relationship relative to training effectiveness.

For example, Saks (1995) found that training increases the individual's self-efficacy. He also suggested that self-efficacy is related to training outcomes, both as a moderating and as a mediating variable. Specifically, he found that training was related to posttraining self-efficacy and that posttraining self-efficacy was related to job satisfaction and commitment. Saks further suggested that his findings were consistent with Bandura's thoughts on self-efficacy in that he considered self-efficacy to be an important determinant of one's ability to cope with adversities and to overcome obstacles.

In general, other researchers have conducted studies to determine how self-efficacy develops during training and the importance of self-efficacy as an antecedent of training effectiveness. Tannenbaum et al. (1991) found that socialization training can have an impact on an individual's sense of commitment, self-efficacy and motivation. Gist (1989) concluded that training that involved the

use of cognitive modeling enhanced self-efficacy. Gist, Bavetta, Stevens (1990) determined that trainees who were involved in self-management programs outperformed other trainees who were involved in other types of programs.

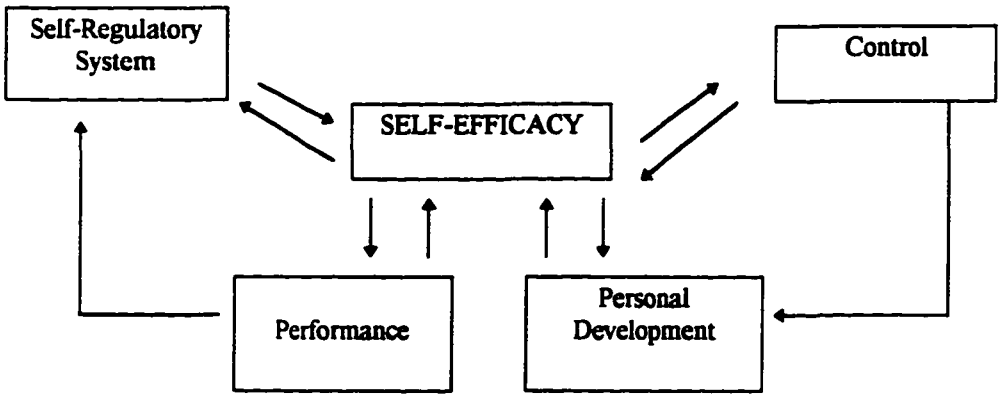
Summary

A review of the literature leads to the inference of the following paradigm: Through the self-evaluative and cognitive mechanisms of the self-regulatory system, the individual processes certain internal and external information which contributes to feelings of self-efficacy.

Personal efficacy is mediated by perceived situational and environmental control. Self-efficacy also serves as a moderator of performance and personal development. In turn, skill development and continued accomplishments positively influence personal feelings of efficacy; while, lack of developmental activities and successive failures contribute to perceived inefficaciousness.

The self-efficacy construct is dynamic in nature. At various points along this continuum, the individual's feelings of self-efficacy may change depending upon the temporal influence of mediating factors such as the individual's sense of control over the environment or specific situations. The construct as described can be modeled as shown in Figure 2-4.

Figure 2-4



Source: Original

The basis for the construct of self-efficacy and the concept of the self-regulatory system has been well established by the research of Bandura (1974, 1977, 1978, 1982, 1989, 1991), Bandura and Cervone (1986), and Bandura and Jourden (1991). Clearly, the self-regulatory system and self-efficacy as a central mechanism of that system are dominant agents which contribute to the motivation and subsequent actions of the individual.

Pivotal to this whole system is the concept of "self". This human regulatory system is governed by personal actions. For example, individuals continuously

evaluate their abilities and past activities and they determine a level of satisfaction with their accomplishments (or failures). This self-assessment not only contributes to peoples' sense of feeling about themselves, but also stimulates self-directed behavior commensurate with their perceived abilities.

Self-efficacy plays a core role in the operation of the self-system. This component of the self-regulatory system governs the development of confidence in one's abilities. It is important to point out that self-efficacy is not a passive part of the self-system. That is, efficacy is formed by the individual primarily by evaluating past accomplishments. To an extent, it can be gained from modeling or from the encouragement of others.

As a predictor of future performance, personal efficacy acts as a significant medium in the conscious decision-making processes of the individual. The level of self-efficacy influences the choices people make in life and the goals they set for themselves. Self-efficacy also contributes to a person's ability to cope with difficulties and setbacks.

The self-efficacy construct has been substantiated by the studies conducted by several researchers. For example, Locke, Frederick and Bobko (1984) established a causal relationship between self-efficacy and performance.

Other researchers examined the self-efficacy concept relative to training. Generally, their studies supported the importance of self-efficacy as an antecedent

to effective performance (Tannenbaum et al., 1991; Gist, Bavetta, Stevens, 1990; Saks, 1995).

The self-efficacy construct also has been validated by comparing it to other theories dealing with motivation. For example, some researchers (Locke, Frederick, Lee and Bobko, 1984; Bandura and Cervone, 1983; Eden and Shani, 1982; Eden and Ravid, 1982) found a correlation between performance expectancy and self-efficacy.

In fact, there seems to be a strong relationship between expected performance goals and personal efficacy. By evaluating the consistency between their actual performance and established standards, people assimilate a degree of satisfaction. If performance is not consistent with the established goals, the individual can adjust the strength of the efforts required to reach the standard. This relationship can be construed as causal and reciprocal. That is, the self-efficacious individual more likely will not be dissuaded by the necessity to put forth more effort to reach the goal. In turn, successful accomplishment of the task at hand will enhance self-efficacy.

In addition to expectancy theory, self-efficacy is also related to attribution theory (Gist and Mitchell, 1992; Schunk, 1984). Within the framework of attribution theory, people will associate past behavior with specific causal factors. These attributions might be factors such as effort, ability, luck, task difficulty, etc.

As with the expectancy-efficacy relationship, there is a correlation between the attributions of a person and the level of self-efficacy. For example, the person who attributes past successes to personal ability will be highly efficacious; whereas, the individual who believes that a past success was due solely to luck will likely experience a different level of efficacy.

In the examination of self-efficacy, it is also important to explore the possible mediating factors of the concept. Although several such mediators may exist, some researchers (Bandura and Wood, 1989; Litt, 1988; Averill, 1973; Phillips and Freedman, 1984; Parker, 1993) saw the control factor as one of the most significant.

In making assessments about the predictability of situational performance, people must feel they have an element of control. This sense of being able to manage the environment alters the sense of self-efficacy, which, in turn, influences the success of the individual.

Control also acts as a medium which affects a person's ability to cope. People who believe they can cope with situational constraints will build a sense of confidence. This sense of confidence augments the level of self-efficacy, which enhances the individual's ability to succeed.

A large body of literature exists relative to the concept of the self-system and specifically to the construct of self-efficacy. Through a review of relevant selections of this literature, the significance and validity of the contruct have been established.

In addition, it has been determined that there are significant influential factors associated with self-efficacy. The most consequential of these is control as a mediator of personal efficacy.

The expression of interest in the construct by the academic community as well as the determination of relevance to the organizational environment validates the proposal for further study. In particular, the construct can be expanded and additional research can be conducted within the realm of the organization. Much of the past research in this area has been constrained by artificially designed study environments.

The importance to the organization of understanding the concept of motivation and the recognition of a relationship between motivation and the self-efficacy of the individual have been well established. It follows, then, that research designed to examine the influence of self-efficacy within the confines of the organization particularly is relevant. Specifically, it is important to examine the significance of control as a mediating factor in the individual development and sustenance of self-efficacy.

In the next chapter, the methodology for this study will be defined. The study approach, including a description of the study environment, measurement instruments and statistical methods will be outlined. The specific research questions and hypotheses as described previously also will be discussed.

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CHAPTER III

METHODOLOGY

As discussed in Chapter One, the organization must be attentive to the needs of the individual. It has been established that central to all human behavior is the concept of the self. A pivotal part of this construct is the self-regulatory mechanism; and, a significant component of this mechanism is the concept of self-efficacy.

Study Design

Research Questions:

In particular, the organization must understand the relationship of certain mediating factors and the individual's sense of self-efficacy. It has been established that the individual's perception of being able to exercise some control over the environment directly influences the self-reactive functions of the individual.

The organization must be able to develop human resource strategies that will optimally influence the motivation of its employees. In order to develop the

appropriate strategies, the organization must continuously monitor the organizational environment and its impact on the employee body.

A key to understanding this impact is to examine the relationship of self-efficacy and the sense of control that the individual within the organization feels. Therefore, in this study, the researcher examined the following question:

- Is there a relationship between the factor of control as a mediator which influences the self-efficacy of the individual within the organization? (Research question 1)

In addition, there are other questions relative to self-efficacy that are pertinent to the organization. In the competitive marketplace, organizations must be able to recruit and keep skilled, motivated individuals. Also, the organization must recognize the demographical dynamics of the areas in which they operate.

These are some of the factors that have led organizations to create rather diverse working environments. In fact, in some areas once dominated by white males, there are equal groups of females and minorities. Further, the minority group in the corporation, which used to comprise mainly African Americans, now encompasses a much larger ethnical group.

With this diversity, the organization must deal with many different individual approaches to various situations within the work environment. Addressing this diverse work environment will be critical not only to the successful development of

employees for future leadership roles, but also to the day-to-day motivation and performance of the individual employee.

In recognizing this, other relevant questions to the organization which the current study addressed include:

- Is the self-efficacy and sense of control among males greater than the self-efficacy and sense of control among females within the organization? (Research question 2)
- Is the self-efficacy and sense of control among whites greater than the self-efficacy and sense of control among nonwhites within the organization? (Research question 3)

A further area for examination relates more directly to the organizational structure, itself. Most large corporations contain departments or units which are somewhat "self-contained" in that they each have powerful entity heads. Often, the management philosophy of these separate units is unique to the leader of the particular department.

Many times, in fact, employees have definite perceptions (both good and bad) about certain departments. These perceptions often can be directly associated with the management styles or philosophies of the particular departmental leaders. Thus, the current study also addressed the following question:

- Is there a difference between the sense of control and the self-efficacy of the individual within the various organizational units (COUs)? (Research question 4)

Finally, another factor that the author believes may influence the self-efficacy of an individual is tied to the position attained within the organization. A promotion is normally perceived as a vote of confidence. As individuals move up the corporate ladder, they will feel a sense of personal accomplishment and confidence which will augment their feelings of self-efficacy.

In many large corporations, career advancements are not just a "happenstance". Many firms have mentoring programs or programs created to foster and develop the careers of individuals who are identified as having high-potential leadership qualities. The recognition and opportunities afforded these individuals are part of the program designed to lead to positions of increasing responsibility within the corporation. In these cases, the position level signals an achievement and as higher position levels are attained, the self-efficacy of the individual will increase.

This is not to say that promotions, per se, attribute singularly to a person's effaciousness. Not everyone within the organization can expect to rise within the organization's ranks. However, the organization must recognize the importance of providing self-improvement or career-development opportunities to its employees and the relationship of these opportunities to individual personal efficacy.

The development of strong leaders in the organization is an ever-present concern. The relationship between individual self-confidence in personal abilities and the advancement in career position is important to the firm. Therefore, the following question also was found to be relevant to the current research:

- Is there a difference in the individual self-efficacy and sense of control among the various position level groups within the organization? (Research question 5)

Hypotheses and Statistical Methods:

As discussed previously, a key element of the current research was to determine if there is a correlation between the constructs of self-efficacy and locus of control. Empirical research (Bandura, 1991; Averitt, 1973) suggests that individuals who perceive they can exercise some control of environmental influences feel a greater sense of self-efficacy.

