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AN EXAMINATION OF THE RELATIONSHIP BETWEEN EMPLOYEE EMPOWERMENT AND ORGANIZATIONAL COMMITMENT

by

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A thesis submitted in partial fulfillment of the requirements
for the Doctor of Philosophy degree in Education in
the Graduate College of The University of Iowa

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CERTIFICATE OF APPROVAL

PH.D. THESIS

This is to certify that the Ph.D. thesis of

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has been approved by the Examining Committee for the thesis requirement for the Doctor of Philosophy degree in Education at the December 2000 graduation.

Thesis committee: _____
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Member

In loving memory of my brother, Scott Keltner,
Whose adventurous spirit inspired me
"To Dare to Be."

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CHAPTER I

INTRODUCTION

Rationale for the Study

A rapidly changing environment threatens the survival of many organizations. The global economy propelled by booming regional economies, new media and information technology, universal consumer cultures, emerging global standards, and opportunities for corporate cost-sharing, has dramatically changed the environment in which organizations exist today (Ohmae, 1998). Comparing the *Fortune* lists of largest U.S. corporations from 1967 and 1997, fewer than half of the 50 largest companies in 1967 show up in the top 100 companies of today. In a global comparison, only 10 of the top U.S. 50 companies in 1967 are among today's Global 100 (Nadler and Nadler, 1998). The survival of many organizations is threatened, in part, by reluctance to adapt to the changing environment. "Ecological-evolutionary theory suggests that uncertain, volatile environments will support diverse organizational forms and that the apparent winners will fluctuate from time to time as conditions change" (Hannan and Freeman, 1989, p.27). Organizational adaptation theory "proposes that organizational variability reflects designed changes in the strategy and structure of individual organizations in response to environmental changes, threats, and opportunities" (p.12). These theories suggest that an organization's ability to adapt to environmental changes affects its survival. Organizations need to be flexible in order to react in a timely manner to environmental pressures. The popularized literature commends an "empowered" organization as a

strategy to enhance organizational performance and insure survival (Blanchard, Carlos, and Randolph, 1999; Guillory and Galinda, 1995).

Employee empowerment has become an important organizational issue. It is seen as a critical variable in internal organizational changes and an important element in organic organizations with the capacity to adapt to an ever-changing external environment. "Rigid work structures that provided relative stability and prosperity for 150 years have given way to a more fluid postindustrial economy, driven by new technology and global competition" (Helgesen, 1997, p. 34).

> Old ways die hard. Amid all the evidence that our world is radically changing, we cling to what has worked in the past. We still think of organizations in mechanistic terms, as collection of replaceable parts capable of being reengineered. We act as if even people were machines, redesigning their jobs as we would prepare an engineering diagram, expecting them to perform to specifications with machinelike obedience. Over the years, our ideas of leadership have supported this metaphoric myth. We sought prediction and control, and also charged leaders with providing everything that was absent from the machine: vision, inspiration, intelligence, and courage. They alone had to provide the energy and direction to move their rusting vehicles of organization into the future....But there is good news also. We have known for nearly half a century that self-managed teams are far more productive than any other form of organizing. There is a clear correlation between participation and productivity... (Wheatley, 1997, p. 21).

Changes in business environment have forced organizations to review management systems in order to remain competitive in today's turbulent economy. "Empowering" employees has become a central theme of related management and leadership practices that have been endorsed to allow organizations to become more competitive (Hall, 1994; Schein, 1992; Yukl, 1989). "Where yesterday's organizations were typically rigid, bureaucratic, and rule-bound, today's successful competitors are flexible, fast, and dependent on their front-line employees to act independently in the best interest of the organization" (Nelson, 1997, p. 37). "Success in the global marketplace will come to the organization built on synergy, collaboration, flexibility, and partnership;

an organization that expects individual accountability in return for individual freedom" (Lynch, 1997, p.18).

> Traditional measures of business performance such as return on investment (ROI) and return on assets (ROA) have less significance today than does return on people (ROP). When leaders look beyond purely financial yardsticks and measure their organization's productivity, responsiveness, innovation, and knowledge base, they are measuring their ROP. Increasingly, it's that ROP that provides the most significant competitive advantage (Nelson, 1997, p.34).

In response to a rapidly changing economy, organizations are evaluating the utility of traditional management practices grounded in command and control governance structures vis-à-vis alternative practices that advocate employee empowerment. The role of leadership has become one of creating an environment that "allows" employees to maximize their performance. "True leaders ignite the capacity to achieve, and to lead. in others" (Brown, 1998, p.9). Bill Hewlett, cofounder of Hewlett-Packard stated that "Men and women want to do a good job, a creative job, and if they are provided the proper environment they will do so" (Nelson, 1997, p. 35).

Problem Statement

Empowerment is seen as a strategy to develop a flexible organization that is capable of adapting to a changing external environment. While employee empowerment has become a major organizational issue, minimal empirical research has been conducted on this phenomenon. Existing research on empowerment is primarily prescriptive in nature, describing how "empowering" employees has made significant performance improvements in organizations. Antecedents and outcomes of empowerment in an organizational setting have received limited theoretical attention (Spreitzer, 1992). The empowerment literature lacks consistency in terms of theoretical perspectives and often ignores theoretical implications. The purpose of this study was to develop an initial

research foundation for distinguishing the empowerment construct using statistical procedures.

Implicit in the empowerment literature is the reliance on employee commitment as a form of employee control. This research asks the question, "Is there a relationship between employee empowerment and employee commitment?" This relationship is a fundamental assumption in the empowerment literature that needs to be examined. To aid in the examination of the relationship between employee empowerment and employee commitment, conceptual clarity is necessary. In the following section, a brief description of the terms empowerment and commitment is provided. A more detailed definition of the terms is provided in Chapter two.

Definition of Terms

In this study, empowerment is defined as increasing task motivation by enhancing feelings of meaning and control (Spreitzer, 1992). Thomas and Velthouse (1990) and Spreitzer (1992) have developed models that identify four task assessments as a basis for worker empowerment. These four dimensions of empowerment are meaning, competence, self-determination (choice), and impact. The first dimension, meaning, is defined as "the value of the task goal or purpose, judged in relation to the individual's own ideals or standards" (Thomas and Velthouse, 1990, p.672). The second dimension, competence, is defined as "the degree to which a person can perform task activities skillfully when he or she tries" (Thomas and Velthouse, 1990, p.672). Self-determination is the third dimension of empowerment. "To be self-determining means to experience a sense of choice in initiating and regulating one's own actions" (Deci, Connell, and Ryan, 1989, p.580). The fourth dimension is impact. Impact is defined as the "extent to which one can causally influence a desired environmental outcome" (Spreitzer,1992, p.20).

This study utilizes Meyer and Allen's multidimensional approach to organizational commitment. Meyer and Allen (1987) divided commitment into three dimensions: affective, continuance, and normative commitment. Common to each dimension is a "psychological state that a) characterizes the employee's relationship with the organization, and b) has implications for the decision to continue or discontinue membership in the organization" (Ko 1996, p.14). The first dimension of commitment, affective commitment, is defined as the extent to which an individual identifies with, is involved in, and enjoys membership in an organization (Mowday, Steers, and Porter, 1982). Continuance commitment, the second dimension, is an attachment to an organization based on an employee's awareness of the costs associated with discontinuing membership (Becker, 1960). The third dimension, normative commitment, is defined as the totality of internalized normative pressures to act in a way which meets organizational goals and interests (Wiener, 1982). In summary, the term empowerment is defined in accordance with the work of Thomas and Velthouse (1990) and Spreitzer (1992). Commitment is defined with perspectives consistent to that of Meyer and Allen's (1987) multidimensional approach.

Limitations of the Study

There are several limitations to this study. One is the context within which empowerment is examined. Individuals may feel empowered in a family setting, work setting, and/or a community setting. The work environment was the context for this study. Employee empowerment was examined in the context of manufacturing organizations.

Another limitation of this study was the focus of inquiry. This study focused on individual empowerment, not collective empowerment. Empowerment of a collectivity

requires group membership. Individual empowerment does not require group membership.

Many factors may lead to increased/decreased perceptions of employee empowerment. This study was limited to examining the association of employee empowerment and employee commitment. Etzioni's (1967) conceptualization of an "active society" was utilized as a theoretical framework linking the two. The active society represents an icon of an empowered society. The control component of an active society is one of commitment rather than compliance. Because commitment is an essential element of an active society, this research asserts the need to examine potential associations between empowerment and commitment which may contribute to a foundation in research requisite for future development of an empowerment theory.

In summary, this study focused on individual empowerment within a work context. Employee perceptions at two manufacturing organizations were assessed. Etzioni's (1967) conceptualization of an active society provided a theoretical framework to examine empowerment. The association of employee empowerment and employee commitment was analyzed.

Significance of the Study

The purpose of this study is to contribute to formation of an initial research foundation targeted to distinguishing the empowerment construct. Minimal guidance is available for the development of a sound empirical literature on empowerment; more specifically, the development of constructs which may enable better understanding of related individual behaviors. Empowerment research, at present, tends to be prescriptive in nature; researchers describe how empowering employees affects organizational performance. In this study, Etzioni's conceptualization of an active society, as previously

noted, guided the exploration of the relationship between employee empowerment and employee commitment.

This study also provides data on the utility of Spreitzer's empowerment measure. Spreitzer developed this measure in 1992 and more data are needed to ascertain the utility of the measure. A scarcity of useful empowerment measures with high levels of reliability and validity compounds the problem of conducting empirical studies. This study provides information related to the application of Spreitzer's measure in empowerment research.

Organization of the Study

This study provides a review of the literature on employee empowerment. Included are various conceptual components that are important to this study of empowerment. These include mainstream empowerment theoretical perspectives and a conceptualization of organizational commitment. The review includes a discussion of definitions and dimensions of employee empowerment and organizational commitment, relevant considerations of a construct, and underlying assumptions. Information on management techniques and organizational leadership and culture were developed, as appropriate. General theoretical arguments associated with employee empowerment were derived from disciplinary literatures, specifically, psychology and sociology. The perspectives on organizational commitment encompass traditional and multidimensional approaches to organizational commitment.

In addition, Chapter II includes the theoretical framework for the study. The theoretical framework is based on the work of Etzoni (1968), and asserts that commitment is a control structure that allows for the empowerment of people. Etzioni's (1967) conceptualization of an "active society", as noted, was used as a theoretical perspective. The active society represents an icon of an empowered society. The control

component of an active society is one of commitment rather than compliance. A description of Meyer and Allen's Commitment Model is provided.

In Chapter III the hypotheses and methods used to examine the relationship between employee empowerment and employee commitment are described. The hypotheses, measurement of the variables, research site, sample, data collection, sample quality and data analysis methods are discussed.

Chapter IV contains the findings. Data were analyzed utilizing two statistical procedures: Pearson's Product-Moment Correlation Coefficient and Multiple Regression.

Finally, in Chapter V a summary and discussion of the major findings of this study are presented. In addition, implications for future research are discussed.

CHAPTER II

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Empowerment is a concept of interest to practitioners in organizations and to academics conducting research. Employee empowerment is endorsed, and management proposals were purported to increase employee empowerment have been implemented in both private and public sectors. Research on empowerment has been conducted in education, business and industry, health care, social services, among others (Hall, 1994, Jenkins 1994, Maeroff 1988, Staples 1990, and Wilson 1994). A clear and agreed upon definition of empowerment, however, is not available. Problems of conceptual clarity suggest the need for empirical research that may distinguish the empowerment construct. Various conceptual frameworks of empowerment, a review of related literatures, and mainstream theoretical perspectives are presented in this chapter. Then, an employee commitment model, which serves as a theoretical framework to examine the empowerment construct, is delineated.

Definitions and Dimensions of Employee Empowerment

The purpose in this chapter is to develop a conceptual framework for the term "empowerment." The literature reviewed approaches the empowerment construct from an organizational perspective consistent with study purposes.

Conger and Kanungo (1988) suggested there are two different ways to view empowerment. The first defines empowerment as a relational construct. This conceptualization examines the authority relationship between leaders/managers and

subordinates. The second defines empowerment as a psychological construct. This views empowerment as an enabling process that affects both initiation and persistence of task behavior (Conger and Kanungo, 1988, p.476). Conger and Kanungo's dual approaches to empowerment guide the literature review to follow.

Empowerment as a Relational Construct

Organizational studies that define empowerment as a relational construct examine the relationship between leader/manager and subordinate in terms of the distribution of power. These studies focus on the transfer of power from the leader to the subordinate. Empowerment studies (Hollander and Offermann, 1990; Orsburn, Moran, Musselwhite, and Zenger, 1990; Sashkin, 1986) often advocate that "employees should be permitted, or even encouraged to influence their working environment" (Hollander and Offermann, 1990, p.183). Conceptual clarity is lacking in these organizational studies. Studies often use the terms power, authority, control, influence, joint decision making, employee participation, employee involvement, and self-directed teams as synonyms for empowerment (Ackers and Goodman, 1994; Bowen and Lawler, 1992; Conger and Kanungo, 1988; Crosby, 1987; Hayes, 1994; Hodson, Creighton, Jamison, Rieble, and Welsh, 1994; Lawler, 1994; Lawler and Mohrman, 1989; Locke, Schweiger, and Latham, 1986; London, 1993; Marchington, Wilkinson, and Wallace, 1993; Parker and Price, 1994; Rosen, 1993; Siahpush, 1990; Staples, 1990; Yukl, 1989). Adding to the lack of conceptual clarity, the literature often does not distinguish between the theoretical definitions of empowerment and the operational definitions of empowerment. This definitional confusion will be examined.

The literature on empowerment from a relational perspective focuses on the dynamics of transferring power from the leader/manager to the employee. Empowerment as a relational construct is defined by Conger and Kanungo (1989) as "the process by

which a leader or manager shares his or her power with subordinates. Power, in this context, is interpreted as the possession of formal authority or control over organizational resources" (p.473). This is a relatively narrow view of power when compared to other definitions. For example, power can also represent "the production of intended effects by some persons on the other persons" (Price and Mueller, 1986, p.41). Pfeffer (1992) states that power is "the potential ability to influence behavior, to change the course of events, to overcome resistance, and to get people to do things that they would not otherwise do" (p.45). Organizational studies from a relational perspective define power as "the possession of formal authority or control over organizational resources" (Conger and Kanungo, 1989, p.473). An underlying assumption in relational studies is that leaders possess the formal authority over organizational resources. Little attention is given to the power of subordinate employees. Empowerment in a relational sense involves examining the processes that redistribute power from leaders to subordinates, or in other words, examining the transfer of control over organizational resources from leaders to subordinates. "Traditional hierarchical bureaucratic organizations are changing, and with them are changing the ways in which authority and power are distributed among their members" (Kahn and Kram, 1994, p.18). According to the literature, the concepts of power, authority, influence, and control are key to the theoretical definition.

According to the literature, there is definitional confusion surrounding the term empowerment. Adding to the confusion is the substitution of processes used by organizations as power transfer mechanisms as a theoretical definition of empowerment. The concepts of employee participation, employee involvement, joint decision making, and self-directed teams are constructs that should be used to operationalize the term "empowerment." These concepts are not theoretical definitions for empowerment. Employee participation and employee involvement generally represent some type of

employee influence in decision making, a form of joint decision making. As defined by Lawler (1994) employee involvement "concerns locating decisions at the lowest level in the organization" (p.70). Self-managed work teams are one vehicle which aids in the process of moving decision making to lower levels. They are defined as "small groups of coworkers who share task and responsibilities for a well-defined segment of work " (Parnell, Crandall, and Frey, 1991 p.34, Jessup 1990s definition). Self-directed teams are considered a mechanism for employee control (Parnell, Crandall and Frey, 1991). Employee participation, employee involvement, joint decision making, and self-directed teams are specific processes that actualize the theoretical definition of the construct of empowerment. These processes used by organizations represent power transfer mechanisms whereby "a leader or manager shares his or her power with subordinates" (Conger and Kanungo, 1989, p.473). The theoretical definition in relational studies is "the process by which a leader or manager shares his or her power with subordinates" (Conger and Kanungo, 1989, p.473). There are several ways to operationalize this definition, some of which include examining employee participation, employee involvement, joint decision making, and self-directed team processes.

Transferring authority from leaders to subordinates is advocated in the work setting to increase worker performance. Work environments that empower employees assertedly encourage subordinate-leader relationships which, in turn, foster trustworthiness and credibility (Lawler, 1994). The effects of better subordinate-leader relationships are also reported to promote increased job responsibility, contributions, and commitment (Lawler, 1994). An employee's job satisfaction and motivation are expected to increase when employees participate in organizational decision-making (Hollander and Offermann, 1990).

In summary, there is definitional confusion in the relational literature base. By delineating and clarifying theoretical and operational definitions of empowerment, this definitional confusion may be reduced. Conger and Kanugo's definition of empowerment, "the process by which a leader or manager shares his or her power with subordinates", where power is defined as "the possession of formal authority or control over organizational resources" (1989, p. 473) is a theoretical definition that may provide some guidance for relational studies. Processes such as employee participation, employee involvement, joint decision making and self-directed teams are operational definitions of empowerment that appear useful in examining empowerment. Separating theoretical and operational definitions of empowerment should provide definitional clarity for future research.

Empowerment as a Psychological Construct

Compared to the relational perspective, the psychological perspective has received little attention in research. "Despite growing attention to empowerment in the organizational studies literature, the lack of a theoretically derived measure of psychological empowerment in a work context has deterred substantive research on empowerment" (Spreitzer, 1995. p.1442). The psychological perspective views empowerment as a subjective phenomenon (Spreitzer, 1992).

Empowerment in this view is a motivational construct where power and control are seen as motivational states internal to individuals (Conger and Kanungo, 1988, p.473). As a psychological construct empowerment raises subordinates' convictions about their own effectiveness (Conger and Kanungo, 1988). Studies that view empowerment as a psychological construct shift the responsibility for motivation from the employee to the organization.

There are two dimensions to the psychological view of empowerment. The first views enhancing personal efficacy as the motivational construct (ex. Conger and Kanungo, 1988; Staples, 1990). The second views enhancing the sense of meaning and of control associated with one's role as the motivational construct (Thomas and Velthouse, 1990; Spreitzer, 1992). Included in the second conceptualization is the notion of self-efficacy; but self-efficacy alone is not considered enough to "empower" an employee.

Addressing the former, Conger and Kanungo (1988) defined empowerment as "the process of enhancing feelings of self-efficacy among organizational members through the identification of conditions that foster powerlessness and through their removal by both formal organizational practices and informal techniques of providing efficacy information" (p.474). Empowerment is a process which enhances self-efficacy; feelings of personal powerlessness are weakened (Conger and Kanungo, 1988). "At the psychological level, people who become more empowered feel better about themselves; there is an increased sense of personal dignity, self-respect, and self-esteem" (Staples, 1990, p.32). In summary, this conceptualization views empowering employees as synonymous with enabling employees, and "enabling implies creating conditions for heightening motivation for task accomplishment through the development of a strong sense of personal efficacy" (Conger and Kanungo, 1988, p.474).

Both dimensions of the psychological view perceive empowerment as increasing task motivation; but the second view extends the first view to incorporate a sense of meaning and control as being necessary to increase task motivation. Both psychological views are based on the assumption that "the motivational content of this paradigm (empowerment paradigm of management) involves the fostering of intrinsic task motivation among workers" (Thomas and Velthouse, 1990, p. 668). "The term "task" is

defined as a set of activities directed toward a purpose. Thus a task includes both activities and a purpose" (Thomas and Velthouse, 1988, p.668). The difference between the two psychological views is the determination as to what increases task motivation. The first view argues that it is self-efficacy. The second argues that additions or self-efficacy, meaning, self-determination (choice), and impact are necessary. Thomas and Velthouse (1988) and Spreitzer (1992) have developed a model that identifies four task assessments as a basis for worker empowerment. These four dimensions of empowerment are meaning, competence, self-determination (choice), and impact. Competence is synonymous with Conger and Kanungo's (1988) definition of self-efficacy which is based on the work of Bandura (1977). Three of the dimensions, competence (self-efficacy), self-determination, and impact, combine to depict an overarching dimension of sense of control.

The first dimension of empowerment is a sense of meaning. Meaning is "the value of the task goal or purpose, judged in relation to the individual's own ideals or standards" (Thomas and Velthouse,1990, p.672). It is the fit between the needs of one's work role and one's beliefs, values, and behaviors (Brief and Nord, 1990; Hackman and Oldham, 1980).

The second dimension of empowerment is a sense of competence. Competence is "the degree to which a person can perform task activities skillfully when he or she tries" (Thomas and Velthouse, 1990, p.672). Competence is synonymous with the concept of self-efficacy, the belief that one can successfully perform a given behavior (Bandura, 1977). In order for individuals to feel empowered, they must have a sense of self-effectiveness or personal competence (Bennis and Nanus, 1985; Conger and Kanungo, 1988; Thomas and Velthouse, 1990). "In addition to a personal belief in what they do, empowered people believe in their abilities and capacities" (Spreitzer, 1992, p.14).

The third dimension of empowerment is a sense of self-determination. Where the second dimension, competence, reflects a mastery of behavior, self-determination reflects a choice of behavior (Spreitzer, 1992). "To be self-determining means to experience a sense of choice in initiating and regulating one's own actions" (Deci, Connell, and Ryan, 1989, p.580). Empowered individuals feel responsibility for and ownership of their activities (Pascarella, 1984; Rappaport, Swift, and Hess, 1984; Rappaport, 1981, 1987; Rose and Black, 1985; Staples, 1990; Zimmerman, 1990). They do not see their actions as obeying orders or inevitable (Friere, 1970). "Empowered individuals believe they have personal discretion concerning the methods used to perform their role in the system" (Spreitzer, 1992, p.16). They feel a sense of control over the initiation or continuation of behavior.

The fourth dimension of empowerment is a sense of impact. This dimension reflects an individual's belief that he or she can affect or influence organizational outcomes (Ashforth, 1989). Sense of impact represents the "extent to which one can causally influence a desired environmental outcome" (Spreitzer, 1992, p.20). Where the third dimension, sense of self-determination, reflects control over behavior, sense of impact reflects control over outcomes. In other words, sense of self-determination reflects the degree of control over "means"; whereas sense of impact reflects the degree of control over "ends." In organizations, individuals feel a sense of impact when they perceive influence in decision making processes. Individuals feel empowered when they feel as if they are "making a difference, that is producing the intended effect in one's task environment" (Thomas and Velthouse, 1990, p.672). Empowered individuals feel they play a part in determining the organization's future.

Empowering employees is recommended to increase worker performance and promote the welfare of employees. Sashkin (1986) suggested that highly nonparticipative

jobs cause psychological harm, highly nonparticipative work causes long-term physical harm, and participative management improves performance when it is properly designed and implemented. "Delegating challenging work and increasing subordinate responsibilities are particularly useful approaches to individualized development" (Bass, 1985, p.36). In addition, an individual's learning increases and the application of acquired knowledge is more effective when employees are empowered in their work organization (Hinckley, 1985).

This study used the second psychological conceptualization of empowerment as its research framework. Empowerment was defined as increasing task motivation by enhancing feelings of meaning and control. Thomas and Velthouse's (1988) basis for task assessment was utilized. Empowerment was examined with regard to an individual's sense of meaning, sense of competence, sense of self-determination (choice) and sense of impact in the work setting.

Construct Considerations and Underlying Assumptions

Empowerment is a complex term. When explicating a conceptual framework for the term empowerment, one must consider the following factors: unit of analysis, context, and state.

Level of analysis and content of the unit are important considerations in the unit of analysis for empowerment. Empowerment is a phenomenon that can occur at all levels of an organization from the board of directors to front line workers (Lorsch, 1995). One must determine the level of analysis to be analyzed by considering employee position in the organizational hierarchy. Several, rather than one, stratum in the hierarchy may be analyzed; however, employee position in the organizational hierarchy is an element to consider.

In addition to the level of analysis, another consideration is the content of the unit to be analyzed. Is collective or individual empowerment the focus of inquiry? Collective empowerment represents the enabling of a group. Empowerment of a collectivity focuses on the empowerment of people through group membership. Individual empowerment does not require group membership. Individuals may feel empowered, yet they may be a member of a powerless group. Similarly, a collectivity may be empowered, yet the individuals that comprise the collectivity may feel powerless. Both collective and individual empowerment emphasize the "competence and right of people to take charge of their own destinies" (Staples, 1990, p.31). The unit of analysis examined for this study was individual empowerment at various levels of the organizational hierarchy. Perceptions of employees at manufacturing organizations were considered.

Another factor to consider in a conceptual framework for empowerment is the context within which empowerment will be examined. Individuals may feel empowered in a family setting, work setting, and/or a community setting. The work setting was the context for this study. It is acknowledged that "individual growth is profoundly affected by the larger social environment" (Staples, 1990, p.34). The focus for this research was the work environment. Factors that increase/decrease employee feelings of employee empowerment were examined.

The state of empowerment, whether empowerment is a process or product, is another factor that needs to be considered when developing a conceptual framework. Empowerment includes both process and product dimensions, and the relationship between them is complex (Staples, 1990). Empowerment as a process refers to the means, thought, and action that allow individuals or groups to "act on their own behalf to achieve a greater measure of control over their lives and destinies" (Staple, 1990, p.30). Empowerment is viewed as the processes that allow a transfer of power. This view of

empowerment fits with the relational perspective of empowerment. As a product, empowerment is viewed as a motivational state internal to individuals (Conger and Kanungo, 1988). For example, Bowen and Lawler (1992) described empowering workers as having acquired an almost "born again" religious fervor. Empowerment as a product fits with the psychological perspective of empowerment where empowerment is viewed as raising subordinates' convictions in their own effectiveness (Conger and Kanungo, 1988). Common to both states of empowerment, process and product, is the notion that empowerment is dynamic and constantly evolving. There is no final state. Staples (1990) described the dynamic nature of empowerment, both as a process and product, by making an analogy of an athlete getting in shape.

> "Getting in shape" is a dynamic process that necessitates a training regimen with particular requirements for exercise, diet, and sleep. But one can be in varying degrees of "good shape" at a particular point in time. Empowerment works the same way (p.39).

In summary, a conceptual framework for the term empowerment requires consideration of three factors: the unit of analysis, context, and state. The unit of analysis represents the level in the organizational hierarchy of the employees to be analyzed as well as the content of the unit, individuals or a collectivity. The context of empowerment represents the environment within which empowerment will be examined: family, work, and community setting. The state of empowerment is how empowerment is viewed, process or product. For this study, empowerment as a product was examined by assessing individual perceptions in the work environment.