To test the question of whether or not such a relationship exists (Refer to research question 1.), the following hypothesis and null hypothesis were proposed:

H_1: There is a relationship between the factor of control as a mediator which influences the self-efficacy of the individual within the organization.

H_{01}: There is no relationship between the factor of control as a mediator which influences the self-efficacy of the individual within the organization.

Regression analysis was performed to examine this relationship. In the analysis, self-efficacy was considered as the dependent variable and the control factor as the independent or predictor variable.

In order to thoroughly complete this analysis, several views were considered. First, the regression analysis was performed by considering all the data sets in the study.

Next, the data sets were segmented and additional regression analyses were performed. The groups were as follows:

All Males
All Females
All Whites
All Nonwhites
All White Females
All White Males
All Nonwhite Females
All Nonwhite Males

The additional analyses were used to compare and discuss the relationships and the strength and magnitude of self-efficacy and the sense of control found for each of the groups.

The second set of factors which the researcher considered to be important relates to the correlation between certain demographical factors (i.e., gender, ethnicity) and the constructs of self-efficacy and locus of control.

There is some empirical suggestion of the relationship between gender and the strength and magnitude of self-efficacy in research done by Sherer and Adams

(1983). In their study, Sherer and Adams developed a Self-efficacy Scale to assess generalized self-efficacy. In validating the construct, the researchers predicted that the Rathus Assertiveness Schedule and the Masculinity scale of the Bem Sex-role Inventory would show positive correlations with the Self-efficacy Scale. As predicted, their research showed that both General and Social Self-efficacy were associated with assertiveness and masculinity as measured by the two tests.

Although Sherer and Adams' finding of a small correlation of the General Self-efficacy Scale with the Feminity scale was not to be interpreted, it was suggestive of further study. Specifically, the current researcher believes that, generally, men will be more self-efficacious that women. In particular, this may be true in management positions where women are in the minority or in roles traditionally occupied by men.

Therefore, the author proposed to examine the relationship between gender and self-efficacy and the mediating effects of control (Refer to research question 2.). To test this proposition, the following hypothesis and null hypothesis were proposed:

H_2: The self-efficacy and sense of control among males will be greater than the self-efficacy and sense of control among females within the organization.

H_{02}: The self-efficacy and sense of control among males will be less than or equal to the self-efficacy and sense of control among females within the organization.

In order to perform an analysis to test these questions, the data were segmented as two groups: male and female. The survey instrument (See Appendices 1 and 2.) measured the self-efficacy and control variables. Descriptive statistics were generated for this data and an analysis was done to determine if the means between the two groups (male and female) were equal. The conventional criterion of .05 was used to assess the level of statistical significance.

Along these same lines, the author proposed that another demographical factor, ethnicity, would also impact the self-efficacy of the individual within the organization. The researcher believes that minority ethnic groups may suffer the same demise as females within the organizational hierarchy. That is, there are few minority individuals who are able to make career advancements equal to those of their white male counterparts. Because of this, there are few, if any, "vicarious experiences" from which these individuals can relate to their own personal efficacy. Further, the scarcity of other minorities, particularly in higher management positions, may contribute to a general self-inefficaciousness for this group.

Thus, the researcher also proposed to study the relationship between the ethnicity of individuals within the organization and the sense of control and self-efficacy of those individuals (Refer to research question 3.). The following hypothesis and null hypothesis, which reflect the researcher's belief that the self-

efficacy and sense of control perceived by whites will be greater than for nonwhites, were used to test this relationship:

H_3: The self-efficacy and sense of control among whites will be greater than the self-efficacy and sense of control among nonwhites within the organization.

H_{03}: The self-efficacy and sense of control among whites will be equal to or less than the self-efficacy and sense of control among nonwhites within the organization.

For this analysis, the data sets were grouped according to ethnicity (white vs. nonwhite). Again, descriptive analyses were generated and an analysis was done to determine if there is a difference in the means of the self-efficacy and control measurements of the two groups. The criterion of .05 was used to test the statistical significance of the results.

In addition, the author proposed to examine the relationship between the sense of control and self-efficacy of the individual within the organization and the individual's organizational affiliation (Refer to research question 4.). The author believes that the magnitude of the self-efficacy and control factors varies among the organizational units. Thus, the following hypothesis and null hypothesis were proposed to test this belief:

H_4: There is a difference between the sense of control and the self-efficacy of the individual within the various organizational units (COUs).

H_{04}: There is not a difference between the sense of control and the self-efficacy of the individual within the various organizational units (COUs).

To test these hypotheses, data sets were grouped according to organizational affiliation. Four groups were identified: Consumer; Small Business Services; BellSouth Business Systems; and Interconnection Services. A One-Way Analysis of Variance was used to determine if there are differences (at the .05 significance level) between the means of the self-efficacy and control measurements from each of these groups.

Finally, the current researcher believes there is a relationship between the position level attained within the organization and the self-efficacy and sense of control that the individual feels (Refer to research question 5.). The researcher believes that the higher the position level is, the higher the self-efficacy and sense of control will be. To test this belief, the following hypothesis and null hypothesis were proposed:

H_5: The self-efficacy and sense of control of the individual in higher position levels will be greater than the self-efficacy and sense of control of the individual in lower position levels within the organization.

H_{05}: The self-efficacy and sense of control of the individual in higher position levels will be equal to or less than the self-efficacy and sense of control of the individual in lower position levels within the organization.

Data sets were grouped as nonmanagement, first-level management, middle management or higher management. A One-Way Analysis of Variance was performed to determine if there are significant differences (at the .05 level) among the group means for individual self-efficacy and sense of control.

In addition to examining the specific hypotheses, other standard descriptive statistics were generated. Means were established for the overall demographic data, and, tables were formulated to summarize the means for the self-efficacy and sense of control measurements for each group.

Data Collection Methods

General Procedure:

A sample of the general employee population of BellSouth Telecommunications, Inc. (BST), an entity of the BellSouth Corporation, was surveyed. BellSouth Telecommunications, Inc. is a large telecommunications firm which currently operates in the Southeastern region of the United States. The company, which provides local telephone exchange and long distance services, has a total of 65,550 employees as of March 31, 1996. (See Table 3-1 for employee distributions.)

TABLE 3-1[1]

Item	Quantity	Percent
Total BST: Employees	65,550	100.0
Total BST: Females[2]	33,041	50.0
Total BST: Minority[2]	16,310	20.0
Total BST: Management	16,237	100.0
Total BST: Management Female[2]	6,676	40.0
Total BST: Management Minority[2]	2,921	20.0
Total BST: Nonmanagement	49,313	100.0
Total BST: Nonmanagement Female[2]	26,365	50.0
Total BST: Nonmanagement Minority[2]	13,383	30.0
Total BST: Director and Above[3]	717	100.0
Total BST: Director and Above Female[2,3]	151	20.0
Total BST: Director and Above Minority[2,3]	62	10.0

Source: BellSouth Telecommunications, 1996, Internal Report.

[1] Data available as of 3/31/96.

[2] Data were not available to differentiate minority female and non-minority female.

[3] For purposes of this study, employees at the Director level and above are considered upper level management.

At the time of the study, the operating structure of BST was based on core functional areas (e.g., Information Technology, Network Services, etc.) as well as Customer Operational Units (COUs). These included: Consumer Services (the largest unit); Small Business Services (the smallest unit); BellSouth Business Systems; and, Interconnection Services.

In this environment, the COUs, which are aligned with the major market segments, drive the business decisions which are made at BST. The management structure for each COU is led by a President and various other departmental heads. While the COUs must work together, they each make major business decisions based on the business needs of their respective customer markets. The management philosophies tend to follow the leadership styles of top level management within the respective COUs.

The researcher believes that perceived and discernible management and leadership differences exist among the various units. This is partly attributable to the organizational changes that have evolved in response to the industry dynamics associated with technology and competition. A significant factor involved with these changes has been the recruiting of higher level managers from businesses outside BellSouth.

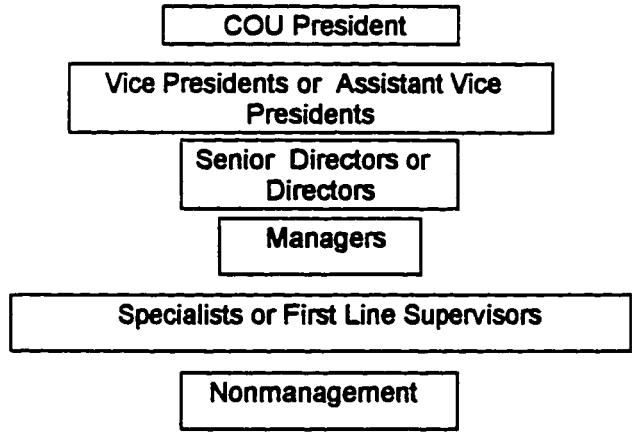
In this study, it was expected that differences exist among the COU groups. These differences will manifest themselves in employee perceptions about their jobs

and the way they feel about themselves. Specifically, it was expected that differences would be identified in employees' beliefs about how much input they have in the decision-making processes involved in their respective departments and also in the confidence they have in their abilities.

The Sampling Technique:

A self-report survey instrument was used to gather the research data. The sample was taken from the employee body of each COU. This encompassed all levels of management except for the department heads and their direct reports. (See Table 3-2 for the general departmental format.)

TABLE 3-2



Source: Original (Based on Researcher's knowledge of BellSouth Telecommunications, Inc.)

The survey was sent to the employees' work addresses via internal company mail. Employees were asked to anonomously complete the survey and return it via a #10, pre-addressed, stamped envelope to the researcher's home address.

A cover letter accompanied the questionnaire. The purpose of the letter was to identify the researcher to the potential participants as a BellSouth associate and to request their participation as a favor to a fellow employee. This approach was selected because some of the COU Presidents had expressed a concern about any possible inference of an explicit BST endorsement of the study - specifically that they personally were encouraging their respective employees to respond. The concern was that certain nonmanagement groups would use company time to complete the survey. For certain operational groups, this could affect the level of customer service. While upper level managers in the COUs expressed their personal support of this endeavor and indicated that they would be interested in the study results, the researcher had to consider any potential negative impacts to the day-to-day operation of the Company.

In addition to basic information about the survey, potential participants were informed that they, too, could receive a summary of the study results. In order for responses to remain unrelated to specific persons, respondents were told to send, under separate cover, a request for the study results. Instructions conveyed that the requests were to be sent via postcard to the researcher's home address and that

they were to include their name and address on the postcard. As an alternative, the survey included the researcher's local number as well as a toll-free personal 800 number.

Internal reports were generated which reflected the names and work addresses of employees at all levels of management within each COU. This information was imported into a spreadsheet format so that random samples from each COU could be generated. This also facilitated the generation of mailing labels.

A response rate of 30% was anticipated. The expected response rate was based on the results of a 1994 BST survey which was administered within the Small Business Services Unit. The questionnaires from this study were sent to 1,683 employees. A total of 976 (or approximately 60%) responded.

The expected response rate from the current study was adjusted to account for the fact that the study would be conducted by the researcher rather than the management at BST. Also, another factor which might have tended to diminish the response rate was that the cover letter was not to be authored by the employees' respective department heads, but, rather by the researcher. (However, some of the COU heads expressed the opinion that the response rate would be greater because of the appeal as one fellow employee to another rather than as a request from upper level management.)