The conceptual framework developed for the term empowerment has underlying assumptions which require elaboration. The underlying assumptions were considered within four areas: human nature, environment, power, and variable characteristics.

The empowerment conceptual framework assumes people are basically good and have an internal need for self-determination. "Employees are capable people trying to do

a good job" (Wallace, 1993, p.12). Employees are assumed to be morally involved and identify with the organization (Schein, 1992). There is a shift in attitude from "viewing employees as workers who need to be prodded toward viewing them instead as people with valued skills who want to do excellent work and to contribute to the well-being of their companies" (Crosby, 1987, p.179). In addition, people are viewed as having an internal need for self-determination (Deming, 1986; Juran, 1989). "Every one has an internal need for self-determination and a need to control and cope with environmental demands" (Conger and Kanungo, 1988, p.474). Employees not only want to control factors in the work setting but have an internal need to do so.

Another underlying assumption is that empowerment is a phenomenon that is context specific. Individuals may feel empowered in a family setting, work setting, and/or community setting. Individuals empowered in one of these settings do not necessarily feel empowered in another setting. For this research, empowerment is not defined as an enduring personality trait generalizable across situations but rather a set of cognitions shaped by the work environment (Thomas and Velthouse, 1990). "Empowerment is not a global construct generalizable across different life situations and roles, but rather specific to the work domain" (Spreitzer, 1995, p.1444).

A third assumption is that employees with power are more likely to obtain what they desire. Conger and Kanungo (1988) stated "Actors who have power are more likely to achieve desired outcomes and actors who lack power are more likely to have their desired outcomes thwarted or redirected by those with power" (p.472).

The last assumption is based on characteristics of empowerment as a variable. Empowerment is defined as a dynamic, continuous variable. There is no "final" state of empowerment (Staples, 1990). Empowerment is a continuum with employees feeling various degrees of intrinsic task motivation.

Related Literatures

A theory has yet to be developed that examines the construct of empowerment. There are, however, related literatures that discuss the empowering of employees in organizations as an ancillary factor. Included in this related literature base are the subjects of management techniques and organizational leadership and culture. The following section will provide a brief overview of these literatures.

Management Techniques

The management technique literature includes discussions of management methods that permit employees to become more involved at the work place. There appears to be a general consensus in the management technique literature that traditional management practices suppress the expression of employee competence (Hall, 1994). The literature targets alternatives for addressing the problems. Common techniques discussed include participative management systems and team based structures (Bowen and Lawler, 1992; Locke, Schweiger, and Latham, 1986; Marchington, Wilkinson, Ackers, and Goodman, 1994; Sashkin, 1986; Stewart and Manz, 1995).

Participative management systems are those systems that allow employees to influence decision making processes. Types of participation in decision making, from authoritative decision making to delegation (Locke, Schweiger, and Latham, 1986), are discussed in the participative management literature. Examples of methods used to increase employee influence include employee participation in goal setting, problem solving, work improvement systems, and job design (Bowen and Lawler, 1992; Marchington, Wilkinsoon, Ackers, and Goodman, 1994; Sashkin, 1986). Two formalized management systems prevalent in the management systems literature are Total Quality Management (TQM) and Employee Involvement (EI).

TQM is a management philosophy that focuses on quality, customer satisfaction, and the use of statistical process control to aid in continuous improvements (Garvin, 1988, March 1986, and Lawler 1994). It is based primarily on the work of four individuals: Deming, Juran, Crosby and Ishikawa (Lawler, 1994). TQM began in the 1950s and is credited with helping Japan rebuild its business entities after World War II. "During the 1980s, it has become increasingly popular in the United States and Europe, most likely as a result of the success of Japanese firms in a number of global markets" (Lawler, 1994, p.68).

Total Quality Management emphasizes the empowering of employees to make changes that will enhance quality. Deming believed that American management is responsible for 85 percent of quality problems. He asserted that employees responsible for producing end products and services need to be "allowed" to make improvements. The rules and procedures created by management were viewed as obstacles to employee generated improvements (Deming, 1986).

Employee Involvement (EI) is a management system that focuses on locating decisions at the lowest level in the organization. EI is designed to yield better decisions and to increase employee commitment. EI evolved from research on democratic leadership in the 1930s and includes such topics as job design, organization design, and organizational change. (Lawler, 1994).

EI emphasizes the empowering of employees so that they may work independently of management control and direction (Lawler, 1994). "Management is an enabler, culture setter, and supporter rather than a director of employee action" (Lawler, 1994, p.70). This management system suggests the utility of sharing information, knowledge, power, and rewards with employees at all levels of the organization "so that they can influence, and be rewarded for organizational performance" (Lawler and

Mohrman, 1989, p.26). EI evolved into new work structures (e.g., the flattening of organizations) that, in turn, increase organizational effectiveness (Lawler, 1994).

Both TQM and EI systems endorse a change in management behaviors so that employees have increased responsibilities in the workplace. Managers in these systems allow employees to make decisions and facilitate the decision making process (Deming, 1986; Lawler, 1994). This involves communicating information to employees and providing them with necessary tools to optimize employee decision-making. Both management systems empower employees to make improvements in the workplace (Deming, 1986; Lawler, 1994).

Team based structure is another management approach that depends on empowered employees. The establishment of self-directed team structures is based in socio-technical systems (STS) theory. "Socio-technical units are cohesive groups that have a sphere of authority delegated to them so that they can make decisions that apply to their work situations, - decisions that they are in a position most appropriately to make" (Tannenbaum, 1992, p.56). STS examines work system design and attempts to maximize both social and technical aspects of a work system. "This joint optimization frequently results in a shift from individual to group-focused work methods. Employees are organized into small groups - or teams - based on natural divisions in the work flow process" (Stewart and Manz, 1995, p.748).

Lawler (1991/92) suggested that the work setting needs to be a total team environment. To promote a total team environment, the organizational design should include flattening the organization hierarchy and should also encourage the extensive use of self-managing teams. Lawler purposed that the self-directed teams be organized as business units that have responsibility for a product/service group or a customer base. These business teams need to be cross-functional and comprised of employees from

several disciplines. The teams should have responsibility for all activities surrounding a certain product/service group or customer base which includes dealing directly with both customers and suppliers. The business teams allow employees the opportunity to be in contact with the competitive business environment and to become familiar with market demands. This "real business experience", assertedly, allows the employee to see their organization as a system of interrelated functions rather than a group of isolated departments. Kirkman and Rosen (1999) suggested that work teams have varying levels of empowerment and "that highly empowered teams are more effective than less empowered teams" (p.69). In addition to allowing employees to "see the big picture", teams are an effective work unit because they "rely on a freely available resource; their own energy, knowledge, experience, commitment, and ability to draw on relevant expertise" (Weisbord, 1985, p.6).

In summary, Total Quality Management, Employee Involvement, and team based structures are management techniques that allow employees to become more involved in the workplace. These management strategies are intended to correct the suppression of employee competence resulting from traditional management practices (Hall, 1994).

Organizational Leadership and Culture

Previous perspectives on leadership involve examining traits and behaviors of leaders. The research is divided into two categories. One category is universal traits and behaviors where certain traits and behaviors are considered effective for all situations and individuals. Energy, intelligence, communication skills, and physical stature are common traits that are considered to be essential for effective leaders (Bass, 1981; Behling and Rauch, 1985; Yukl, 1989). Universal behavior research rests on the assumption that leadership effectiveness stems less from who the manager is rather than from the way the manager behaves. "Leadership style" or learned behaviors is deemed important for

effectiveness, and one style works for all situations and employees (Behling and Rauch, 1985). The second category in leadership research asserts that different traits and behaviors are required for different situations (Behling and Rauch, 1985). Certain leadership traits and behaviors are considered effective for a particular group of subordinates and situations, but those same traits and behaviors are ineffective for another group of subordinates and situations (Behling and Rauch, 1985).

In contrast to previous leadership research focusing on traits and behaviors of leaders, a functional perspective is reflected in current leadership research. This perspective "attempts to show how the actions of a person, group, organization, or society affect the larger social systems in which they exist" (Behling and Rauch, 1985 p.10). In congruence with this perspective, Yukl (1989) provided a broad definition of a leader as one who is responsible for "influencing task objectives and strategies, influencing commitment and compliance in task behavior to achieve these objectives, influencing group maintenance and identification, and influencing the culture of an organization" (p.14). This research is important in characterization of the "transformational leader."

Literature regarding transformational leadership repeats themes of the 1960s. Yukl (1989) stated that "the need to empower subordinates and develop a sense of ownership for what goes on in the organization echoes the emphasis on power sharing, mutual trust, and participative decision-making by writers such as Argyris (1964), McGregor (1960), and Likert (1967). The emphasis on developing human potential and activating higher-order needs in the service of the organization echoes the earlier humanistic concern for quality of work life and supportive relationship" (p.279). "Burns (1978) conceptualized the transformational leader as one who motivates followers to work for transcendental goals and for higher-level self-actualizing needs, instead of

working through simple exchange relationships with his/her followers" (Bass, Avolio, and Goodheim, 1987, p.8).

In the literature, transformational leadership is contrasted with transactional leadership where managers and subordinates are engaged in an exchange relationship. In this exchange relationship, the function of the manager is to explain to employees what is required, and how they will be compensated if requirements are met (Bass, 1990). "This transaction or exchange - this promise and reward for good performance, or threat and discipline for poor performance - characterizes effective leadership" (Bass, 1990, p.120).

There are three characteristics of an effective transformational leader. The first characteristic is charisma. Charismatic leaders inspire subordinates to believe that they can accomplish great things. They arouse enthusiasm about work, inspire loyalty, and command respect (Bass, 1985). Subordinates have a high degree of trust and confidence in charismatic leaders (Bass, 1990). Charismatic leaders have a special gift for seeing what is important and for creating a sense of mission that excites followers (Bass, 1985).

The second characteristic of a transformational leader is individualized consideration. Transformational leaders have a developmental orientation toward subordinates. They evaluate potential to perform at their present job and future positions of greater responsibility (Bass, 1985). Leaders feel it is important to meet the emotional needs of each employee. They act as mentors and employee development coaches (Bass, Winter 1990).

The third characteristic of a transformational leader is intellectual stimulation. The leader provides ideas that result in the rethinking of issues and enable subordinates to think about old problems in new ways (Bass, Avolio, and Goodheim, 1987). They are proactive and search for solutions to problems that are creative and innovative. This is in contrast to the transactional leader that is reactive and focuses on the best way to keep the

system running (Bass, 1985). The following figure characterizes the transformational and transactional leader.

Transformational Leader

Charisma: Provides vision and sense of mission, instills pride, gains respect and trust.

Inspiration: Communicates high expectation, uses symbols to focus efforts, expresses important purposes in simple ways.

Intellectual Stimulation: Promotes intelligence, rationality, and careful problem solving.

Individualized Consideration: Gives personal attention, treats each employee individually, coaches, advises.

Transactional Leader

Contingent Reward: Contracts exchange of rewards for effort, promises rewards for good performance, recognizes accomplishments.

Management by Exception (active): Watches and searches for deviations from rules and standards, takes corrective action.

Management by Exception (passive): Intervenes only if standards are not met.

Laissez-Faire: Abdicates responsibilities, avoids making decisions.

Figure 1. Characteristics of Transformational and Transactional Leaders

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Bass, Bernard M. 1990. "From Transactional to Transformational Leadership: Learning to Share the Vision." Organizational Dynamics 18:19-31.

In summary, the role of a transformational leader is developing a culture where employees conceptualize an organization's vision and are empowered to actualize this vision. An effective leader must "empower subordinates to participate in the process of

transforming the organization" (Yukl, 1989, p.269). Higher order changes involve shifts in attitudes, beliefs, values, and needs, in essence a culture change (Bass, 1985).

"The dynamic processes of culture creation and management are the essence of leadership and make one realize that leadership and culture are two sides of the same coin" (Schein, 1992, p.1). It is the role of an organization's leader to create, maintain, and if necessary, destroy the culture of the organization (Schein, 1992). An organization's shared beliefs, ideology, values, language, ritual and myth defines its culture. The culture of an organization is comprised of a set of shared beliefs and assumptions that are actualized through artifacts, rites, rituals, and symbols. An organization's culture emphasizes the unique or distinctive character of the organization that provides meaning to members. Culture is deeply embedded, enduring, and slow to change. The culture of an organization exerts control over its members behavior (Tierney, 1990).

The level of employee participation and use of authority is a reflection of embedded values and underlying assumptions of an organization's culture. Employee participation and the use of authority are indicative of underlying assumptions about human nature (Schein, 1992). Whether governance is shared and members participate in decision making processes, or conversely whether decisions are only made by those in authoritative positions, reflects an organization's values and beliefs regarding its members. A high level of employee participation and the decentralization of authority is present in an empowered culture. A participative administrative style reflects the belief that members can contribute to a more effective decision and their opinions are a valuable contribution. The underlying assumption about human nature is that human beings are basically good. External controls are not necessary to ensure compliance and adherence to organization rules and policies for the good of the organization.