In any case, because employees were to be provided the opportunity to receive the study results and because the cover letter would indicate that the results would be presented to top management, a good response rate was expected. Employees continue to be concerned about internal communication. They want to feel that they are valuable to the firm and that they have input into the daily decision-making processes within the company. Giving employees an opportunity to express themselves, even anonymously, will convey the perception that their voices will be heard.

The Survey Instrument

General self-efficacy, which refers to people's expectations that they can perform well in many different situations, was measured by using the Self-Efficacy Scale (Appendix 1). This test instrument was developed by Sherer et al. (1982) and later validated by Sherer and Adams (1983). Although the original Self-Efficacy Scale has two subscales (General and Social Self-Efficacy), only the General Self-Efficacy Scale was used in this study. Both the subscales proved to have adequate reliability (Cronbach a = .86 and .71, respectively (Sherer and Adams, 1983). The researchers also demonstrated construct validity by confirming several predicted

relationships between scores on the Self-efficacy subscales and on other personality measures (Sherer, et al., 1982).

In addition, other researchers (Armstrong, 1994; Eylon, 1993) have successfully used this instrument to measure self-efficacy. These researchers reported a reliability coefficient (Cronbach's Alpha) of .84 and .77, respectively.

The Self-Efficacy portion of the survey instrument consisted of 17 items rated on a 5-point Likert scale. Following this part of the survey was the control measurement items which will now be discussed.

Perceived job control was measured by administering a Work Locus of Control Instrument which was adapted from an instrument used in previous research (Erbin-Roesemann, 1995). The Work Locus of Control Instrument used by Erbin-Roesemann consisted of two-scales: a Gender Discrimination Scale and an Internal-External Dimension Scale. In her study, Erbin-Roesemann found that study participants were somewhat annoyed by the questions in the Gender Discrimination Scale and recommended that these items be dropped in future studies if gender difference was not at issue. Even though the question of gender was studied as it relates to the concept of self-efficacy, the actual question of discrimination was not at issue in the current study. Therefore, only the Internal-External Dimension Scale was used. This instrument (Appendix 2) consisted of items dealing with powerful

others, control ideology, political control and personal control. Items were scored based on a five-point Likert scale.

Erbin-Roesemann, who adapted her Work Locus of Control instrument from Gurin et al. (1969) and Levenson (1973), performed a two-phase study. Phase two of her study consisted of a field test to refine the Work Locus of Control instrument and to assess internal consistency and construct validity of the items included in the instrument.

In her analysis, Erbin-Roesemann used Cronbach's coefficient alpha to determine internal consistency and factor analysis was used to test construct validity. The entire scale had a Cronbach's alpha coefficient of .86 (p. 195). The researcher found the factor structure to be conceptually meaningful (p. 210) and to be consistent with work previously performed by Gurin et al (1969, 1978) and Levenson (1973).

As suggested by Erbin-Roesemann, one item in the internal-external dimension scale was deleted (i.e., "People's misfortunes at work result from the mistakes they make."). In her study, after deleting this item, the alpha coefficient for the "Powerful Others" factor increased to .77 (p. 196). The factor of control ideology had an alpha coefficient of .76 (p. 199); the factor of political control had an alpha coefficient of .70 (p. 200); and, the final factor of personal control had an alpha coefficient of .67 (p. 200). In addition, the factor Eigenvalues were found to be as

follows: Powerful Others, 6.38; Control Ideology, 2.45; Political Control, 2.08; Personal Control, 1.68.

While the focus of Erbin-Roesemann's study was on locus of control as it related to work excitement, she found in her research (Gurin et al. , 1969) that individuals who have a high sense of personal control over their own lives express more self-confidence. This is relevant to the current study in that it is proposed that self-efficacy (or confidence in one's abilities) is correlated with the individual's sense of control.

In addition to the mediating effects of the control factor, it was expected that several other variables would impact the self-efficacy of the individual. Among these are the management philosophy of the different departments within the organization. Other variables which are believed to influence the mediating effects of control on the individual's self-efficacy include gender, ethnicity, and, position within the company.

In order to examine this proposal, the survey questionnaire included demographic items which allowed responses to be categorized within groups. For example, data were grouped according to department (COU). Within each departmental grouping, responses also were identified according to gender, ethnicity and position level (including a categorization by management vs. nonmanagement). In addition, general information, such as work location was requested.

CHAPTER IV

ANALYSIS AND PRESENTATION OF FINDINGS

This chapter presents the results of the analyses of the current study. First, a summary of the survey process and resulting response rates is provided. Then, a summary and discussion of general descriptives are given. Finally, the results of the actual statistical analyses are presented in the order the questions and hypotheses were given in Chapter Three. The data and interpretations of the statistical tests are given in this chapter, whereas the implications of these results are presented in Chapter Five. The SPSS model was used for all statistical testing.

The Survey Process

The survey instrument as discussed in Chapter Three (See Appendices 1 and 2) along with a cover letter (See Appendix 3) were mailed to 1,000 employees of BellSouth Telecommunications. Data relative to the distribution of the survey responses are presented in Tables 4-1, 4-2, and 4-3.

From the 1,000 surveys sent, 200 usable responses were received. Females represented 76% (or 152) of the total responses, while males accounted for 24% (or 48) of the total. A total of 145 responses (or 70.5%) was received from whites and 55 responses (or 29.5%) were received from minority ethnic groups.

In addition, management level employees accounted for 26.5% (or a total of 53) of the responses and nonmanagement employees represented 73.5% (or a total of 147). Originally, the researcher had planned to differentiate between certain levels of management. Specifically, three groups of management were to have been studied: Director level and above (Pay Grade 61 and above) as one group; the second level management tier (Pay Grade 59) as the second group; and first line managers (Pay Grade 58 and below) as the third group. Nonmanagement employees would represent the fourth group. However, because only two responses were received from Directors, the first and second groups were combined so only two management groups and the nonmanagement group were analyzed.

Prospective participants were randomly selected from employee databases for each of the Customer Operational Units (COUs). The number of employees selected from each COU was based on the COU's relative proportion to the total of employees from all COUs. The overall response rate was 20%. The response rates for the individual COUs were as follows: BellSouth Business Systems = 29%; Consumer = 17.9%; Interconnection = 9.5%; Small Business = 21.7%. The

response rates were somewhat disappointing as a much higher response rate had been expected. The low level of response could have been due to several factors. Because BellSouth employs the frequent use of surveys, employees may have felt that they have been oversurveyed. Or, they may have been uncomfortable with the subject matter. In addition, because of corporate downsizing and frequent reorganizations, employee morale is poor and that may have affected the motivation to respond. In any case, a sample size of only 100 was required, so, the 200 responses were more than adequate for proceeding with the statistical analyses.

TABLE 4-1

N = 200

Item	Number of Responses	Percent
Gender:		
Male	48	24%
Female	152	76%
Race:		
White	145	70.5%
Nonwhite	55	29.5%
Position:		
Management	53	26.5%
Nonmanagement	147	73.5%

Source: Original Study.

TABLE 4-2

N = 200

Department	Total Surveys Mailed	Total Responses Received	Response Rate	Percent of Total Responses
BellSouth Business Sys.	155	45	29%	22.5%
Consumer	425	76	17.9%	38%
Interconnection	337	32	9.5%	16%
Small Business	83	18	21.7%	9%
Other[1]		29		14.5%
Total	1000	200	20%	100%

Source: Original Study

[1] Responses in this category are a result of employees having transferred to departments other than the COUs.

TABLE 4-3

N = 200

State	Number of Responses	Percent of Responses
Alabama	12	6%
Florida	53	26.5%
Georgia	34	17%
Kentucky	5	2.5%
Louisiana	16	8%
Mississippi	6	3%
North Carolina	12	6%
South Carolina	13	6.5%
Tennessee	18	9%
Headquarters - Atlanta	17	8.5%
Headquarters - Birmingham	14	7%
Total	200	100%

Source: Original Study

General Summary

As described in Chapter Three, one objective of the current study was to measure the magnitude of the self-efficacy of the individual within the organization. To accommodate this measurement, the Self-Efficacy Scale by Sherer (See Appendix 1) was administered in the form of a survey.

For each of seventeen items, participants were asked to quantify their feelings by using a scale ranging from strongly disagree (value of 1) to strongly agree (value of 5). Some items were reverse scored (as indicated in Appendix 1). The values indicated for each item in a data set were summed as a quantification of individual self-efficacy (or self-inefficacy). The maximum item value of five multiplied times seventeen total items (or a total value of 85) represents the optimal magnitude of individual self-efficacy. Hence, for this study, individual self-efficacy can be represented as follows:

High Self-Inefficacy	Moderate Self-Inefficacy	Low Self-Efficacy	Moderate Self-Efficacy	High Self-Efficacy
1 - 17	18 - 34	35 - 51	52 - 68	69 - 85

Source: Original

The second objective of the study was to measure perceived control within the workplace. This factor was measured by the Work Locus of Control Instrument (See Appendices 2-1 through 2-3). This instrument measured four elements of control (as discussed in Chapter One). These elements are categorized as follows:

- Powerful Others - Feelings about those in power within the organization and their impact on the individual's ability to succeed within the organization.
- Control Idealogy - Feelings about the correlation between abilities and success versus luck or fate and success.
- Political Control - Feelings about the relationship between office politics and successful careers versus the relationship between hard work and career advancement.
- Personal Control - Feelings about the connection between chance and work roles versus controlling one's own destiny.

For each of the items in this part of the survey, participants were asked to quantify their feelings by using a scale ranging from strongly disagree (value of 1) to strongly agree (value of 5). Some items were reverse scored (as indicated in Appendix 2). The values indicated for each item in a data set were summed as a quantification of the sense of control relative to each control factor.

Seven items of the survey measured feelings about the Powerful Others factor. The maximum item value of five multiplied times seven total items (or a total

value of 35) represents the highest attainable value. Based on the structure of the items in this grouping, the *higher* the value, the *lower* the sense of control. Thus, for this study, the sense of control relative to the Powerful Others factor can be represented as follows:

High Sense Of Control	Moderate Sense Of Control	Some Sense Of Control	Low Sense Of Control	No Sense Of Control
1 - 7	8 - 14	15 - 21	22 - 28	29 - 35

Source: Original

Nine items of the survey measured feelings about the Control Idealogy factor. The maximum item value of five multiplied times nine total items (or a total value of 45) represents the highest attainable value. Based on the structure of the items in this grouping, the *higher* the value, the *lower* the sense of control. Thus, for this study, the sense of control relative to the Control Ideology factor can be represented as follows:

High Sense Of Control	Moderate Sense Of Control	Some Sense Of Control	Low Sense Of Control	No Sense Of Control
1 - 9	10 - 18	19 - 27	28 - 36	37 - 45

Source: Original

Eight items of the survey measured feelings about the Political Control factor. The maximum item value of five multiplied times eight total items (or a total value of 40) represents the highest attainable value for this category. Based on the structure of the items in this grouping, the *higher* the value, the *higher* the sense of control. Thus, for this study, the sense of control relative to the Political Control factor can be represented as follows:

No Sense Of Control	Low Sense Of Control	Some Sense Of Control	Moderate Sense Of Control	High Sense Of Control
1 - 8	9 - 16	17 - 24	25 - 32	33 - 40

Source: Original

Seven items of the survey measured feelings about the Personal Control factor. The maximum item value of five multiplied times seven total items (or a total value of 35) represents the highest attainable value for this category. Based on the structure of the items in this grouping, the *higher* the value, the *higher* the sense of

No Sense Of Control	Low Sense Of Control	Some Sense Of Control	Moderate Sense Of Control	High Sense Of Control
1 - 7	8 - 14	15 - 21	22 - 28	29 - 35

Source: Original

control. Thus, for this study, the sense of control relative to the Personal Control factor can be represented as follows:

General descriptive statistics were generated for individual self-efficacy and the factors of control based on the following groupings: gender, department, race, and position level. Summaries of these findings are found in Tables 4-4, 4-5, 4-6, 4-7, and 4-8 following.

TABLE 4-4

Self-efficacy

N = 200

Variable	Mean	Standard Deviation	Minimum	Maximum	Valid N
Female	69.07	7.31	49.00	85.00	152
Male	70.17	6.62	54.00	85.00	48
White	68.74	7.03	49.00	85.00	145
Minorities	70.89	7.31	50.00	85.00	55
Nonmanagement	69.27	7.61	49.00	85.00	147
Management Tier 2 [1]	69.95	5.79	54.00	78.00	20
Management Tier 1 [2]	69.27	5.78	56.00	83.00	33
BBS [3]	68.76	7.57	49.00	83.00	45
Consumer	69.43	7.07	54.00	85.00	76
Interconnection	69.13	5.49	53.00	78.00	32
SBS [4]	70.50	9.78	50.00	85.00	18
Other [5]	69.48	6.82	56.00	83.00	29

Source: Original Study

[1] Management Tier 2 represents Pay Grade 59 and above levels.
[2] Management Tier 1 represents Pay Grade 58 and below levels.
[3] BellSouth Business Systems
[4] Small Business Services
[5] Employees who responded but who have transferred from one of the COUs since the employee database was generated.

TABLE 4-5

Control
Powerful Others Factor

N = 200

Variable	Mean	Standard Deviation	Minimum	Maximum	Valid N
Female	21.80	5.22	7.00	34.00	152
Male	23.42	4.39	14.00	34.00	48
White	22.21	4.99	7.00	34.00	145
Minorities	22.13	5.32	7.00	32.00	55
Nonmanagement	22.13	5.36	7.00	34.00	147
Management Tier 2 [1]	22.10	4.30	14.00	30.00	20
Management Tier 1 [2]	22.52	4.24	13.00	34.00	33
BBS [3]	22.44	5.04	7.00	34.00	45
Consumer	21.76	5.70	7.00	34.00	76
Interconnection	22.13	4.27	13.00	30.00	32
SBS [4]	22.44	3.05	15.00	26.00	18
Other [5]	22.83	5.37	13.00	32.00	29

Source: Original Study

[1] Management Tier 2 represents Pay Grade 59 and above levels.
[2] Management Tier 1 represents Pay Grade 58 and below levels.
[3] BellSouth Business Systems
[4] Small Business Services
[5] Employees who responded but who have transferred from one of the COUs since the employee database was generated.

TABLE 4-6

Control
Personal Control Factor

N = 200

Variable	Mean	Standard Deviation	Minimum	Maximum	Valid N
Female	22.78	4.23	8.00	35.00	152
Male	21.87	3.99	13.00	33.00	48
White	22.74	4.14	8.00	35.00	145
Minorities	22.09	4.30	11.00	33.00	55
Nonmanagement	22.44	4.36	8.00	35.00	147
Management Tier 2 [1]	22.10	3.58	17.00	29.00	20
Management Tier 1 [2]	23.39	3.69	15.00	33.00	33
BBS [3]	22.58	4.14	11.00	33.00	45
Consumer	22.24	4.21	15.00	35.00	76
Interconnection	23.06	4.29	17.00	33.00	32
SBS [4]	22.67	3.90	13.00	31.00	18
Other [5]	22.79	4.45	8.00	33.00	29

Source: Original Study

[1] Management Tier 2 represents Pay Grade 59 and above levels.
[2] Management Tier 1 represents Pay Grade 58 and below levels.
[3] BellSouth Business Systems
[4] Small Business Services
[5] Employees who responded but who have transferred from one of the COUs since the employee database was generated.

TABLE 4-7

Control
Political Control Factor

N = 200

Variable	Mean	Standard Deviation	Minimum	Maximum	Valid N
Female	23.32	6.18	9.00	40.00	152
Male	24.21	5.89	12.00	34.00	48
White	24.29	6.15	9.00	40.00	145
Minorities	21.55	5.56	10.00	40.00	55
Nonmanagement	22.57	6.33	9.00	40.00	147
Management Tier 2 [1]	26.90	4.66	17.00	32.00	20
Management Tier 1 [2]	25.79	4.42	14.00	34.00	33
BBS [3]	24.44	5.56	12.00	35.00	45
Consumer	22.84	6.40	12.00	40.00	76
Interconnection	23.28	5.74	13.00	34.00	32
SBS [4]	22.67	3.90	13.00	31.00	18
Other [5]	23.28	7.18	9.00	34.00	29

Source: Original Study

[1] Management Tier 2 represents Pay Grade 59 and above levels.
[2] Management Tier 1 represents Pay Grade 58 and below levels.
[3] BellSouth Business Systems
[4] Small Business Services
[5] Employees who responded but who have transferred from one of the COUs since the employee database was generated.

TABLE 4-8

Control
Control Ideology Factor

N = 200

Variable	Mean	Standard Deviation	Minimum	Maximum	Valid N
Female	24.47	6.05	9.00	42.00	152
Male	23.48	6.46	10.00	38.00	48
White	23.68	5.88	9.00	42.00	145
Minorities	25.69	6.64	9.00	39.00	55
Nonmanagement	25.46	6.20	9.00	42.00	147
Management Tier 2 [1]	20.50	4.22	10.00	30.00	20
Management Tier 1 [2]	21.00	4.73	9.00	32.00	33
BBS [3]	22.22	5.52	9.00	35.00	45
Consumer	25.42	5.93	9.00	38.00	76
Interconnection	24.44	5.85	9.00	38.00	32
SBS [4]	22.11	4.75	11.00	33.00	18
Other [5]	25.31	7.78	10.00	42.00	29

Source: Original Study

[1] Management Tier 2 represents Pay Grade 59 and above levels.
[2] Management Tier 1 represents Pay Grade 58 and below levels.
[3] BellSouth Business Systems
[4] Small Business Services
[5] Employees who responded but who have transferred from one of the COUs since the employee database was generated.

The data sets were also summarized to reflect the distribution of the individual scores for Self-Efficacy and the Control factors. These distributions can be found in Tables 4-9 through 4-12.

Self-Efficacy Results

Overall, the sample data show that 51% percent of all employees exhibit high self-efficacy with 48% falling in the moderate range. Only 1% of employees fell in the low range, while no employees proved to be totally inefficacious.

A slightly larger proportion of males (56%) fell in the high self-efficacy range than did females (50%). A large difference was seen in whites versus nonwhites. A large proportion of nonwhites (67%) fell in the high range, whereas only 45% of whites fell in this range.

Differences in the distribution of the self-efficacy levels among management levels also was apparent. The second management tier (Pay Grade 59 and above) exhibited the largest proportion (65%) in the high self-efficacy range as compared to 55% for the first management tier (Pay Grade 58 and below). The proportion of nonmanagement employees who fell in the high self-efficacy range was only 49%.

The magnitude of self-efficacy also varied among the various departments. The Small Business Services (SBS) group proportionately was shown to be higher

(67%) in the "High" self-efficacy range than the other groups. Interconnection Services (ICS) and BellSouth Business Systems (BBS) were both at 53%; and, Consumer Services, with 47%, fell last in the high self-efficacy range among the departments. The "Other" category showed 48% of employees in the high self-efficacy range.

Powerful Others Results

When considering the overall sample, the majority of employees (81%) said they felt very little sense of control in this area. That is, 81% of all responses fell into the "Low to Some" Sense of Control ranges. A total of 11% indicated they felt no sense of control at all. Only 8% felt a moderate to high sense of control in this category.

Upon examination of the individual groupings, slight differences were seen. For example, proportionately more females (9%) than males (4%) indicated a moderate to high sense of control in this area. The distribution was about the same for whites and nonwhites (9% and 7%, respectively). More significant differences were apparent among the departments, however. The distributions in the moderate to high ranges were 11% for Consumer and 9% for BBS. The distributions for these same ranges were at 0% for SBS and 3% for ICS. Some differences also occurred

among the management categories. Surprisingly, there was a larger percentage (9%) of nonmanagement responses falling in the moderate to high range than for the management levels (5% and 6% for Management Tier 2 and Management Tier 1, respectively).

Political Control Results

The distribution of responses for the Political Control category was somewhat different than for the Powerful Others category. From an overall sample standpoint, 80% of the responses fell in the "Some to Moderate" Sense of Control ranges, while 14% were in the "Low" range and 6% were in the "High" range. At 90%, the distribution of males in the upper ranges ("Some" to "High") was slightly higher than that for females (86%). For the same ranges, the distribution for whites (88%), was slightly higher than for nonwhites (84%).

More distribution differences in the "Some" to "High" ranges were noticed among the departments: SBS was highest at 94%; BBS was next at 91%; ICS was third at 88% and Consumer was last at 80%. The same distribution for the "Other" category was 90%.

Of particular interest was the distribution of responses in the "Some" to "High" ranges among the management levels. All Management Tier 2 responses fell in

these ranges as compared to 97% for Management Tier 1 responses. Nonmanagement responses in the "Some" to "High" ranges were at only 83%.

Personal Control Results

The majority (92%) of responses in this category fell within the "Some" to "Moderate" Sense of Control ranges. The "High" range captured 6% of total responses, while only 2% were indicated in the "Low" range.

More males (96%) fell within the "Some" to "Moderate" range as compared to 90% for females. However, more female responses (9%) were shown in the "High" range versus only 2% for males in this same range.

The distribution of responses for whites and nonwhites in this category was virtually the same: 92% in the "Some" to "Moderate" range for whites and 91% for nonwhites; 7% in the "High" range for both whites and nonwhites.

Among departments, responses for the "Some" to "Moderate" range were: BBS at 94%; Consumer at 92%; and ICS and SBS both at 88%. In the "High" range, ICS was highest at 12%; Consumer was next at 8%; Small business was third at 6% and BBS was last at 4%.

Among the management levels, responses for the "Some" to Moderate" ranges were: 95% for Management Tier 2; 94% for Management Tier 1; and, 91%

for nonmanagement. Responses for the "High" range were at 7% for Management Tier 2; 6% for Management Tier 1; and, 1% for nonmanagement.

Control Ideology Results

From an overall sample standpoint, most (82%) of the responses in this category fell within the "Low" to "Some" Sense of Control ranges. The "Moderate" to "High" range accounted for 15% of the overall responses and only 3% fell with the "No" range.

In this category, more responses (82%) from females fell within the "Low" to "Some" range, whereas only 77% of the responses from males were in the same range. Also, 19% of the male responses fell within the "Moderate" to "High" range as compared to 15% for females. The "No" range captured 3% for females and 4% for males.

A comparison of white and nonwhite responses showed that the distribution was about the same for the "Low" to "Some" ranges (81% and 82%, respectively). Somewhat larger gaps appeared for the "No" range and the "Moderate" to "High" ranges. These were: "No" at 2% for whites and 7% for nonwhites; and, "Moderate" to "High" at 17% for whites and 11% for nonwhites.

Differences also occurred among the departmental responses. The "Low" to "Some" ranges yielded distribution differences that were fairly significant: 89% for SBS; 81% for Consumer; 80% for BBS; and, 78% for ICS. Most of the remaining responses fell within the "Moderate" to "High" ranges: 20% for BBS; 19% for ICS; 15% for Consumer; and, 11% for SBS.