The theory of cultural consequence states there are shared beliefs, values, norms, etc. that are culture specific, and their differential cultural endorsement is predictive of a wide range of behaviors and practices deemed acceptable and effective. Hence, selected values and beliefs (acceptable) are predictive of practices and leader traits and behaviors that are considered acceptable to members of that culture (and effective in that culture)(Hofstader, 1984, 1991). To be considered effective, behaviors of leaders must be congruent with the shared beliefs, values, and norms of the culture. The culture defines and endorses acceptable leadership practices.

Empowered cultures are based on a normative system of governance. Normative systems are based on goal consensus between leaders and followers, and members are assumed to be morally involved and to identify with the organization. This is contrasted with a coercive system generally present in a bureaucratic culture where members are assumed to be alienated and will exit if possible. One culture described in the literature that encourages the empowerment of people is characterized by the "learning organization."

Peter Senge, author of The Fifth Discipline, characterizes a learning organization as one that has a culture where people discover how they create their reality. Learning organizations are where "people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (Senge, 1990, p.1). A learning organization is one that creates its future.

There are five elements of the learning organization: systems thinking, personal mastery, mental models, building shared vision, and team learning. Systems thinking challenges the illusion that the world is created of separate, unrelated forces. It is a

conceptual framework that rests on the underlying assumption that actions and events are interconnected.

Personal mastery is a philosophical element whereby individuals establish personal aspirations and live to serve these aspirations. Senge (1990) states it is "continually clarifying and deepening our personal vision, of focusing our energies, of developing patience, and of seeing reality objectively" (p.7).

Mental models is the third element of a learning organization. It is important in a learning organization to challenge mental models. These are the "deeply ingrained assumptions, generalization, or even pictures or images that influence how we understand the world and how we take action" (Senge, 1990, p.8). This is the foundation for which an organization's culture is built.

The fourth element is building a shared vision. This represents creating a shared picture of the future the organization wishes to create. Creating a shared vision instills genuine commitment of employees and is a form of control that negates the use of compliance mechanisms.

Team learning is the fifth element of a learning organization. This is the fundamental learning unit in organizations. Teams learn when the intelligence of the team exceeds the intelligences of the individuals making up the teams. A classic example of team learning occurs in team sports. "When teams are truly learning, not only are they producing extraordinary results but the individual members are growing more rapidly than could have occurred otherwise" (Senge, 1990, p.10).

Senge (1990) described the essence of a learning organization.

> At the heart of a learning organization is a shift of mind - from seeing ourselves as separate from the world to connected to the world, from seeing problems as caused by someone or something "out there" to seeing how our own actions create the problems we experience. A learning organization is a place where people are continually discovering how they create their reality. And how they can change it (p. 12-13).

Management techniques and leadership and culture literatures advocate the empowerment of employees which is believed to be necessary for organizational effectiveness. However, these literatures lack an encompassing theoretical framework that ties the research into a collective body of knowledge. The empowerment literature lacks consistency regarding theoretical perspectives applied and often ignores theoretical implications. The purpose of this study is to provide a starting point in developing a theoretical framework for exploring empowerment. Amitai Etzioni's work Active Society, provides a theoretical perspective for employee empowerment and these related literatures. Etzioni's conceptualization of an active society will guide the exploration of the relationship between employee empowerment and employee commitment. By utilizing Etzioni's theoretical framework, insight as to a possible foundation for constructing an empowerment theory will be provided.

Theoretical Perspectives

General theoretical arguments relevant to employee empowerment are presented in this section. The empowerment literature lacks consistency regarding theoretical perspectives applied and often ignores theoretical implications of the concept of empowerment. This section provides a brief account of perspectives that are utilized in empowerment research, and it suggests that the work of Etzioni is another alternative perspective that will provide insight to empowerment research. Two areas are examined: psychology and sociology.

Psychological Theories of Empowerment

"Organizations can be viewed as an aggregate of individuals, each with his own abilities, interests, behaviors, and motives. This is the essence of the psychological approach" (Hage and Aiken, 1970, p.11). The psychological approach focuses on the

individuals of which an organization is comprised. Determination of employee behavior is examined in psychological theories of empowerment. Two psychological theories will be examined: self-efficacy theory and expectancy theory.

According to Thomas and Velthouse (1990), self-efficacy is one dimension of empowerment. They use the term competence to represent "the degree to which a person can perform task activities skillfully when he or she tries" (Thomas and Velthouse, 1990, p. 672). This definition of competence is synonymous with Bandura's (1977) definition of self-efficacy, the belief in oneself, that one can successfully perform a given behavior.

The relationship between self-efficacy and behavioral changes is developed by Bandura (1977). Bandura argues that people with high self-efficacy for a task will focus on the challenges of the situation and exert greater effort in mastering the challenges, thus increasing the chances of successful task performance. In contrast, people with low self-efficacy for a task will focus on the obstacles and shortcomings of the situation, thus decreasing the chances of successful task performance (Harris and Desimone, 1994).

Bandura (1977) states that there are four cognitive methods that enhance individual perceptions of self-efficacy: enactive attainment, vicarious experience, verbal persuasion, and emotional arousal. Enactive attainment is considered the most effective and represents the increased perceptions of self-efficacy by experiencing success within a work activity. The responsibility of management is to structure work activities so that "success" is experienced. The second method, vicarious experience, is when management provides role models to employees so employees may observe others who successfully complete activities in the work place. Verbal persuasion is the third method. This involves the manager giving encouragement and verbal feedback to employees. The fourth method is emotional arousal that occurs as a result of a supportive environment.

Expectancy theory explains employee behavior by examining the interaction of three factors: expectancy, instrumentality, and valence (Vroom, 1964; Lawler, 1973). These three factors are examined with respect to the following relationship.

Effort → Performance → Outcome

The theory states that the strength of the tendency to act in a certain way (effort) depends on the strength of the expectancy that an act will be followed by a given consequence (performance) and on the value or attractiveness of that outcome to the person (Lawler, 1973). Expectancy is the evaluation of the effort-performance linkage. Instrumentality is the evaluation of the performance-outcome linkage. Valence is the value an employee places on the outcome.

The theory is applied to employee empowerment by examining the amount of meaning and control employees associate with the effort/performance/outcome linkages. The meaning employees associate with organizational outcomes is an essential part of the empowerment equation. In addition, the amount of control an employee perceives they have over the effort/performance relationship and the performance/outcome relationship is an essential part of the empowerment equation. Meaning and control are two dimensions of the construct empowerment.

Lawler (1971,1981,1987) has applied this theory to the domain of rewards. Rewards are important to the extent that they are seen as instrumental in satisfying salient (valent) motives. Lawler (1991/92) suggests that monetary rewards be based on employee skill levels and organizational performance. Skill-based pay for all employees "has the potential to create a more flexible and knowledgeable workforce, and it is highly congruent with a team-based management approach that stresses learning and continuous improvement" (Lawler, 1991/92, p.9). Organizational performance based rewards such as gainsharing, profit sharing, and employee ownership plans provide employee

accountability for the performance of the organization. "The key is to make compensation variable based on controllable performance" (Lawler, 1991/92, p.10). Non-monetary rewards that are valued in empowered organizations are job security, job safety, and professional growth opportunities. Organization leaders and policies can improve empowerment by influencing expectancy and instrumentality links. To influence valence, the meaning employees assign to outcomes, is more difficult.

Sociological Theories of Empowerment

The essence of the sociological approach views organizations as a "collective of jobs or social positions each with its own skills, powers, rules, and rewards" (Hage and Aiken, 1970, p.11). Etzioni (1967) developed a sociological theory that was utilized to develop the empowerment construct.

This research used Etzioni's (1967) conceptualization of an "active society" as a theoretical perspective. The active society represents an icon of an empowered society. The control component of an active society is one of commitment rather than compliance. Because commitment is an essential element of an active society, this research argues that a commitment model will be useful in determining factors that correlate with empowerment. To develop this argument, this research will first define and describe Etzioni's active society and the relationship of how commitment is within it. It will next describe how the work environment is a key factor in determining an active society.

In his book Active Society, Amitai Etzioni (1967), has described the essence of empowerment in his discussion of what it means to be an active society. He defines an active society as "... a society that knows itself, is committed to moving toward a fuller realization of its values, that commands the levers such transformation requires, and is able to set limits on its capacity for self-alteration - lest it become self-mutilation"(p.16). An active society is a society that shapes itself to meet members' needs. "To be active is

to be in charge; to be passive is to be under control, be it of natural processes, of social waves and streams, or of active others" (p.4).

An empowered person is an actor in an active society. Within the limits of the culture, the empowered actor has the capacity to shape his/her environment. The actor is both a creator and a product of the environment. In shaping the environment, the actor has a sense of control and a sense of meaning. Empowered actors shape their environment such that individual and collective needs are met. Empowered actors are active members of society who "change the societal structure, advance the general will, and in turn, rely on the changed structure in advancing themselves" (p.15). An active society is "in charge of itself rather than unstructured or restructured to suit the logic of instruments and the interplay of forces that they generate" (p.5).

On a continuum, alienation is a condition that represents the absence of empowerment. The core of alienation is the "unresponsiveness of the world to the actor, which subjects him to forces he neither comprehends nor guides" (p.618). Alienation is an expression of the objective conditions that subject a person to forces beyond his understanding and control (p.618). This lack of understanding and control experienced by the actor may result in a feeling of resentment and disaffection. Thus, the reciprocal of alienation is empowerment where the core of empowerment is the responsiveness of the world to the actor. This subjects the actor to forces he both comprehends and guides. Empowerment-Alienation at the extremes may be considered semantic differentials to the extent that both represent the range within which societal actors may elect alternative courses of action or conversely, the range within which the actor is compelled to follow a course not chosen by them. Empowerment/alienation may represent the degree to which an actor feels a sense of meaning and a sense of control in reacting to and determining the world in which the actor lives.

Etzioni (1967) stated that there are three components necessary for an active society (p.4-5). The first component is a self-conscious and knowing actor. A primary assumption is that "there is an agent who can act in the world" (p.22). A second component is that there are goals the actors are committed to realize. These goals give direction to action taken. The third component is that the actor has access to levers (powers) that allow resetting of social code. This yields more action. "To be active is to be aware, committed, and potent" (p.5). These three components of an active society are characterized by the constructs knowledge, commitment, and power, respectively.

Knowledge, commitment, and power, are elements of control processes (p.29). Differences in control and consensus account for a significant part of the variance in societal activeness and in the transformability of various societal units in general and toward an active society in particular (p.121). A basic difference between active and passive units is the realization of goals and values. Etzioni attributed this difference to varying levels of intensity of commitments and the processes through which the goals and values are specified. Actors must be involved in the goal/value specification process by being included in consensus building and decision making. "Decision making is a synthesizing process of the controlling centers in which knowledge and commitment are fused and related to considerations of implementation" (p.251). The following diagram illustrates the relationship between knowledge, commitment, and power (p. 250).

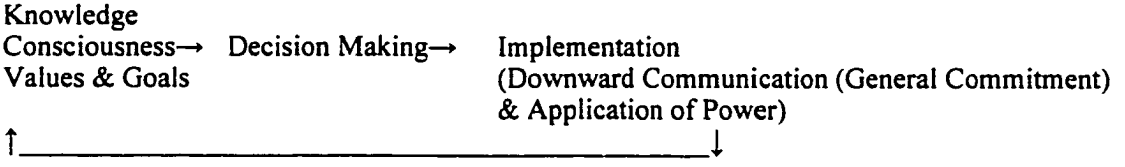

Figure 2. The Place of Decision-Making in the Process of Control

Commitment is a psychological state that not only precedes decision making but is also a result of the decision making process. It is a circular process where some level of commitment is necessary to activate the decision making process; and the result of the decision making process is increased commitment. Empowered actors decide their own course. They are more committed to this course because they play a part in determining it. In an active society, the stronger the control component (all things being equal) the less "structured" and more malleable the unit is likely to be (p.108). Commitment as a form of control lets the organization react to change.

Control mechanisms vary in the degree to which they empower/alienate actors. Some modes of control are more oppressive then others. Etzioni (1967) stated that "the more alienating usages of power tend to split societal units, increase the distances among the divisions, increase the instrumental or manipulative orientation, and lessen the opportunity for authentic leaders and participation - in short, decrease the possibility for an active society" (p.370). Etzioni (1967) described different types of control structures that yield varying degrees of alienation. Normative control and commitment is the control structure in which alienation is low; whereas force is the control structure in which alienation is high. Low alienation equals empowerment. "The more active a society - the greater number of citizens whom it involves and is responsive to - the more it is expected to rely on normative guidance, for the lower level of resulting alienation makes it more effective, and normative guidance, in turn, further reduces the level of alienation" (Etzioni, 1967, p.380).

Society's members spend a considerable amount of time working for and in today's work organizations. "...Work arrangements may be reorganized quite fundamentally to increase the responsiveness of the organization of work to the workers and the family and community" (Etzioni, 1967, p.654). The emergence of the modern

organization has played a major role in shaping society. Etzioni (1967) argued that there have been two societal revolutions. The first societal revolution came with the development of the corporation, or modern organization in general, which provided the sociological machine, the more effective way of "getting things done"(p.7). The second societal revolution introduced a comprehensive layer of societal guidance over work organizations. This involved the emergence of second-order organizations that control the first-order organizations that do the work.

Etzioni's "active society" employs a macro theoretical perspective in which an active society represents an icon of an empowered society. This research takes a more micro theoretical perspective and will focus on organizations rather than society as a whole. This research is based on the assumption that there are similarities in the components of an active society that will be present in an organization that empowers employees. This research argues that the control component of an active society, one of commitment versus compliance, will also be the control component of an organization that empowers employees.