Also, fairly dramatic differences occurred among the management levels. For Management Tier 2, 30% of the responses fell within the "Moderate" to "High" ranges and 70% fell within the "Low" to "Some" ranges. For Management Tier 1, 24% of the responses were within the "Moderate" to "High" ranges and 76% were within the "Low" to "Some" ranges. For nonmanagement, only 12% of the responses fell within the "Moderate" to "High" ranges, 84% fell within the "Low" to "Some" ranges, and, 4% fell within the "No" range.

TABLE 4-9

Self-Efficacy

	High Self-Inefficacy	Moderate Self-Inefficacy	Low Self-Efficacy	Moderate Self-Efficacy	High Self-Efficacy
	Scores 1 - 17	*Scores* 18 - 34	*Scores* 35 - 51	*Scores* 52 - 68	*Scores* 69 - 85
Group					
Females N = 152	0 or 0%	0 or 0%	2 or 1%	74 or 49%	76 or 50%
Males N = 48	0 or 0%	0 or 0%	0 or 0%	21 or 44%	27 or 56%
Whites N = 145	0 or 0%	0 or 0%	1 or 1%	78 or 54%	66 or 45%
Non Whites N = 55	0 or 0%	0 or 0%	1 or 2%	17 or 31%	37 or 67%
BBS N = 45	0 or 0%	0 or 0%	1 or 2%	20 or 45%	24 or 53%
Consumer N = 76	0 or 0%	0 or 0%	0 or 0%	40 or 53%	36 or 47%
ICS N = 32	0 or 0%	0 or 0%	0 or 0%	15 or 47%	17 or 53%
SBS N = 18	0 or 0%	0 or 0%	1 or 5%	5 or 28%	12 or 67%
Other N = 29	0 or 0%	0 or 0%	0 or 0%	15 or 52%	14 or 48%
Non-Mgmt. N = 147	0 or 0%	0 or 0%	2 or 1%	73 or 50%	72 or 49%
Mgmt.Tier 2 N = 20	0 or 0%	0 or 0%	0 or 0%	7 or 35%	13 or 65%
Mgmt.Tier 1 N = 33	0 or 0%	0 or 0%	0 or 0%	15 or 45%	18 or 55%
Total N = 200	0 or 0%	0 or 0%	2 or 1%	95 or 48%	103 or 51%

Source: Original Study

TABLE 4-10

Powerful Others

	High Sense of Control	Moderate Sense of Control	Some Sense of Control	Low Sense of Control	No Sense of Control
	Scores 1 - 7	*Scores* 8 - 14	*Scores* 15 - 21	*Scores* 22 - 28	*Scores* 29 - 35
Group					
Females N = 152	3 or 2%	11 or 7%	59 or 39%	63 or 41%	16 or 11%
Males N = 48	0 or 0%	2 or 4%	13 or 27%	27 or 56%	6 or 13%
Whites N = 145	2 or 2%	10 or 7%	50 or 34%	68 or 47%	15 or 10%
Non Whites N = 55	1 or 2%	3 or 5%	22 or 40%	22 or 40%	7 or 13%
BBS N = 45	1 or 2%	3 or 7%	13 or 29%	25 or 55%	3 or 7%
Consumer N = 76	2 or 3%	6 or 8%	31 or 41%	27 or 35%	10 or 13%
ICS N = 32	0 or 0%	1 or 3%	14 or 44%	14 or 44%	3 or 9%
SBS N = 18	0 or 0%	0 or 0%	6 or 33%	12 or 67%	0 or 0%
Other N = 29	0 or 0%	3 or 10%	8 or 28%	12 or 41%	6 or 21%
Non-Mgmt. N = 147	3 or 2%	10 or 7%	53 or 36%	63 or 43%	18 or 12%
Mgmt.Tier 2 N = 20	0 or 0%	1 or 5%	9 or 45%	8 or 40%	2 or 10%
Mgmt.Tier 1 N = 33	0 or 0%	2 or 6%	10 or 30%	19 or 58%	2 or 6%
Total N = 200	3 or 2%	13 or 6%	72 or 36%	90 or 45%	22 or 11%

Source: Original Study

TABLE 4-11

Political Control

	No Sense of Control	Low Sense of Control	Some Sense of Control	Moderate Sense of Control	High Sense of Control
	Scores 1 - 8	*Scores* 9 - 16	*Scores* 17 - 24	*Scores* 25 - 32	*Scores* 33 - 40
Group					
Females N = 152	0 or 0%	22 or 14%	62 or 41%	59 or 39%	9 or 6%
Males N = 48	0 or 0%	5 or 10%	19 or 40%	22 or 46%	2 or 4%
Whites N = 145	0 or 0%	18 or 12%	50 or 35%	67 or 46%	10 or 7%
Non Whites N = 55	0 or 0%	9 or 16%	31 or 56%	14 or 26%	1 or 2%
BBS N = 45	0 or 0%	4 or 9%	19 or 43%	20 or 44%	2 or 4%
Consumer N = 76	0 or 0%	15 or 20%	30 or 39%	27 or 36%	4 or 5%
ICS N = 32	0 or 0%	4 or 12%	14 or 44%	12 or 38%	2 or 6%
SBS N = 18	0 or 0%	1 or 6%	6 or 33%	11 or 61%	0 or 0%
Other N = 29	0 or 0%	3 10%	12 or 42%	11 or 38%	3 or 10%
Non-Mgmt. N = 147	0 or 0%	26 17%	64 or 44%	48 or 33%	9 or 6%
Mgmt.Tier 2 N = 20	0 or 0%	0 or 0%	5 or 25%	15 or 75%	0 or 0%
Mgmt.Tier 1 N = 33	0 or 0%	1 or 3%	12 or 36%	18 or 55%	2 or 6%
Total N = 200	0 or 0%	27 or 14%	81 or 40%	81 or 40%	11 or 6%

Source: Original Study

TABLE 4-12

Personal Control

	No Sense of Control	Low Sense of Control	Some Sense of Control	Moderate Sense of Control	High Sense of Control
	Scores 1 - 7	*Scores* 8 - 14	*Scores* 15 - 21	*Scores* 22 - 28	*Scores* 29 - 35
Group					
Females N = 152	0 or 0%	2 or 1%	60 or 39%	77 or 51%	13 or 9%
Males N = 48	0 or 0%	1 or 2%	22 or 46%	24 or 50%	1 or 2%
Whites N = 145	0 or 0%	2 or 1%	53 or 37%	80 or 55%	10 or 7%
Non Whites N = 55	0 or 0%	1 or 2%	29 or 53%	21 or 38%	4 or 7%
BBS N = 45	0 or 0%	1 or 2%	15 or 34%	27 or 60%	2 or 4%
Consumer N = 76	0 or 0%	0 or 0%	38 50%	32 or 42%	6 or 8%
ICS N = 32	0 or 0%	0 or 0%	16 or 50%	12 or 38%	4 12%
SBS N = 18	0 or 0%	1 or 6%	4 or 22%	12 or 66%	1 or 6%
Other N = 29	0 or 0%	1 or 3%	9 or 31%	18 or 63%	1 or 3%
Non-Mgmt. N = 147	0 or 0%	3 or 2%	63 or 43%	70 or 48%	2 or 1%
Mgmt.Tier 2 N = 20	0 or 0%	0 or 0%	10 or 50%	9 or 45%	11 or 7%
Mgmt.Tier 1 N = 33	0 or 0%	0 or 0%	9 or 27%	22 or 67%	2 or 6%
Total N = 200	0 or 0%	3 or 2%	82 or 41%	101 51%	14 or 6%

Source: Original Study

TABLE 4-13

Control Idealogy

	High Sense of Control	Moderate Sense of Control	Some Sense of Control	Low Sense of Control	No Sense of Control
	Scores 1 - 9	*Scores* 10 - 18	*Scores* 19 - 27	*Scores* 28 - 36	*Scores* 37 - 45
Group					
Females N = 152	4 or 3%	18 or 12%	90 or 59%	35 or 23%	5 or 3%
Males N = 48	0 or 0%	9 or 19%	27 or 56%	10 or 21%	2 or 4%
Whites N = 145	2 or 1%	23 or 16%	87 or 60%	30 or 21%	3 or 2%
Non Whites N = 55	2 or 4%	4 or 7%	30 or 55%	15 or 27%	4 or 7%
BBS N = 45	1 or 2%	8 or 18%	30 or 67%	6 or 13%	0 or 0%
Consumer N = 76	2 or 3%	9 or 12%	40 or 52%	22 or 29%	3 or 4%
ICS N = 32	1 or 3%	5 or 16%	17 or 53%	8 or 25%	1 or 3%
SBS N = 18	0 or 0%	2 or 11%	14 or 78%	2 or 11%	0 or 0%
Other N = 29	0 or 0%	3 or 10%	16 or 56%	7 or 24%	3 or 10%
Non-Mgmt. N = 147	3 or 2%	14 or 10%	81 or 55%	42 or 29%	7 or 4%
Mgmt.Tier 2 N = 20	0 or 0%	6 or 30%	13 or 65%	1 or 5%	0 or 0%
Mgmt.Tier 1 N = 33	1 or 3%	7 or 21%	23 or 70%	2 or 6%	0 or 0%
Total N = 200	4 or 2%	27 or 13%	117 or 59%	45 or 23%	7 or 3%

Source: Original Study

Hypotheses Testing

The next step in the analysis of the data was to test the hypotheses. The hypotheses and the statistical results follow:

Hypothesis 1

H_1: There is a relationship between the factor of control as a mediator which influences the self-efficacy of the individual within the organization.

H_{01}: There is no relationship between the factor of control as a mediator which influences the self-efficacy of the individual within the organization.

Multiple regression analyses were used to test the null hypothesis. Self-efficacy was considered as the dependent variable and the control factors (Powerful Others, Political Control, Personal Control and Control Idealogy) were considered the independent variables.

First, an analysis was performed by using the entire sample of 200 data sets. Then, separate analyses were performed by segmenting the data based on gender, race, management level and department. The results of these analyses can be found in Tables 4-14 through 4-26.

As outlined previously, for analysis purposes the factor of control was measured in four categories. A multiple regression analysis was performed assuming self-efficacy as the dependent variable and the four factors of control

(Control Idealogy, Personal Control, Political Control and Powerful Others) as independent variables.

The purpose of the regression analysis was to: 1) derive estimates of the dependent variable from the values of the independent variables; 2) obtain a measure of the proportion of variance in the dependent variable explained by the independent variables; 3) obtain a measure of the error involved in using the regression equation as a basis of estimation; and 4) reject or not reject the null hypotheses on the basis of an F test.

The first purpose was achieved by deriving the regression equation as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4$$

where:
- Y = Self-efficacy
- X_1 = Control Idealogy
- X_2 = Personal Control
- X_3 = Political Control
- X_4 = Powerful Others

Thus, based upon the regression analyses, the following equations (with rounding to two digits for simplicity) were derived:

Entire Sample:	$Y = 75 - .28X_1 + .28X_2 - .14X_3 - .10X_4$
Females:	$Y = 76 - .29X_1 + .36X_2 - .20X_3 - .15X_4$
Males:	$Y = 75 - .22X_1 - .01X_2 + .08X_3 - .04X_4$
Whites:	$Y = 62 - .30X_1 + .45X_2 + .02X_3 + .16X_4$
Nonwhites:	$Y = 92 - .23X_1 - .02X_2 - .28X_3 - .37X_4$
Nonmanagement:	$Y = 74 - .26X_1 + .38X_2 - .18X_3 - .12X_4$
Mgmt. Tier 2:	$Y = 72 - .60X_1 + .33X_2 - .17X_3 + .35X_4$

Mgmt. Tier 1:	$Y = 89 - .61X_1 - .40X_2 + .19X_3 - .10X_4$
BBS:	$Y = 83 - .42X_1 - .37X_2 + .29X_3 - .16X_4$
Consumer:	$Y = 73 - .10X_1 + .47X_2 - .18X_3 - .33X_4$
Interconnection:	$Y = 60 - .21X_1 + .27X_2 + .04X_3 + .31X_4$
Small Business:	$Y = 81 - 1.47X_1 - .36X_2 - .68X_3 + 2.12X_4$
Other:	$Y = 59 - .19X_1 + .59X_2 - .08X_3 + .15X_4$

The regression analyses also were used to determine if any of the variance in the dependent variable (self-efficacy) could be explained by the regression equations. The resulting indicators (as measured by the adjusted R^2) were as follows:

Entire Sample:	.08091
Females:	.09374
Males:	-.00487
Whites:	.12838
Nonwhites:	.06513
Nonmanagement:	.08124
Mgmt. Tier 2:	-.04542
Mgmt. Tier 1:	.20649
BBS:	.15485
Consumer:	.12976
Interconnection:	-.05380
Small Business:	.50952
Other:	.05651

Thus, overall just over 8% of the variance in self-efficacy can be explained by the effects of the control factors. However, much higher variations were indicated when the sample was segmented. For example, for the Small Business segment, almost 51% of the variance in self-efficacy can be explained by the independent

variables. The indicator for the segment of Tier 1 Management also was fairly high with an Adjusted R^2 of approximately 21%.

Standard errors were computed as follows:

Entire Sample:	6.85640
Females:	6.96212
Males:	6.63435
Whites:	6.55907
Nonwhites:	7.07016
Nonmanagement:	7.29755
Mgmt. Tier 2:	5.92000
Mgmt. Tier 1:	5.15232
BBS:	6.95499
Consumer:	6.59870
Interconnection:	5.63925
Small Business:	6.85033
Other:	6.62676

The analysis of variance in the multiple regression analyses was used to appraise the overall significance of the regression equations. This tests the null hypothesis that all of the true population regression (slope) coefficients equal zero, or, that there is no relationship between the dependent variable and the independent variables considered collectively. (Hamburg, 1987) The null hypothesis will be rejected or not rejected on the basis of an F test with a significance level of .05.

The F values and Significant F values were computed as follows:

	"F"	Sign. "F"
Entire Sample:	5.37949	.0004
Females:	4.90476	.0010

Males:	.94310	.4483
Whites:	6.30251	.0001
Nonwhites:	1.94045	.1182
Nonmanagement:	4.22758	.0029
Mgmt. Tier 2:	.79362	.5474
Mgmt. Tier 1:	3.08182	.0319
BBS:	3.01537	.0290
Consumer:	3.79588	.0075
Interconnection:	.60430	.6629
Small Business:	5.41504	.0086
Other:	1.41930	.2579

With an F value of 5.37949 and a Significant F of .0004 for the entire sample, the null hypothesis is rejected. Thus, it is concluded that there is some support for the research hypothesis that a relationship exists between the control factors and self-efficacy. That is, there is evidence that the perceived control of the individual can impact the magnitude of individual self-efficacy.

However, it is interesting to note that if the tests had been done on segmented data, different conclusions would have been reached. For example, some of the segments have F values ranging from less than 1 to just over 1 with Significant F values ranging from .1182 to .6629. On this basis, the null hypothesis that there is no relationship would not have been rejected.

TABLE 4-14

Multiple Regression Analysis
Entire Sample

N = 200

Variable	B	SE B	Beta	T	Sig T
Control Idealogy	-.283194	.114412	-.243440	-2.475	.0142
Personal Control	.279451	.133619	.163474	2.091	.0378
Political Control	-.135079	.115507	-.115345	-1.169	.2437
Powerful Others	-.101830	.124961	-.072213	-.815	.4161
(Constant)	75.329696	5.924746		12.714	.0000

Multiple R	.31525
R Square	.09938
Adjusted R^2	.08091
Standard Error	6.85640

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	4	1011.56335	252.89084
Residual	195	9166.99165	47.01021
F = 5.37949		Sign F = .0004	

Source: Original Study

TABLE 4-15

Multiple Regression Analysis
Females

N = 152

Variable	B	SE B	Beta	T	Sig T
Control Idealogy	-.286128	.139974	-.236677	-2.044	.0427
Personal Control	.363717	.150418	.210451	2.418	.0168
Political Control	-.200927	.132110	-.169733	-1.521	.1304
Powerful Others	-.154041	.145213	-.109970	-1.061	.2905
(Constant)	75.831159	6.661753		11.383	.0000

Multiple R	.34314
R Square	.11775
Adjusted R^2	.09374
Standard Error	6.96212

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	4	950.95582	237.73895
Residual	147	7125.24813	48.47108
F = 4.90476		Sign F = .0010	

Source: Original Study

TABLE 4-16

Multiple Regression Analysis
Males

N = 48

Variable	B	SE B	Beta	T	Sig T
Control Idealogy	-.223154	.206080	-.217740	-1.083	.2849
Personal Control	-.005524	.318753	-.003333	-.017	.9863
Political Control	.079220	.255846	.070489	.310	.7583
Powerful Others	-.039262	.295088	-.026070	-.133	.8948
(Constant)	74.528574	14.050027		5.305	.0000

Multiple R	.28400
R Square	.08065
Adjusted R^2	-.00487
Standard Error	6.63435

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	4	166.04099	41.51025
Residual	43	1892.62568	44.01455
F = .94310		Sign F = .4483	

Source: Original Study

TABLE 4-17

Multiple Regression Analysis
Whites

N = 145

Variable	B	SE B	Beta	T	Sig T
Control Idealogy	-.302558	.137800	-.253201	-2.196	.0298
Personal Control	.453911	.159504	.267451	2.846	.0051
Political Control	.015726	.138159	.013773	.114	.9095
Powerful Others	.155176	.149957	.110290	1.035	.3025
(Constant)	61.754973	7.574608		8.153	.0000

Multiple R	.39063
R Square	.15259
Adjusted R^2	.12838
Standard Error	6.55907

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	4	1084.57019	271.14255
Residual	140	6022.98843	43.02135
F = 6.30251		Sign F = .0001	

Source: Original Study

TABLE 4-18

Multiple Regression Analysis
Nonwhites

N = 55

Variable	B	SE B	Beta	T	Sig T
Control Idealogy	-.230542	.199784	-.209387	-1.154	.2540
Personal Control	-.019579	.235446	-.011514	-.083	.9341
Political Control	-.281471	.216067	-.214040	-1.303	.1986
Powerful Others	-.373930	.227626	-.272031	-1.643	.1067
(Constant)	91.584741	9.493202		9.647	.0000

Multiple R	.36657
R Square	.13438
Adjusted R^2	.06513
Standard Error	7.07016

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	4	387.99053	96.99763
Residual	50	2499.35493	49.98710
F = 1.94045		Sign F = .1182	

Source: Original Study

TABLE 4-19

Multiple Regression Analysis
Nonmanagement

N = 147

Variable	B	SE B	Beta	T	Sig T
Control Idealogy	-.264444	.144842	-.215511	-1.826	.0700
Personal Control	.381947	.161502	.218687	2.365	.0194
Political Control	-.175288	.140204	-.145789	-1.250	.2133
Powerful Others	-.119099	.152884	-.083789	-.779	.4373
(Constant)	74.019116	6.874873		10.767	.0000

Multiple R	.32621
R Square	.10641
Adjusted R^2	.08124
Standard Error	7.29755

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	4	900.54581	225.13645
Residual	142	7562.10725	53.25428
F = 4.22758		Sign F = .0029	

Source: Original Study

TABLE 4-20

Multiple Regression Analysis
Management Tier 2

N = 20

Variable	B	SE B	Beta	T	Sig T
Control Idealogy	-.600880	.394707	-.438364	-1.522	.1487
Personal Control	.325920	.452688	.201639	.720	.4826
Political Control	-.172311	.485063	-.138549	-.355	.7274
Powerful Others	.351648	.507526	.261338	.693	.4990
(Constant)	71.928957	21.274520		3.381	.0041

Multiple R	.41793
R Square	.17467
Adjusted R^2	-.04542
Standard Error	5.92000

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	4	111.25362	27.81340
Residual	15	525.69638	35.04643
F = .79362		Sign F = .5474	

Source: Original Study

TABLE 4-21

Multiple Regression Analysis
Management Tier 1

N = 33

Variable	B	SE B	Beta	T	Sig T
Control Idealogy	-.610256	.267773	-.499075	-2.279	.0305
Personal Control	-.399728	.301298	-.255061	-1.327	.1953
Political Control	.191679	.256293	.146518	.748	.4608
Powerful Others	-.095205	.323996	-.069728	-.294	.7710
(Constant)	88.639863	16.051117		5.522	.0000

Multiple R	.55288
R Square	.30568
Adjusted R^2	.20649
Standard Error	5.15232

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	4	327.24503	81.81126
Residual	28	743.30043	26.54644
F = 3.08182		Sign F = .0319	

Source: Original Study

TABLE 4-22

Multiple Regression Analysis
Department - BBS

N = 45

Variable	B	SE B	Beta	T	Sig T
Control Idealogy	-.423450	.299056	-.308861	-1.416	.1645
Personal Control	-.369446	.334985	-.202285	-1.103	.2767
Political Control	.292676	.309055	.215011	.947	.3493
Powerful Others	-.162403	.300906	-.108262	-.540	.5924
(Constant)	82.997556	12.496102		6.642	.0000

Multiple R	.48133
R Square	.23168
Adjusted R^2	.15485
Standard Error	6.95499

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	4	583.43647	145.85912
Residual	40	1934.87465	48.37187
F = 3.01537		Sign F = .0290	

Source: Original Study

TABLE 4-23

Multiple Regression Analysis
Department - Consumer

N = 76

Variable	B	SE B	Beta	T	Sig T
Control Idealogy	-.101759	.187400	-.085294	-.543	.5888
Personal Control	.466074	.217693	.277230	2.141	.0357
Political Control	-.179526	.179677	-.162539	-.999	.3211
Powerful Others	-.329275	.173786	-.265389	-1.895	.0622
(Constant)	72.923823	9.151756		7.968	.0000

Multiple R	.41973
R Square	.17618
Adjusted R^2	.12976
Standard Error	6.59870

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	4	661.13346	165.28336
Residual	71	3091.53759	43.54278
F = 3.79588		Sign F = .0075	

Source: Original Study

TABLE 4-24

Multiple Regression Analysis
Department - Interconnection

N = 32

Variable	B	SE B	Beta	T	Sig T
Control Idealogy	-.214670	.268646	-.228710	-.799	.4312
Personal Control	.268654	.289783	.209682	.927	.3621
Political Control	.039319	.259628	.041106	.151	.8808
Powerful Others	.308937	.335372	.240195	.921	.3651
(Constant)	60.424559	14.753813		4.096	.0003

Multiple R	.28665
R Square	.08217
Adjusted R^2	-.05380
Standard Error	5.63925

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	4	76.87004	19.21751
Residual	27	858.62996	31.80111
F = .60430		Sign F = .6629	

Source: Original Study

TABLE 4-25

Multiple Regression Analysis
Department - Small Business

N = 18

Variable	B	SE B	Beta	T	Sig T
Control Idealogy	-1.467501	.396229	-.712839	-3.704	.0027
Personal Control	-.361181	.445010	-.143849	-.812	.4316
Political Control	-.684475	.377326	-.340685	-1.814	.0928
Powerful Others	2.115044	.584340	.660132	3.620	.0031
(Constant)	80.813759	18.661013		4.331	.0008

Multiple R	.79052
R Square	.62493
Adjusted R^2	.50952
Standard Error	6.85033

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	4	1016.44815	254.11204
Residual	13	610.05185	46.92707
F = 5.41504		Sign F = .0086	

Source: Original Study

TABLE 4-26

Multiple Regression Analysis
Department - Other

N = 29

Variable	B	SE B	Beta	T	Sig T
Control Idealogy	-.188297	.257822	-.214691	-.73	.4723
Personal Control	.592048	.305702	.386275	1.937	.0646
Political Control	-.082005	.257152	-.086254	-.319	.7526
Powerful Others	.146261	.371775	.115176	.393	.6975
(Constant)	59.323953	15.484479		3.831	.0008

Multiple R	.43738
R Square	.19130
Adjusted R^2	.05651
Standard Error	6.62676

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	4	249.30775	62.32694
Residual	24	1053.93363	43.91390
F = 1.41930		Sign F = .2579	

Source: Original Study

Hypothesis 2

H_2: The self-efficacy and sense of control among males will be greater than the self-efficacy and sense of control among females within the organization.