As mentioned earlier, Etzioni (1967) suggested that force is a control structure that alienates workers; and normative control and commitment are control structures that empower workers. These control structures parallel management philosophies regarding two systems of control in work organizations: compliance and commitment. In Etzioni's (1967) conceptualization of an active society, empowered workers may shape the work environment to meet their needs. In accordance with the definition of empowerment proposed by Thomas and Velthouse (1990), the sense of meaning and sense of control workers experience in determining the work environment constitute the level of empowerment perceived by workers. In an active organization, a commitment structure alleviates the need to control workers. Thus it is argued that a commitment structure of

self control versus a compliance structure of control will allow workers a sense of meaning and sense of control over the work environment. A compliance structure controls workers by using firm external mechanisms. A commitment structure controls workers through internalization of the organization's values and goals. These two control philosophies will be elaborated.

The compliance system of control is a system where dominant managers seek compliance from the work force. In this system, managers are most concerned with obtaining standard performance rather than maximum or continually improving performance (Guest, 1992). Katz and Kahn (1978) suggested that there are five conditions for the operation of compliance based models. The five conditions are as follows.

1. Normative socialization - the acceptance of the authority structure.
2. Use of legitimate authority - the acceptance of the right of supervisors to give orders.
3. Clear worker authorization - each worker knows precisely what is expected of him/her.
4. The ability to enforce punishments and sanctions - some expectation of being caught and punished for not following rules and procedures.
5. Opportunities to expend non-conformers.

One main advantage of a compliance system is fairness. Mechanisms used to control workers are generally formalized, standardized and applied consistently to all. Compliance is based on low trust of employees so firm external control mechanisms are required to insure adherence to performance standards. Examples of such mechanisms include job specifications, job evaluation-based payment systems, time-clocks for recording attendance information, and careful inspection of work. Characteristics of

organizations that utilize a compliance model include bureaucratic systems, inspectors, and mechanisms for standardization (Guest, 1992).

One main disadvantage to using a compliance system is inflexibility. The strict application of rules and procedures can reinforce rigidity and restrain organization flexibility. If the organization were comprised of a trustworthy and competent work force, then controls and built-in inflexibilities are unnecessary. Workers are typically given standard, clearly delimited tasks for which they are paid a carefully calculated wage and any change is likely to become a matter of protracted negotiation (Guest, 1992). The protracted negotiation of change restricts the organization from reacting quickly. In a stable market environment, a mechanistic organization structure with a compliance model is an efficient means of control. However, in a market environment that is less stable, the capacity for rapid adjustment and an ability to respond flexibly to specific and varied customer demands is essential. Organizations require a work force that does more than comply with company rules and procedures. They require a work force that is willing to take initiative in improving organizational performance. Organizations comprised of committed employees will be flexible and will be able to respond to factors that affect organizational performance.

A commitment model of control purports the internalization of organization goals and values. External compliance mechanisms are not necessary because employees internalize the goals of the organization. Organizational goals are achieved because the goals are internalized by the employees who pursue them; thus the application of authority and power to ensure the accomplishment of organizational goals is no longer warranted. Commitment systems are based on high employee trust with decentralized decision-making (Kramer and Tyler, 1996). Guest (1992) states that policy goals in commitment systems are concerned with improving performance versus standard

performance present in compliance systems. Guest (1992) has compared compliance and commitment systems in the following table.

Table 1. Possible Bases for Workforce Policy

Aspects of Policy	Compliance	Commitment
Psychological contract	Fair day's work for a fair day's pay	Reciprocal commitment
Locus of control	External	Internal
Employee relations	Pluralist Collective Low trust	Unitarist Individual High trust
Organizing principles	Mechanistic Formal/defined roles Top-down Centralized	Organic Flexible roles Bottom-up Decentralized
Policy goals	Administrative Standard performance Cost minimization	Adaptive/effectiveness Improving performance Maximization utilization

This research combined both psychological and sociological perspectives to examine empowerment. A sociological perspective was utilized to examine a psychological construct. Implicit in the empowerment literature is the reliance on employee commitment as a form of employee control. This research argues that commitment is an essential component necessary for the empowerment of employees - empowerment cannot be without commitment. Empowerment is defined as a psychological construct that enables individuals by enhancing their sense of meaning and sense of control associated with one's role (Thomas and Velthouse, 1990; Spreitzer,

1992). A sociological perspective on employee commitment as a form of employee control will be utilized to examine factors to correlate with employee empowerment. The next section addresses various forms of employee commitment, and discusses the utilization of Meyer and Allen's affective commitment model as a theoretical framework for employee empowerment.

Conceptualization of Organizational Commitment

This research utilizes an organizational commitment model to evaluate the relationship between commitment and employee empowerment. Organizational commitment refers to an employee's attachment to an organization as a whole. It is different from other forms of commitment such as work ethic endorsement, career commitment, job involvement, and union commitment which focus on value, career, job, and union, respectively (Morrow, 1983, 1993). "While there is agreement among scholars that the concept of organizational commitment indicates the link of an employee to an organization, there has been a controversy over the nature of organizational commitment" (Ko, 1996, p.7). Traditional approaches conceptualize commitment as unidimensional; whereas more recent approaches utilize a multidimensional approach. The two approaches will be discussed briefly.

Traditional Approaches

Behavioral Approach

There are two traditional approaches that conceptualize organizational commitment in the organizational studies literature. One approach conceptualizes organizational commitment as a form of behavioral commitment. The focus of the behavioral approach is on a person's tendency to continue a course of action (Ko, 1996). The behavioral approach examines "the process by which individuals are bound to an

organization through their past behavior and how they adjust to it" (Ko, 1996, p.9). Behavioral commitment refers to the person's readiness to respond and a tendency to act as a member of the employing organization (Wallace, 1992). It relates to the process by which individuals become locked into a specific organization and how they deal with this situation (Mowday, Steers, and Porter, 1982). Behavioral commitment is expressed in terms of what individuals say they do, what they plan to do, or what they would do under certain circumstances (Ajzen, 1989). This concept of commitment comes about when an individual is bound by his/her acts (Salancik, 1977). It involves a judgment by the employee whereby the employee calculates the costs and benefits of continuing a certain line of action.

Attitudinal Approach

The second approach to organizational commitment conceptualizes organizational commitment as a form of attitudinal commitment. The attitudinal approach views organizational commitment as the "psychological bond which links an individual to the organization" (Ko, 1996, p.8). Attitudinal commitment refers to "the degree to which an employee is emotionally attached to his or her employing organization" (Wallace, 1992, p.12). The attitudinal approach "focuses on an affective orientation that links an employee to an organization" (Ko, 1996, p.7). This is in contrast to behavioral commitment which is viewed to be affectively neutral (Mottaz, 1989). Often attitudinal commitment is referred to as loyalty. Attitudinal commitment is described as a process by which employees come to identify with the goals and values of the organization and are desirous of maintaining membership in the organization. (Buchanan, 1974; Porter, Steers, Mowday, and Boulian, 1974). Commitment is viewed as involving an active relationship with the organization such that individuals are willing to give something of themselves in order to contribute to the organization's well-being (Mowday, Steers, and

Porter, 1982). Attitudinal commitment is seen as "a positive orientation that entails an identification with, an involvement in, and a sense of loyalty to the organization" (Ko, 1996, p.8).

Attitudinal commitment and behavioral commitment may be different conceptually; however, researchers often combine them operationally. For example, Porter, Steers, Mowday, and Boulian (1974) characterize attitudinal commitment by three factors: 1) strong belief in and acceptance of the organization's goals and values; 2) a willingness to exert considerable effort on behalf of the organization; and 3) a strong desire to maintain membership in the organization. Porter's third factor of commitment. "a strong desire to maintain membership in the organization," is identical to how Salancik (1977) characterizes behavioral commitment (Price and Mueller, 1986).

Multidimensional Approaches

Recent research conceptualizes organizational commitment as a multidimensional construct. Historically, Etzioni (1961) and Kanter (1968) have utilized multidimensional approach to examine attitudinal commitment. More recently, the multidimensional approach utilized by Meyer and Allen (1987) has gained attention from organizational scholars. The Meyer and Allen multidimensional approach to commitment will be explicated in this section.

Meyer and Allen Approach

Meyer and Allen (1987) divide attitudinal commitment into three dimensions: affective, continuance, and normative commitment. They argued that the conceptualizations of organizational commitment present in the literature can be categorized into three general themes: affective attachment, perceived costs, and obligation. Common to each dimension is a "psychological state that a) characterizes the

employee's relationship with the organization and b) has implications for the decision to continue or discontinue membership in the organization" (Ko, 1996, p.14). They characterize the three themes in the literature as affective, continuance, and normative commitment respectively.

Affective commitment is an emotional attachment to an organization. Employees of an organization with a strong sense of affective commitment to the employing organization will remain a member of that organization because they *want* to. It is characterized by the degree to which an individual identifies with, is involved in, and enjoys membership in an organization (Mowday, Steers, and Porter, 1982). Meyer and Allen (1991) suggest that affective commitment will mostly result from work experiences that satisfy employees' need to feel comfortable in the organization and contribute to their feelings of competence in the work role.

Continuance commitment is an attachment to an organization based on an employee's awareness of the costs associated with discontinuing membership (Becker, 1960). Employees of an organization with a strong sense of continuance commitment to the employing organization will remain a member of that organization because they *need* to. Remaining an employee of an organization is a result of an employee calculating the benefits and weighing those against the costs of membership in the organization. Remaining with an organization tends "to result from the accumulation of sidebets (investments) an individual has made in the organization which would be lost if the individual discontinued membership in the organization" (Ko, 1996, p.13). Meyer and Allen (1991) suggest that continuance commitment will develop as a function of investments and the availability of alternatives.

Normative commitment is an attachment to an organization based on an ethical imperative that an employee feels it is the *right* thing to do. Employees of an

organization with a strong sense of normative commitment to the employing organization will remain a member of that organization because they *ought* to. Employees with a strong sense of normative commitment feel obligated to be an employee of an organization. Normative commitment is viewed as the totality of internalized normative pressures to act in a way which meets organizational goals and interests (Wiener, 1982). Normative commitment develops from the internalization of normative obligation to remain with an organization through familial or cultural socialization, through organizational socialization (Weiner, 1982), or from unexpected rewards provided by the organization (Scholl, 1981).

In summary, this research utilized Meyer and Allen's commitment model as a theoretical framework for exploring a relationship for the concept of empowerment. Organizational commitment refers to an employee's attachment to an organization as a whole. Meyer and Allen's commitment model provides a starting point for developing a theory of employee empowerment.

Theoretical Framework

The purpose of this section is to explicate the theoretical framework for this study. Lacking in the empowerment literature is an encompassing theoretical framework. This research argues that establishing a relationship between commitment and empowerment will provide a starting point for establishing a theoretical base for exploring empowerment. Based on the work of Etzioni (1967) this research argues that commitment is a control structure that allows for the empowerment of people. While the context of this research will be a work organization, the argument to be developed is that characteristics of Etzioni's active society will be present in an organization where employees feel empowered.

Etzioni's Active Society

Etzioni defined empowered actors in an active society as ones who "change the societal structure, advance the general will, and in turn, rely on the changed structure in advancing themselves" (p.15). Paralleling Etzioni's conceptualization of an actor in an active society, this research contends that empowered employees in a work organization change the organizational structure, advance the general will, and in turn, rely on the changed structure in advancing themselves. Empowered employees will shape the work environment such that individual and collective needs are met.

Inherent in an active society and an active organization is the utilization of commitment as a control structure versus compliance. As mentioned previously, Etzioni (1967) states that differences in control and consensus account for a significant part of the variance in societal activeness and in the transformability of various societal units in general and toward an active society in particular (p.121). This research is based on the assumption that the differences in control will account for a significant part of the variance in employee empowerment.

In summary, this research argues that establishing a relationship between commitment and empowerment will provide a starting point for a theoretical framework with which to explore empowerment. Meyer and Allen's Commitment Model was utilized as a theoretical framework to explore the relationship between commitment and empowerment. A description of the model and the definition of the variables in the model are discussed.

Meyer and Allen's Commitment Model

In Active Society, Etzioni (1967) describes commitment as a control structure that allows for the empowerment of people. Empowered actors decide their own course. They are committed to this course because they play a part in determining it. Based on

Etzioni's conceptualization of an active society, a sociological perspective on employee commitment as a form of employee control will be utilized to examine constructs that correlate with employee empowerment. Meyer and Allen's commitment model provides a starting point for establishing a theoretical framework for the concept empowerment.

An organizational commitment model was selected to explore the assumption that empowered employees are attached to their employing organization. Organizational commitment is described as the process by which employees come to identify with the goals and values of the organization and are desirous of maintaining membership in the organization (Buchanan, 1974; Porter, Steers, Mowday, and Boulian, 1974). Thomas and Velthouse (1990) characterized empowered employees as having enhanced senses of meaning, competence, self-determination, and impact within the work organization. This research is exploring the relationship between an employee's attachment to an organization and the employee's senses of meaning and control, control being divided into three factors: competence, self-determination, and impact. If an employee's work role enhances his/her senses of meaning, competence, self-determination, and impact, it seems logical that the employee will feel some form of attachment to the organization. This research is exploring the idea that empowered employees, those with enhanced senses of meaning and control, identify with the goals and values of the organization and are desirous of maintaining membership in the organization. Thus, this research is suggesting there is a relationship between employee empowerment and organizational commitment.