H_{02}: The self-efficacy and sense of control among males will be equal to or less than the self-efficacy and sense of control among females within the organization.

To test this hypothesis, the data were segmented between males and females. Then, an analysis was done to compare the means of the two groups. The results can be found in Tables 4-27 and 4-28.

To test the null hypothesis that, in the population, the magnititude of the self-efficacy and control factors between males and females is equal, an Independent Sample T-Test was used. In analyzing these results, the t values and associated probabilities were examined. If the observed significance level for the "unequal" category is small enough (less than .05), the null hypothesis that the population means are equal will be rejected.

For the factor of Powerful Others, a significant difference ($p < .05$) is observed. However, even though the mean value for males (23.8) appears greater than that for females (21.8), that is not the case because the directional indicator was set up differently for this factor. That is, the higher the value, the weaker is the sense of control (refer to Table 4-10). Thus, the null hypothesis is not rejected.

Also, for the factors of Self-efficacy, Personal Control, Political Control, and Control Idealogy, the null hypothesis is not rejected. In these cases, the significance level was not small enough ($p > .05$) to reject the hypothesis.

Table 4-27
Means

Item	Male	Female
Self-Efficacy	70.1667	69.0724
Personal Control	21.8750	22.7829
Political Control	24.2083	23.3224
Powerful Others	23.4167	21.8026
Control Idealogy	23.4792	24.4671

Source: Original Study

Table 4-28
t-Test for Equality of Means

Item	Variances	t-value	df	2-Tail Sig
Self-Efficacy	Equal	-.92	198	.357
	Unequal	-.97	86.24	.333
Personal Control	Equal	1.31	198	.191
	Unequal	1.35	83.01	.180
Political Control	Equal	-.88	198	.382
	Unequal	-.90	82.25	.372
Powerful Others	Equal	-1.94	198	.054
	Unequal	-2.12	92.52	.037
Control Idealogy	Equal	.97	198	.333
	Unequal	.94	74.87	.351

Source: Original Study

Thus, the overall conclusion is that there is not enough evidence to support the research hypothesis that the self-efficacy and sense of control among males will be greater than that of females.

Hypothesis 3

H_3: The self-efficacy and sense of control among whites will be greater than the self-efficacy and sense of control among nonwhites within the organization.

H_{03}: The self-efficacy and sense of control among whites will be equal to or less than the self-efficacy and sense of control among nonwhites within the organization.

To test this hypothesis, the data was segmented between whites and nonwhites. Then, an analysis was done to compare the means of the two groups. The results can be found in Tables 4-29 and 4-30.

To test the null hypothesis that, in the population, the magnititude of the self-efficacy and control factors between whites and nonwhites is equal, an Independent Sample T-Test was used. In analyzing these results, the t values and associated probabilities were examined. If the observed significance level for the "unequal" category is small enough (less than .05), the null hypothesis that the population means are equal will be rejected.

For the factors of Personal Control and Powerful Others, the null hypothesis is not rejected ($p > .05$). Although, it is interesting to note that for the Self-efficacy variable, the expected direction was not indicated, i.e., the sample mean for Nonwhites was higher than (rather than less than) the mean for whites.

For the factors of Self-efficacy and Control Idealogy, the null hypothesis also is not rejected. In these cases, however, the significance level is only slightly higher than .05 (Self-efficacy, .064 and Control Idealogy, .051).

For the factor of Political Control, however, the null hypothesis is rejected ($p < .05$).

When taking into consideration all the control factors, the overall conclusion is that there is not enough evidence to support the research hypothesis that the sense of control among whites will be greater than that of nonwhites. However, because the null hypothesis was rejected for the Political Control factor and because the significance level was close to .05 in the instances of the Self-efficacy and Control Idealogy factors, it could be argued that there is a *suggestion* of some support for the research hypothesis.

Table 4-29
Means

Item	Whites	Nonwhites
Self-Efficacy	68.7448	70.8909
Personal Control	22.7448	22.0909
Political Control	24.2897	21.5455
Powerful Others	22.2138	22.1273
Control Idealogy	23.6759	25.6909

Source: Original Study

Table 4-30
t-Test for Equality of Means

Item	Variances	t-value	df	2-Tail Sig
Self-Efficacy	Equal Unequal	-1.91 -1.87	198 94.11	.058 .064
Personal Control	Equal Unequal	.99 .97	198 94.27	.325 .334
Political Control	Equal Unequal	2.89 3.02	198 107.14	.004 .003
Powerful Others	Equal Unequal	.11 .10	198 92.26	.915 .917
Control Idealogy	Equal Unequal	-2.09 -1.98	198 87.96	.038 .051

Source: Original Study

Hypothesis 4

H_4: There is a difference between the sense of control and the self-efficacy of the individual within the various organizational units (COUs).

H_{04}: There is not a difference between the sense of control and the self-efficacy of the individual within the various organizational units (COUs).

To test this hypothesis, the data were segmented by department (BBS, Consumer, Interconnection, Small Business and Other). Then, an analysis was done to compare the means of these groups. The results can be found in Tables 4-31 and 4-32.

To test the null hypothesis that, in the population, the magnitude of the self-efficacy and control factors among the five departments is equal, a One-way Analysis of Variance test was performed. Specifically, the Levene Test for Homogeneity of Variances was obtained and used for the analysis. If the observed significance level is small enough (less than .05), the null hypothesis that the population means are equal (i.e., there is no difference) will be rejected.

The significance level is relatively large ($p > .05$) for all the variables. Therefore, the null hypothesis is not rejected. This suggests that there is no evidence to support the research hypothesis that differences exist in the self-efficacy and sense of control attributable to departmental influences.

Table 4-31
Means

Item	BBS	Consumer	Interconn.	Sm. Bus.	Other
Self-Efficacy	68.7556	69.4342	69.1250	70.5000	69.4828
Personal Control	22.5778	22.2368	23.0625	22.6667	22.7931
Political Control	24.4444	22.8421	23.2813	25.0556	23.2759
Powerful Others	22.4444	21.7632	22.1250	22.4444	22.8276
Control Idealogy	22.2222	25.4211	24.4375	22.1111	25.3103

Source: Original Study

Table 4-32
Levene Test for Homogeneity of Variance

Item	Statistic	df1	df2	2-tail Sig.
Self-Efficacy	1.6143	4	195	.172
Personal Control	.3705	4	195	.829
Political Control	1.2622	4	195	.286
Powerful Others	1.2099	4	195	.308
Control Idealogy	1.8828	4	195	.115

Source: Original Study

Hypothesis 5

H_5: The self-efficacy and sense of control of the individual in higher position levels will be greater than the self-efficacy and sense of control of the individual in lower position levels within the organization.

H_{05}: The self-efficacy and sense of control of the individual in higher position levels will be equal to or less than the self-efficacy and sense of control of the individual in lower position levels within the organization.

To test this hypothesis, the data were segmented by management level. The higher management group (Pay Grade 59s and above) was compared separately to both the lower management group (Pay Grade 58s and below) and the nonmanagement group. Analyses were done to compare the means of these groups. The results can be found in Tables 4-33 through 4-36.

To test the null hypothesis that, in the population, the magnititude of the self-efficacy and control factors among position levels is equal, a One-way Analysis of Variance test was performed. Specifically, the Levene Test for Homogeneity of Variances was obtained and used for the analysis. If the observed significance level is small enough (less than .05), the null hypothesis that the population means are equal (i.e., there is no difference) will be rejected.

Based on this test, the null hypothesis is rejected ($P < .05$) for the factors of Political Control and Control Idealogy. Additional support is provided by the significance level ($P = .055$) for the Self-efficacy factor. However, the null

hypothesis is not rejected (P > .05) for the factors of Personal Control and Powerful Others.

In addition to the Levene Test, an Independent Sample T-Test was used to compare separately higher management to both the lower management group and the nonmanagement group. In analyzing these results, the t values and associated probabilities were examined. If the observed significance level for the "unequal" category is small enough (less than .05), the null hypothesis that the population means are equal will be rejected.

Table 4-33
Means

Item	Higher Management	Lower Management	Nonmanage-ment
Self-Efficacy	69.9500	69.2727	69.2653
Personal Control	22.1000	23.3939	22.4422
Political Control	26.9000	25.7879	22.5714
Powerful Others	22.1000	22.5152	22.1293
Control Idealogy	20.5000	21.0000	25.4626

Source: Original Study

Table 4-34
Levene Test for Homogeneity of Variance

Item	Statistic	df1	df2	2-tail Sig.
Self-Efficacy	2.9470	2	197	.055
Personal Control	1.1454	2	197	.320
Political Control	4.3363	2	197	.014
Powerful Others	1.0725	2	197	.344
Control Ideology	3.5188	2	197	.032

Source: Original Study

Table 4-35
t-Test for Equality of Means
(Higher Management vs. Lower Management)

Item	Variances	t-value	df	2-Tail Sig
Self-Efficacy	Equal	-.41	51	.681
	Unequal	-.41	40.20	.682
Personal Control	Equal	1.25	51	.217
	Unequal	1.26	41.19	.215
Political Control	Equal	-.87	51	.388
	Unequal	-.86	38.60	.396
Powerful Others	Equal	.34	51	.732
	Unequal	.34	39.74	.734
Control Ideology	Equal	.39	51	.700
	Unequal	.40	43.83	.692

Source: Original Study

Table 4-36
t-Test for Equality of Means
(Higher Management vs. Nonmanagement)

Item	Variances	t-value	df	2-Tail Sig
Self-Efficacy	Equal	-.39	165	.699
	Unequal	-.48	28.78	.638
Personal Control	Equal	.34	165	.738
	Unequal	.39	27.28	.700
Political Control	Equal	-2.95	165	.004
	Unequal	-3.72	29.52	.001
Powerful Others	Equal	.02	165	.9812
	Unequal	.03	27.69	.978
Control Idealogy	Equal	3.46	165	.001
	Unequal	4.62	31.44	.000

Source: Original Study

In the comparison of higher management versus lower management, the null hypothesis is not rejected (for all factors, $P > .05$). However, in the comparison of higher management to nonmanagement, some differences occur. In this instance, the null hypothesis is rejected ($P < .05$) for the factors of Political Control and Control Idealogy.