Meyer and Allen's commitment model has three dimensions: affective, continuance, and normative commitment. These dimensions describe psychological states that characterize employees' relationships with their employing organization (Ko, 1996). Affective commitment represents the degree to which an individual identifies

with, is involved in and enjoys membership in an organization (Mowday, Steers, and Porter, 1983). Affective commitment is a result of work experiences that satisfy employees' needs to feel comfortable in their employing organization (Meyer and Allen, 1991). Continuance commitment is an attachment to an organization that is based on perceived costs of leaving the organization. Employees make a decision to remain with an organization after calculating the benefits associated with membership in the organization and comparing the benefits with the costs of membership. Normative commitment is described as "the totality of internalized normative pressures to act in a way which meets organizational goals and interests" (Weiner, 1982). The employee's commitment is based on an ethical imperative - the employee feels being committed is the *right* thing to do.

Thomas and Velthouse (1990) and Spreitzer (1992) identified four dimensions of empowerment. These dimensions include a sense of meaning, a sense of competence, a sense of self-determination, and a sense of impact. A sense of meaning is the alignment of a person's job and his/her beliefs, attitudes, and behaviors of the work environment (Brief and Nord, 1990). A sense of competence refers to a belief in one's capability to perform a job or task well (Gist and Mitchell, 1992). This can also be referred to as self-efficacy. Self-determination refers to a sense of choice regarding how to execute a job or task (Deci, Connell, and Ryan, 1989). The fourth dimension, impact, refers to the belief that one influences strategic, administrative, and operating decisions in the organization (Ashforth, 1989). Spreitzer (1995) suggests that there are four distinct dimensions of psychological empowerment that combined contribute to an overall construct of empowerment or "empowerment gestalt." "In sum then, empowerment is a constellation of the four dimensions described above which reflects a proactive mindset regarding the role of the self in the larger organizational context" (Spreitzer, 1993, p.5). This research

examined the relationship of the empowerment gestalt and of each dimension of empowerment with organizational commitment.

Organizational commitment represents an employee's attachment to an organization. Meyer and Allen's commitment model consists of three dimensions: affective, continuance and normative commitment. Respectively these dimensions represent an employee's desire to remain members of their employing organizations because they *want* to, *need* to, or *ought* to. This research argues that establishing a relationship between commitment and empowerment can provide a starting point for establishing a theoretical base for exploring empowerment.

CHAPTER III

HYPOTHESES AND METHODOLOGY

The purpose of this chapter is to describe hypotheses and methods to be used in the study. The foci are on the hypotheses, measurement of the variables, research site, sample, data collection, sample quality, and data analysis methods used in this study.

Hypotheses

Establishing a relationship between commitment and empowerment can provide a starting point useful in the construction of a theoretical foundation for exploring the concept of empowerment. This study examines the relationship of the empowerment gestalt and of each dimension of empowerment with organizational commitment. Thomas and Velthouse (1990) and Spreitzer (1992) identified four dimensions of empowerment. Spreitzer (1995) suggested that there are four distinct dimensions of psychological empowerment which, if combined, contribute to an overall construct of empowerment or an "empowerment gestalt." These dimensions include a sense of meaning, a sense of competence, a sense of self-determination, and a sense of impact. "In sum, then, empowerment is a constellation of these four dimensions which reflects a proactive mindset regarding the role of the self in the larger organizational context" (Spreitzer, 1993, p.5).

Organizational commitment represents an employee's attachment to an organization. Meyer and Allen's commitment model consists of three dimensions: affective, continuance and normative commitment. Respectively, these dimensions

represent an employee's desire to remain members of their employing organizations because they *want* to, *need* to, or *ought* to.

This study examines the relationship, if any, between empowerment and organizational commitment. The following hypotheses are suggested.

Hypothesis 1a: There will be no significant association between the gestalt of empowerment and affective commitment.

Hypothesis 1b: There will be no significant association between the gestalt of empowerment and continuance commitment.

Hypothesis 1c: There will be no significant association between the gestalt of empowerment and normative commitment.

Hypothesis 1d: There will be no significant association between the gestalt of empowerment and affective commitment after controlling for age, tenure, gender, and education.

Hypothesis 1e: There will be no significant association between the gestalt of empowerment and continuance commitment after controlling for age, tenure, gender, and education.

Hypothesis 1f: There will be no significant association between the gestalt of empowerment and normative commitment after controlling for age, tenure, gender, and education.

When analyzing the relationship between empowerment and organizational commitment, it is necessary to examine each dimension of empowerment with each dimension of organizational commitment. The first dimension of empowerment is meaning. Meaning represents the value of a work goal or purpose judged in relation to an individual's own ideals or standards (Thomas and Velthouse, 1990). It is the fit between a person's job and his/her beliefs, attitudes, and behaviors (Brief and Nord, 1990). The

following hypotheses are suggested describing the relationship between the dimension of empowerment termed meaning and the three dimensions of organizational commitment.

Hypothesis 2a: There will be no significant association between a sense of meaning and affective commitment.

Hypothesis 2b: There will be no significant association between a sense of meaning and continuance commitment.

Hypothesis 2c: There will be no significant association between a sense of meaning and normative commitment.

Hypothesis 2d: There will be no significant association between a sense of meaning and affective commitment after controlling for age, tenure, gender, and education.

Hypothesis 2e: There will be no significant association between a sense of meaning and continuance commitment after controlling for age, tenure, gender, and education.

Hypothesis 2f: There will be no significant association between a sense of meaning and normative commitment after controlling for age, tenure, gender, and education.

The second dimension of empowerment is competence. Competence is an individual's belief in his or her capability to perform activities with skill (Gist, 1987). Competence is analogous to Bandura's (1989) notion of self-efficacy. The following hypotheses describe the relationship between the dimension of empowerment termed competence and the three dimensions of organizational commitment.

Hypothesis 3a: There will be no significant association between a sense of competence and affective commitment.

Hypothesis 3b: There will be no significant association between a sense of competence and continuance commitment.

Hypothesis 3c: There will be no significant association between a sense of competence and normative commitment.

Hypothesis 3d: There will be no significant association between a sense of competence and affective commitment after controlling for age, tenure, gender, and education.

Hypothesis 3e: There will be no significant association between a sense of competence and continuance commitment after controlling for age, tenure, gender, and education.

Hypothesis 3f: There will be no significant association between a sense of competence and normative commitment after controlling for age, tenure, gender, and education.

The third dimension of empowerment is self-determination. Self-determination is an individual's sense of having a choice in initiating and regulating actions (Deci, Connell, and Ryan, 1989). "Self determination involves having a sense of freedom and autonomy to make choices concerning work behavior" (Spreitzer, 1993, p.4). The following hypotheses describe the relationship between the dimension of empowerment termed self-determination and the three dimensions of organizational commitment.

Hypothesis 4a: There will be no significant association between a sense of self-determination and affective commitment.

Hypothesis 4b: There will be no significant association between a sense of self-determination and continuance commitment.

Hypothesis 4c: There will be no significant association between a sense of self-determination and normative commitment.

Hypothesis 4d: There will be no significant association between a sense of self-determination and affective commitment after controlling for age, tenure, gender, and education.

Hypothesis 4e: There will be no significant association between a sense of self-determination and continuance commitment after controlling for age, tenure, gender, and education.

Hypothesis 4f: There will be no significant association between a sense of self-determination and normative commitment after controlling for age, tenure, gender, and education.

The fourth dimension of empowerment is impact. Impact is the degree to which an individual can influence strategic, administrative, or operating outcomes at work (Ashforth, 1989). Impact represents influence within the context of work. The following hypotheses describe the relationship between the dimension of empowerment termed impact and the three dimensions of organizational commitment.

Hypothesis 5a: There will be no significant association between a sense of impact and affective commitment.

Hypothesis 5b: There will be no significant association between a sense of impact and continuance commitment.

Hypothesis 5c: There will be no significant association between a sense of impact and normative commitment.

Hypothesis 5d: There will be no significant association between a sense of impact and affective commitment after controlling for age, tenure, gender, and education.

Hypothesis 5e: There will be no significant association between a sense of impact and continuance commitment after controlling for age, tenure, gender, and education.

Hypothesis 5f: There will be no significant association between a sense of impact and normative commitment after controlling for age, tenure, gender, and education.

Measurement of the Variables

This section addresses the operationalization of the variables included in the model presented in this research. The psychometric properties, reliability and validity of the variable measures will also be discussed. The measures used to assess the variables in this study are included in Appendix B.

Dependent Variable

Empowerment Construct

Empowerment was measured using Spreitzer's multidimensional measure of psychological empowerment. Spreitzer's instrument is grounded in a construct definition derivative of the integration of a review of interdisciplinary literature on empowerment, and an examination of interview data.

The literature review was expanded beyond organizational studies to include studies in the disciplines of psychology, religion, and sociology (Spreitzer, 1992). "The objective of the expanded review was to identify shared understandings of empowerment across different perspectives by integrating and synthesizing them to a few key dimensions of empowerment. The goal was to develop a parsimonious and generalizable conceptualization of empowerment that may then be operationalized and measured" (Spreitzer, 1992, p.9). Four dimensions emerged from the interdisciplinary literature review: meaning, competence, self-determination, and impact.

Interviews were also conducted by Spreitzer (1992) to provide insight to employees' personai conceptualizations of empowerment. The interview data were examined with respect to the four dimensions identified in the analysis of the

interdisciplinary literature review. "In the interviews, individuals were asked (1) to define empowerment and (2) to describe a personal experience where they felt particularly empowered and one where they felt particularly disempowered" (Spreitzer, 1992, p.22). After the four dimensions of empowerment were established, Spreitzer developed a 12-item scale that measured each of the dimensions.

Spreitzer's (1992) twelve item instrument is comprised of three items assessing each dimension of empowerment. The items of the instruments were adapted from existing scales. Spreitzer utilized the following criteria to select appropriate scales adapted from previous research (1992): "1) scales had to focus on a single dimension, not bridge two or more dimensions, a feature critical for discriminant validity; 2) they had to use, or be adaptable to, a common format for ease of administration (e.g., a seven-point Likert scale); and 3) they had to focus on the individual experience of a dimension rather than a description of a work environment that might result in that experience; for instance, some measures of self-determination ask whether a job permits independence rather than whether the job holder experiences a sense of independence" (Spreitzer, 1995, p.1450).

As mentioned previously, the measures utilized by Spreitzer were adapted from previous research. The first dimension of empowerment, *meaning*, is defined according to Thomas and Velthouse (1990) as "the value of a work goal or purpose, judged in relation to an individual's own ideals or standards" (Spreitzer, 1995, p.1443). "The meaning items were taken directly from Tymon (1988)" (Spreitzer, 1995, p.1450). The second dimension, *competence*, is defined according to Gist (1987) as "an individual's belief in his or her capability to perform activities with skill" (Spreitzer, 1995, p. 1443). "The competence items were adapted from Jones's (1986) self-efficacy scale" (Spreitzer, 1995, p.1451). The third dimension of empowerment, *self-determination*, is defined

according to Deci, Connell, and Ryan (1989) as "an individual's sense of having choice in initiating and regulating actions" (Spreitzer, 1995, p.1443). "The self-determination items were adapted from Hackman and Oldham's (1985) autonomy scale" (Spreitzer, 1995, p.1451). The fourth dimension, *impact*, is defined as according to Ashforth (1989) as "the degree to which an individual can influence strategic, administrative, or operating outcomes at work" (Spreitzer, 1995, p. 1444). The items in this scale were adapted from Ashforth's (1989) helplessness scale (Spreitzer, 1995). All of the items use a seven-point Likert response format and are self-assessments.

Independent Variables

Commitment Construct

Etzioni's (1967) conceptualization of an "active society" theoretically links empowerment and commitment. The "active society" represents an icon of an empowered society. According to Etzioni (1967), the control component of an active society is one of commitment rather than compliance. Because commitment is an essential element of an active society, this research argues that examining a relationship between empowerment and commitment provides a baseline for constructing an empowerment theory to guide future research. Meyer and Allen's multidimensional approach to commitment was utilized in this study. The three dimensions of commitment, affective, continuance, and normative, were measured using Meyer and Allen's (1991) three six item scales. The commitment scales are the revised versions of the original eight-item instruments developed by Allen and Meyer (1990). All measures were self-assessments and used a seven-point Likert response format.

Control Variables

The control variables in this study are age, gender, education, and tenure. Spreitzer (1992) provides evidence that there may be a relationship with age, gender, and education variables and dimensions of empowerment. Previous research in organizational commitment has found evidence of a relationship between tenure and commitment (Mowday, Steers, and Porter, 1982). *Age* refers to the number of chronological years since birth of an individual. Age was measured continuously and was measured in units of years. *Gender* refers to an individual's sex. Gender was coded as a 1 for female and 0 for male. *Education* refers to the highest formal schooling or training of an individual. Education was segregated into nine categories: less than high school graduate, high school graduate, 1 - 2 years college, Associate degree, 3 - 4 years college, Bachelors degree, graduate work, Masters degree, and Doctorate degree. *Tenure* refers to the continuous length of service an individual has served as an employee of an organization. Tenure was measured continuously and was measured in units of years.