When taking into consideration the results of both tests, there is evidence which suggests partial support for the research hypothesis that the self-efficacy and sense of control of higher position levels will be greater than that of lower levels.

Summary

The model tested in this research was partially supported. The multiple regression analysis showed that the factors of control do influence the magnitude of individual self-efficacy and thus supported the first research hypothesis.

However, the support for the other hypotheses was less compelling. There was not enough evidence to support the research hypothesis that the magnitude of self-efficacy and sense of control is greater for males than for females. There was partial support for the research hypothesis that the magnitude of self-efficacy and sense of control among whites is greater than that of nonwhites. There was no support for the research hypothesis that differences exist in the self-efficacy and sense of control attributable to departmental differences. There was, however, somewhat stronger support for the research hypothesis that the higher the position level, the higher is the self-efficacy and sense of control.

CHAPTER V

DISCUSSION AND CONCLUSIONS

This discussion will begin with an overview of the results and possible reasons for the lack of support for some of the research hypotheses. Next, the implications of the study results for management will be explored. In addition, limitations of the study and directions for future research will be offered. Finally, the dissertation will be concluded with a discussion of the contributions of the current research.

Overview

The support for the first research hypothesis (the proposition that the control factors, i.e., Powerful Others, Personal Control, Control Ideology and Political Control, influence the magnitude of individual self-efficacy in the workplace) was not surprising. However, the researcher had expected a much stronger correlation to be indicated (i.e., a higher R^2).

The lack of support for the second hypothesis (the proposition that the self-efficacy and sense of control of males is greater than that of females) and limited support for the third hypothesis (the proposition that the self-efficacy and sense of control of whites is greater than that of nonwhites) were unexpected. Several environmental factors may have impacted these results.

First, females represent over 50% of the employee base at BellSouth and minorities represent about 25%. With groups this large, it seems plausible that a network exists among females and minorities, and, that this network provides an avenue of "vicarious experiences". As more females and minorities rise to higher levels within the organization, these groups at large can observe the accomplishments of the leaders within their networks. As Bandura (1982) discussed, these vicarious experiences provide a mediating source of the individual's self-efficacy.

There was no evidence to support the fourth hypothesis (the proposition that differences would exist between the self-efficacy and sense of control across the COUs within the organization). A significant factor which may have contributed to this result is the organizational trend toward downsizing and restructuring. The various initiatives which have been used to accomplish organizational commitments along these lines have crossed COU boundaries. Because of this, differences in

individual perceptions that were expected to be attributable to unique management philosophies among the COUs may have been suppressed.

The evidence of some support for the fifth research hypothesis (the proposition that the higher the position level, the higher will be individual self-efficacy and sense of control) was not surprising. However, the strength of the support was not as great as had been expected. The strongest difference appears to lie between higher management and nonmanagement.

Implications for Management

Individual self-efficacy is an important concept to the organization because employees who possess a strong sense of efficacy will continually set higher goals for themselves and will be confident of their success. As organizations continue to leverage resources, building a work force that is confident of its abilities to perform will be tantamount to a successful corporation. Management's challenge will be to design programs that will identify and effectively channel individual strengths. Employees need to be given opportunities to build upon their individual strengths. The organization will survive only by nurturing its most valuable asset - the motivated, self-confident employee.

The linkage between self-efficacy and the individual's sense of control is also an important construct for the organization. As evidenced in the current study, individual self-efficacy is influenced by the sense of control that the individual feels within the organization. Employees who do not feel they have a voice in the decision-making processes within the firm may tend to feel somewhat inefficacious. This, in turn, may negatively impact motivation and performance.

Perhaps the most important finding of the current study is the relationship between position level and individual self-efficacy and sense of control. In particular, the differences identified between higher management and nonmanagement are noteworthy. Nonmanagement employees account for 75% of the BellSouth workforce. The majority of these employees are the daily ambassadors of the company to its customers. Yet, the empirical research indicates that these individuals may not feel entirely confident about their abilities to perform.

In addition, because of their close contact with the customer, these employees are in the best position to understand customer needs. Yet, as suggested by the research, these individuals feel less of a sense of control (or voice) in the organization than do management employees. Clearly, the organization should provide developmental opportunities for its nonmanagement employees. (In fact, most of the company's training and mentoring resources should be allocated to this employee group.) Paramount to this, though, the organization should be

concerned with establishing an effective communication process whereby employees can feel a greater sense of contribution to the corporation.

Limitations of the Study and Directions for Future Research

The current study replicated previously tested and validated survey instruments. This was possible because the instruments were very generalized. If survey instruments had been developed specifically to address the environmental factors at BellSouth, the study may have been more useful. In fact, if the corporation finds the current study might provide some practical application, the researcher recommends that another study be performed. In particular, the future research should measure self-efficacy based upon job-specific tasks.

In addition, stratified databases should be used for generating samples for future research. The databases for the current research were segmented only on the basis of COU. For example, it was not possible to selectively pull samples from the sub-segments such as position levels, gender, etc. As a result, only a few higher level management responses were received and the second and third tier management responses had to be combined. A well-defined stratification process would enhance the study process.

Another area suggested for future research is the replication of the study across organizations and industries. In particular, it will be helpful to gather data from multiple organizations for which distinctive cultural and management philosophies can be discerned.

Contributions and Conclusions

The impetus for this dissertation was the desire to conduct further empirical research relative to the construct of self-efficacy. Specifically, the current author recognized a lack of empirical data gathered from "non-simulated" environments. Thus, the current study was undertaken to gather practical data from field surroundings.

The researcher also wished to investigate the relationship between individual sense of control and self-efficacy. Further, the researcher desired to test various propositions which related to various factors such as gender, ethnicity, position level and departmental affiliation to the strength of self-efficacy and sense of control within the organization.

The study has provided documentation of an empirical investigation within BellSouth Telecommunications, Inc. The findings have provided a basis for

interventionists within the company to explore the need for well-defined developmental programs and possibly for directional cultural changes.

The research has established a new model which defines a linkage between the construct of self-efficacy and individual sense of control. As a result of the current study, empirical data now exist to stimulate further research in this area.

Overall, this dissertation has provided additional insight into the organizational process. Specifically, the current research has indicated to the organization that more attention toward the development of its employees is merited and that an open line of communication is needed.

APPENDIX 1

SELF-EFFICACY SCALE

Sherer et al. (1982) Self-Efficacy Scale

1. When I make plans, I am certain I can make them work.
2. One of my problems is that I cannot get down to work when I should. *
3. If I can't do a job the first time, I keep trying until I can.
4. When I set important goals for myself, I rarely achieve them. *
5. I give up on things before completing them. *
6. I avoid facing difficulties. *
7. If something looks too complicated, I will not even bother to try it. *
8. When I have something unpleasant to do, I stick to it until I finish it.
9. When I decide to do something, I go right to work on it.
10. When trying to learn something new, I soon give up if I am not initially successful. *
11. When unexpected problems occur, I don't handle them well. *
12. I avoid trying to learn new things when they look too difficult for me.*
13. Failure just makes me try harder.
14. I feel insecure about my ability to do things. *
15. I am a self-reliant person.
16. I give up easily. *
17. I do not seem capable of dealing with most problems that come up in life. *

* Indicates items which are reversed in scoring.

APPENDIX 2

WORK LOCUS OF CONTROL INSTRUMENT

Work Locus of Control Instrument
(Adapted from Erbin-Roesemann 1995 Study of Work Excitement and the Work Locus of Control Instruments.)

Factor: Powerful Others

1. Getting what I want at work requires pleasing those people above me.
2. At work in order to have my plans succeed, I make sure that they fit with the desires of people who have power over me.
3. Knowing the right people at work is important in deciding whether a person will get ahead.
4. Although I might have good ability, I will not be given leadership responsibility at work without appealing to those in positions of power.
5. People like myself have very little chance of protecting our personal interests at work, when they conflict with those of strong pressure groups.
6. In the workplace, who gets to be the boss often depends on who was lucky enough to be in the right place first.
7. If important people at work were to decide they did not like me, I probably would not make many friends.

Factor: Control Ideology

1. People who don't do well in their work life often work hard, but the breaks just don't come their way.
2. There's not much use trying too hard to please people at work, if they like you, they like you.
3. It is not always wise to plan too far ahead at work, because many things turn out to be a matter of good or bad fortune anyhow.
4. Most people don't realize the extent to which their work lives are controlled by accidental happenings.
5. Many times at work, we might just as well decide what to do by flipping a coin.

6. I feel like what happens in my work life is mostly determined by powerful people.
7. It is hard to know whether or not a person at work really likes you.
8. Many of the unhappy things in people's work lives are partly due to bad luck.
9. My work life is chiefly controlled by powerful others.

Factor: Political Control

1. Leadership positions at work tend to go to the capable people who deserve being chosen.
2. In the long run people get the respect they deserve at work.
3. It's hard to know why some people at work get leadership positions and others don't; ability doesn't seem to be the important factor.
4. Unfortunately, at work, an individual's worth often passes unrecognized no matter how hard he tries.
5. This work place is run by the few people in power and there is not much the little guy can do about it.
6. The average worker can have an influence in organizational decisions.
7. When I make plans at work, I am almost certain that I can make them work.
8. Many times at work, I feel that I have little influence over the things that happen to me.

Factor: Personal Control

1. It is impossible for me to believe that chance or luck play an important role in my work life.
2. There really is no such thing as "luck" in our work lives.
3. In my case, getting what I want at work has little or nothing to do with luck.
4. Who gets to be boss in the workplace depends on who has the skill and ability, luck has little or nothing to do with it.

5. At work, trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

6. Getting a good job depends mainly on being in the right place at the right time.

7. What happens to me at work is my own doing.

APPENDIX 3

COVER LETTER - SURVEY

November 1, 1996

Dear Colleague:

I am writing to you to ask for your help. In addition to working at BellSouth, I am a Doctoral student at Nova Southeastern University. I am currently working on my dissertation. My research deals with the study of the individual's self-efficacy (or confidence in one's abilities to accomplish certain tasks) and the effects of perceived control within the organization on the individual's self efficacy.

You can help me by completing the enclosed survey and returning it to me in the stamped, self-addressed envelope which is provided. Completion of the survey should take no longer than 30 minutes of your time. Survey responses should be returned to me no later than November 15. Participation is, of course, ***voluntary*** and ***totally anonymous***. Names were randomly selected from each of the COUs within BellSouth and none of the requested information on the survey has been designed to identify any particular individual.

I am requesting that you do not use Company time to complete the survey. Even though the appropriate management at BellSouth is aware of this study; it should be noted that this is purely an academic endeavor. It has not been commissioned by BellSouth as a corporate study. However, the study is relevant to the organization and has been discussed with key individuals at BellSouth. The study results will be provided to these persons.

In addition, I will gladly provide a summary of the results to any participant. In order to ensure anonymity on individual responses, however, requests for this information should be sent separately from the survey response. If you desire to receive this information, please send a postcard which includes your name and return address to: Jan Jones, 2436-C Dunwoody Crossing, Atlanta, Ga. 30338.

If you have questions or want additional information, please feel free to call me at 770-454-8308. If you are calling long distance, please use my personal 800 number (1-800-452-8481, access code 24).

Thank you for your help!

Sincerely,

Jan Jones

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