Reliability and Validity

Reliability and validity are gauges used to assess the quality of construct measures. Reliability refers to the "consistency of a measure - will the measure produce the same results when used again and again?"(Price and Mueller, 1986, p.6). This study utilized an internal consistency technique, Cronbach's alpha, to assess reliability. Internal consistency techniques "assess the degree to which the items used in the measure are internally consistent, that is, intercorrelated" (Price and Mueller, 1986, p.6). Scores of internal consistency measures range from zero to one, higher values indicate greater reliability. Validity refers to "the linkage between the measure and the underlying construct, that is, the degree to which the measure captures the construct it is designed to measure" (Price and Mueller, 1986, p.4). Construct, convergent, and discriminant

validity are three different types of validity often assessed in research. Construct validity refers to "the extent to which the empirical relationships based on using the measure are consistent with theory about the concept" (Price and Mueller, 1986, p.4). Convergent and discriminant validity assesses conceptual clarity. "Convergent validity exists if different measures (methods) of the same concept are highly correlated, whereas discriminant validity exists if different concepts measured by the same method are lowly correlated" (Price and Mueller 1986, p.5). To assess validity of the four empowerment dimensions, exploratory and confirmatory factor analyses were done. A second order confirmatory factor analysis was done to ascertain the gestalt of empowerment.

Empowerment Construct

Spreitzer (1992,1995) reports evidence of convergent and discriminant validity of the measures of the four dimensions of empowerment. In addition, evidence was reported that supported a higher order construct of empowerment composed of the four individual dimensions. For the scales of the four empowerment dimensions, Spreitzer (1993) reports Cronbach alpha reliability coefficients that range from .79 to .88. To examine an empowerment gestalt, Spreitzer performed a confirmatory factor analysis of the empowerment variables (Spreitzer, 1992, 1993). The four dimensions of empowerment were first order factors in a confirmatory factor analysis. A second order CFA was conducted to provide empirical justifications for creating an overall scale of empowerment from the four dimensions. Overall fit statistics indicated a good fit, the adjusted goodness of fit value was .93. "This second order confirmatory factor analysis provides support for the convergent and discriminant validity of the four dimensions of empowerment as well as an overall construct of empowerment" (Spreitzer, 1993). An index of empowerment was constructed by aggregating the items from the four dimensions of empowerment.

Commitment Construct

Meyer and Allen (1993) have demonstrated that the scales have generally acceptable psychometric properties. The Cronbach alpha reliability coefficients for the six-item versions of the affective commitment scale, continuance commitment scale, and normative commitment scale are .82,.74, and .83, respectively. The results of a factor analysis support the three dimensional construct - the three scales load on three separate factors. In addition, the relationships of the three scales with determinant variables and outcomes variables are consistent with relationships reported in the commitment literature. These variables include job satisfaction, dissatisfaction, general sense of obligation to others, intent to leave, absenteeism, job performance, and organizational citizenship.

Research Site

The research sites for this study are two non-union manufacturing organizations located in the mid-west. The first organization is referred to as Company A and the second one as Company B. Each organization is described below.

Company A is a manufacturing facility of a large corporation. The corporation operates in over 30 countries. The manufacturing facility was opened in 1977 and is located in a mid-western town of 8,200 residents. Company A is a manufacturer of rubber products. The employees at Company A are referred to as associates. All associates are salaried employees. Company A has less than 200 associates. The gender composition of Company A employees includes 29 percent females and 71 percent males. In the early 1980s, Company A began the process of developing a "self-directed" team culture. In the manufacturing area, supervisors were replaced with rotating "team coordinators," production managers were eliminated and a peer appraisal system was

implemented. Currently, the facility is considered to be a leader in self-directed teams, especially in the manufacturing area of the company.

Company B is a family owned, private business that was incorporated in 1954. It is located in a mid-western town of approximately 28,500 residents. Company B has been a manufacturer of television reception products for over 43 years. It currently markets and manufactures four distinct product lines: satellite antennas and mounts, marine and recreational vehicle TV antennas, medical telemetry antennas and accessories, and rooftop TV and FM antennas, reception products and accessories. Company B has less than 400 employees. There are approximately 100 salary employees. The remaining employees are hourly. The gender composition of Company B employees includes 62 percent females and 38 percent males. Most employees, 94 percent, are from the local area. In contrast to Company A, Company B is in the beginning stages of trying to create a self-directed team environment. Employees are included in few decision making processes. There is limited communication between upper management and line employees. Formalized team structures are lacking. A traditional command and control management process exists.

Sample

The sample for this study includes all full-time employees. Full-time employees are defined as those employees who work 32 hours or more per week. Employees on a leave of absence from the employer were not included.

Data Collection

The procedures used to collect data are described in this section. The areas discussed include descriptions of the site preparation and collection procedures.

Site Preparation

In June 1998, a research proposal was sent to the organizational development manager and director of human resources of Company A to explain the research procedures and establish a time frame with which to collect data. In July 1998, in a meeting between the Organizational Development Manager and the Director of Human Resources, permission was obtained to conduct the survey. The researcher was previously employed by this organization from 1982 to 1990. In November 1998, the Plant Manager, Human Resources Manager, Plant Controller, and researcher agreed on specific data collection procedures.

Similarly, in June 1998, a research proposal was sent to the President, Vice President of Finance, and Production Manager at Company B to explain the research procedures and establish a time frame to collect data. In August 1998, in a meeting between the President of the company and the Vice President of Finance, the researcher obtained permission to conduct this survey. Again, the researcher had previously served as a consultant for this company. In November 1998, the Production Manager and Human Resources Manager agreed on specific data collection procedures.

Key personnel at each facility were contacted to help ensure cooperation for this research. The employees were informed of the research study through notification in employee newsletters and employee meetings.

Collection Procedures

Data for this study were collected through a self-administered questionnaire. The questionnaires were distributed and collected by the researcher with the assistance of the human resource managers. The human resource managers in both organizations helped distribute the questionnaires to the employees, collect them, and return them to the researcher. A training session was held for the human resource managers by the

researcher on how to administer the questionnaires. The project was reviewed by the University of Iowa Human Subjects Review Committee and all criteria were met. This included provisions to protect the privacy and anonymity of the respondents. Company A employees were surveyed the week of April 26, 1999 during company-wide departmental meetings. Company B employees were surveyed February 17, 1999 at a company-wide business update meeting. The researcher visited each site to collect the surveys. Once collected, data were keyed directly into a computer disk file and stored on a magnetic disk by a data-processing company. The data entry job was performed twice by two different key-punch operators. The two data sets were compared with each other to check for data entry errors, and necessary corrections were made for any errors.

Sample Quality

The quality of the sample obtained from the survey is evaluated in terms of response rate and missing data. At Company A, 193 surveys were distributed and at Company B, 365 surveys were distributed for a total N=558. At Company A, 116 surveys were returned and at Company B, 281 surveys were returned for a total of 397 surveys. The overall response rate was 71%: 60% at Company A and 77% at Company B.

The 71 percent response rate for this study is aligned with the response rates of survey research examining organizational variables in manufacturing settings. Research conducted on organizational variables in manufacturing facilities of comparable size (240-487 employees) report response rates ranging from 51 percent to 82 percent, with an average response rate of 68 percent (Hockwarter, Witt, and Kacmar, 2000; Mayer and Davis, 1999; Skarlicki and Folger, 1997; Witt, 1998). In addition, a recent study on empowerment reported a 72 percent response rate from employees who work for a large service organization in three Midwest states (Liden, Wayne, and Sparrows, 2000).

Due to missing data, three participants were deleted from the analysis because they answered only a few of the items. The remaining 394 respondents provided data for all five empowerment and all three commitment variables, the main variables of interest. However, participants failed to respond with some frequency to the control variables: age (n=315), tenure (n=305), gender (n=351), and education (n=359). Seventy-four percent of the participants provided data on all control variables (n=291). An explanation of the procedures used to deal with missing data are described in the following data analysis section.

Data Analysis

Two types of analyses were utilized to examine the relationship between empowerment and commitment: Pearson's Product-Moment Correlation Coefficient and Regression Analysis. Both are used to analyze research questions concerned with determining relationships between the two study constructs.

Pearson's Product-Moment Correlation Coefficient

Pearson's Product-Moment Correlation is a statistical calculation that examines the relationship between two variables. Pearson's correlation coefficient is "the average product of the deviation scores for two variables, divided by the product of their standard deviations" (Freed, Ryan, and Hess, 1991, p. 51). A limitation of Pearson's Product-Moment Correlation is that it only reflects linear relationships and assumes that both variables are normally distributed (Freed, Ryan, and Hess, 1991). This correlation coefficient is utilized to examine the relationship between empowerment and commitment.

Regression Analysis

Multiple Regression Analysis is a statistical procedure used to identify the proportion of variance in empowerment accounted for by knowledge of commitment variables, and to control for the influence of confounding variables. The control variables in this study were age, gender, tenure, and education. Multiple regression is based on the assumption that dependent and independent variables are normally distributed. In this research empowerment was considered the dependent variable, and Meyer and Allen's dimensions of commitment were considered the independent variables.

When performing linear regression analysis, it is important to first examine the marginal as well as the bivariate relationships of variables, the latter performed by examining scatterplot graphs. Of primary importance is whether the data from the bivariate scatterplots form a linear pattern (Figures 3-46). This was examined with bubble charts using Excel software (Microsoft Corporation, 1985-1996). Bubble charts use circles instead of dots, where the size of a circle is proportionate to the number of observations at that data point. These bubble charts were necessary since more than one observation often occurred for pairs of commitment (independent) and empowerment (dependent) variables. In this situation, standard scatterplots would not provide an accurate indication of the density of the data.

The bubble charts revealed that the fifteen bivariate relationships between the five empowerment and three commitment variables were, in most cases, nonlinear. This was primarily due to the negative skew of the meaning, competence, self-determination, and the gestalt of empowerment variables. The impact empowerment variable and the three commitment variables were approximated normal distributions. When two variables have different shapes it is impossible for the relationship to be linear (Hamilton, 1992, p.148). Therefore, in attempting transformations of variables that might linearize the bivariate relationships, it is reasonable to seek transformations that symmetrize each variable's

univariate distribution (Hamilton, 1992). It is important to realize that regression with transformed variables is implicitly curvilinear in the original variables (Hamilton, 1992). If linear regression had been performed on the original empowerment variables (except impact), the most important assumption of linearity would have been violated in addition to the violation of other assumptions. Indeed, an examination of the plot of residuals-by-predicted values revealed that linear regression on the original variables (except for impact) violated the linear regression assumptions of constant variance of empowerment scores across levels of commitment scores as well as the normality of errors assumption (equivalently, normality of empowerment scores).

An appropriate transformation often solves several problems at once: non-linearity, non-constant variance, and non-normality. For transformations of Y to Y^q, powers(q) greater than 1.0 tend to reduce negative skew, and powers(q) less than 1.0 reduce positive skew (Hamilton, 1992, p.18). Therefore, the researcher expected that the appropriate transformations for the empowerment variables (except impact) would involve a power greater than 1.0. It is customary to round powers to whole digits. In choosing the best transformations, several pieces of evidence were used. First, two objective methods for transforming the response variable were used: the Box-Cox method (Box and Cox, 1964), and Atkinson's method (Atkinson, 1973; Atkinson, 1981). These methods could not be performed with available canned software; therefore, custom-built programs using SAS (SAS Institute Inc., 1998), based on the formulas for these methods found in Weisberg (1985),were utilized. The results of both methods agreed that the appropriate transformation was a power of 2.0 for the meaning, self-determination, and gestalt empowerment variables (i.e., empowerment scores squared) and a power of 3.0 for the competence empowerment variable (i.e., empowerment scores cubed). Second, the Shapiro-Wilk (S-W) test for normality (Shapiro and Wilk, 1965) revealed that these

transformations produced the most normal scores. The S-W test was performed with the SAS PROC UNIVARIATE procedure. Third, a visual inspection of the marginal normality plots and the bivariate bubble charts showed that these transformations best reduced negative skew without causing positive skew.

The control variables were: tenure (in years), age, gender, and education. Among the continuous variables, age was normally distributed but tenure was not. Since tenure and age were fairly highly correlated (r=.62), it was decided to use only one of them in the regression analyses. The correlations between the empowerment and commitment variables were somewhat more affected when adjusted for tenure with a partial correlation coefficient than when adjusted for age. Therefore, tenure was used and not age in the regression analyses. Although the linear regression assumption of normality does not apply to the independent variables, in practice skewed distributions of these variables are often associated with problems such as non-constant variance and influential data points (Hamilton, 1992, p. 55). Because tenure was positively skewed, a log transformation was used to symmetrize the distribution. However, because tenure was rounded, the data contained some values of zero for this variable. Hence, it was necessary to add a constant (1.0 was chosen) to tenure before taking the log.

Education, with its nine ordinal categories, was initially treated as a continuous variable. However, a frequency analysis revealed that most participants were either high school graduates (category 2, 57%) or had 1-2 years of college (category 3, 22%). In other words, these two education categories accounted for 79% of the data. Examination of the bubble charts between the empowerment variables and the continuously-treated education variable showed that the outlying scores among categories 4 (associate degree) through 9 (doctorate degree) would exert undue influence in estimating a linear regression equation. Therefore, it was decided to make education a dichotomous variable

with high school graduates or less (categories 1 and 2) in one group and participants with 1-2 years of college or more in the other group (categories 3 through 9). Therefore, the dichotomized education variable can be thought of as "no college" versus "some college."

Bubble charts of transformed empowerment variables by commitment variables revealed that for most of the fifteen graphs, a linear relationship was now reasonable to estimate. There were a few instances, however, where the graph appeared curvilinear, specifically, where the graph appeared in the shape of a 'u' or 's' shaped curve. Therefore, it was reasonable to investigate whether a polynomial model might fit the data better than a linear model. A fourth-order was the highest polynomial considered. A fourth-order model has no more than three bends (or points of inflection) in the curve (Kleinbaum, Kupper, and Muller, 1988, p.237). A forth-order model is adequate for describing an 's' shape while a second-order would be sufficient to describe a 'u' shape. In general, polynomial models using powers greater than three should be used with caution because they may be unreliable and difficult to interpret (Hamilton, 1992; Neter, Kutner, Nachtsheim, and Wasserman, 1996, p.298).

For each of the fifteen regression models (three commitment variables each regressed on five empowerment variables), the need for polynomial terms was tested with the SAS PROC REG linear regression procedure (SAS Institute Inc., 1989) at an alpha level of .05. The fourth-order polynomial was tested first. If the fourth order term was not significant, the third order was tested and then the second. Given the reasonably large sample size (n=394), it was important not to rely on statistical tests alone but also to judge the practical importance of a statistically significant result. Therefore, a polynomial model was accepted instead of a linear model, if the polynomial model provided statistical significance, AND if the model added at least 3% in variance explained for each term added. Three of the regressions met these criteria for a second order

polynomial model; all other regressions were adequately described by a linear model. These three quadratic models were: affective commitment squared on competence empowerment cubed, normative commitment squared on competence empowerment cubed, and affective commitment squared on self-determination empowerment squared. In fact, for these three models, the linear model was not even statistically significant.

For each of the fifteen models, a simple linear regression of the commitment variable (linear or quadratic) on the transformed empowerment variable (untransformed for impact) revealed that the assumptions of constant variance and normality of errors were now much more satisfied than before transformation. Transformations of the data reduced skewness due to outliers which, simultaneously, solved the problems of non-linearity, non-constant variance, and non-normality of errors. The relationships that were still non-linear after transformation were validly estimated with linear regression by adding a quadratic term. The values for the Pearson correlation coefficients may become larger or smaller after transformations; however, the correlations based on the transformed variables are more appropriate to the extent that the transformations have caused the relationship, if there is one, to be reasonably represented by a linear relationship.

Once the type of regression model was chosen (linear or quadratic commitment), two regression analyses were performed for each of the fifteen regression models of interest. First, in the Part A analysis, the commitment variable was entered alone, either by itself or along with its second order polynomial term depending on whether the model was linear or quadratic. In the second, Part B analysis, the control variables were forced into a model along with the commitment variable. In this way, the effect of the commitment variable, after adjusting or controlling for potentially confounding variables, could be estimated. Interaction effects were added to the model if the p-value from the

partial F test for that interaction, in a regression model with all main and lower interaction terms, was statistically significant at the .05 alpha level. Interaction effects were examined by first testing the four-way interaction term, which was the highest level interaction in a model with four main effects. Two of the fifteen regression models had a significant four-way interaction term. Therefore, the full model (all main and all possible interaction terms) was estimated for the Part B analysis of these two models. For models with a non-significant four-way interaction, each of the four three-way interactions was tested separately. Some statisticians test interaction terms in chunks so that all three-way interactions, for example, are tested at once. Others prefer to test each interaction separately. The latter method was chosen since 1) it seemed that a dissertation project ought to be exhaustive leaving no stone unturned, and 2) this project is exploratory in nature. Four of the models contained a single significant three-way interaction term. The final model estimated in the Part B analysis for these models contained that three-way term as well as any two-way terms that were part of the significant three-way term and, of course, all main effects but no four-way interaction term. For models that had no significant four-way or three-way interaction terms, each of the six two-way interaction terms were tested separately. Also, the four models with a significant three-way interaction were tested for each of the three two-way interaction terms that were not part of the significant three-way interaction term. The other three two-way interaction terms that were part of the significant three-way term were not tested because they had to be included in a model that contained the parent three-way term. The results of tests of interactions produced very clean final models for the Part B analyses. In other words, two of the fifteen models had a significant four-way interaction. Four models had no significant four-way interaction, a single significant three-way interaction, and no significant two-way interactions that were not part of the significant three-way

interaction. Four models had no significant four-way interaction, no significant three-way interaction, and only one significant two-way interaction. Five models had no significant interactions. Additionally, a commitment variable was involved in all of the significant interaction effects.

In order to reduce collinearity due to correlation among the predictors and their interactions in the Part B analyses, the predictors (commitment and control variables) were centered. In addition, centering helps to avoid computational difficulties (Neter, Kutner, Nachtsheim, and Wasserman, 1996). Centering involves creating a new variable equal to the original variable minus its mean. In the Part B regression analyses, all predictor variables were centered and their associated interaction terms were based on the centered variables as well. The process of centering was successful in preventing collinearity and its associated problems. Inspection of the Condition Number (CN) for each of the fifteen Part B models revealed a CN less than four which is good considering a value over thirty is considered troublesome (Belsley, Kuh, and Welsch, 1980; Kleinbaum, Kupper, and Muller, 1988).

Three participants were deleted from the analysis because they answered only a few of the items. Responses from the remaining 394 participants in this study contained data for all five empowerment and all three commitment variables, the main variables of interest. However, participants failed to respond with some frequency to the control variables: age (n=315), tenure (n=305), gender (n=351), and education (n=359). Seventy-four percent of the participants provided data on all control variables (n=291). Since 26% of the participant responses were missing data for at least one of the control variables, procedures for imputing data were considered. In particular, consideration was given to running the Part B analysis from the correlation matrix based on pair-wise correlations from available data, and then the SAS correlation data set was modified by re-coding the

sample size variable to 394. This would cause SAS to perform the analysis "as if" the sample were really equal to 394. However, procedures for imputing data were not implemented for three reasons. First, the number of participant responses with complete data was reasonably large (n=291). With complete data from 291 participants, even the full model with four main effects and eleven interaction terms would be afforded an average of nineteen participants per predictor. A general rule of thumb is to have at least ten. Second, imputing of data is controversial because many statisticians are hesitant to "create" data. Third, the main reason for imputing would be to estimate the correlation coefficient between the commitment and empowerment variables after partialling out the effects of the control and interaction terms. Then these partial coefficients, estimated "as if" the size were 394, could be compared to the simple correlation coefficients between the empowerment and commitment variables of the same sample size. However, the presence of significant interaction terms in ten of the fifteen models negates much of the usefulness of these comparisons, specifically because all of the significant interaction effects involved a commitment variable. An interaction implies that the relationship between the commitment and empowerment variables depends on the level of the other interacting variable(s). As such, it is misleading to interpret an overall partial correlation coefficient for those models. Rather, it is more appropriate to provide a table of correlation coefficients within the levels of the interacting variables.

Many statistical tests were performed in this study; therefore, one might be concerned about the increased probability of type I error over the entire experiment. An alpha level of .05 was chosen for each test to help form a balance between control of type I error and the desire for an exploratory study not to miss any leads for future research (i.e., to minimize type II errors). Furthermore, due to the sufficiently large sample size, the researcher did not rely only on statistical tests. The magnitude of correlations were

examined in order to assess the practical importance of the estimated linear relationships. Frequency analyses were performed with the SAS PROC FREQ procedure and correlations were performed with the SAS PROC CORR procedure.

Commonly, multiple regression analysis is utilized for predicting some dependent variable from a set of independent variables. For example, in this research the level of commitment of an employee could be used to predict the level of empowerment of an employee. This research did not utilize multiple regression for prediction purposes, because it is premature to suggest the direction of the prediction. It could be argued that the level of commitment of an employee may predict the level of empowerment of an employee, or conversely, that the level of empowerment of an employee may predict the level of commitment of an employee. This research is investigating a possible theoretical relationship between empowerment and commitment. "Multiple regression lends itself to "blind" empiricism in which some measures that happen to be available are used as independent variables to predict a dependent measure without any conceptual framework to suggest a rational for such prediction" (Freed, Ryan, and Hess, 1991, p. 63). A conceptual framework for empowerment is not currently available; the rationale for an empirical predictive relationship between empowerment and commitment is absent. While the researcher is suggesting that commitment may serve as a theoretical lens useful for examining empowerment, the relationship needs to be established before multiple regression analysis is utilized for prediction purposes. The multiple regression in this study should be considered exploratory and descriptive.

CHAPTER IV

RESULTS

The purpose of this chapter is to describe results derived from the statistical analyses. The foci are on the descriptive statistics, Pearson correlation coefficient, multiple correlation coefficient, coefficient of determination, and regression analyses. The statistical analyses will explore the relationship between employee empowerment and organizational commitment while controlling for selected demographic variables.

Descriptive Statistics

The descriptive statistics discussed will include mean, median, range, Q_1 and Q_3 for empowerment and commitment variables. Overall, the scores for the empowerment variables were moderately high. A seven point Likert scale was used to measure the empowerment and commitment variables. With zero = low and seven = high, the average score for all empowerment dimensions were over four. Three of the empowerment dimensions and the gestalt averaged a score over five. The descriptive statistics were reported in Table 2. 50 percent of the reported scores for the empowerment variables occurred between approximate scores five and six (values of Q_1 and Q_3). For the remainder, 25 percent reported scores between six and seven, and only 25 percent between one and five. The scores for the competence dimension were slightly higher when compared to the other empowerment dimensions. The mean and median were both above six. The impact dimension differed somewhat with 50 percent of the scores between 3.7 and 5.3, 25 percent below 3.7, and 25 percent above 5.3. Thus, the findings

indicate that four of the empowerment variables were negatively skewed; the impact, dimension however, appeared moderately symmetrical and unimodal (Figures 3-26).

Scores on the commitment variables were around the middle of the score range. Score averages were between 3.9 - 4.5. Values for the mean, median, Q_1 and Q_3 show that all three commitment variables were distributed symmetrically and were unimodally.

For age, the range was 18 years - 65 years with the average age being 38.8 years. The mean and median were approximately the same. The distances between Q_1 and the median, compared to Q_3 and the median, were similar and provide evidence that the distribution was symmetrical.

For tenure, the range was 0 - 41 years. A score of zero for tenure represents a value less than six months because values were rounded to the nearest whole year. The mean (9.4) was greater than the median (6) and the distance between Q_1 and the median (6-2 =4) was shorter than the distance between Q_3 and the median (15-6=9). This finding indicates that the distribution was positively skewed.

For education, slightly more than 57 percent of respondents had a minimum of a high school education and approximately 22 percent had minimum of one - two years of college. A total of 79 percent of respondents were in one of these two categories. Each of the other categories had approximately five percent or fewer respondents.

Approximately the same number of females (51.3 percent, n=180) and males (49 percent, n=171) were represented. This closely corresponds with the total population where 50 percent of the employees were females (279) and 50 percent of the employees were males (279). This finding provides evidence of the representativeness of the sample.

Based on the descriptive statistics and visual examination of the bubble charts (Figures 3-26), all empowerment variables were transformed, with the exception of the

empowerment variable impact. For the control variables, tenure was transformed and education was dichotomized. It was necessary to transform these variables as the linear regression assumptions were violated when using the original variables. An appropriate transformation solved the problems of non-linearity, non-constant variance, and non-normality. The rationale for transformation of these variables was described in the methods section. Correlations among both untransformed variables and transformed variables will be provided, however, only correlations between the transformed variables will be examined since these variables were used in the regression analyses.

Pearson Correlation Coefficients

Findings are presented (Table 3) based on analyses using the Pearson correlation coefficients among the empowerment variables and the Pearson correlation coefficients among the commitment variables. All empowerment dimensions, with one exception, were moderately correlated among one another with values ranging from .29 to .60. The exception was the correlation between dimensions impact and competence where r=.18. The r values provided evidence to support an empowerment gestalt and four empowerment dimensions. The empowerment gestalt was moderately to highly correlated with the empowerment dimensions with r values ranging from .61 (competence cubed) to .80 (self-determination squared). All correlations were statistically different from zero beyond the .001 significance level. Here, the moderate correlations suggest the empowerment dimensions were measuring a common element; yet, they were distinctively different. Results support the validity of the empowerment measure. Among commitment variables, the correlation between affective and normative commitment was moderately high (r=.63), whereas the other two pair wise correlations were low (r=.10 and .26). All commitment correlations were statistically significant.

Correlations between all three commitment variables and all five transformed empowerment variables were low to moderate (r=.12 - .49) except for the correlation between competence and affective and normative commitment dimensions. The correlation between competence and these commitment dimensions were close to zero and not statistically significant. However, the product-moment correlation indexes the strength of a *linear* relationship. Later in this section, it is shown that a quadratic regression model for the affective and normative commitment variables were significantly associated with the transformed competence variable, thus providing evidence to support a curvilinear relationship.

The correlations among control variables were all low or close to zero, except for the correlation between age and log tenure, where r=.58. The collinearity was discussed previously in the methods section where rationale to select transformed tenure instead of age for the regression analyses were provided. In addition, the correlation among control variables with empowerment and commitment variables were all relatively low or close to zero.

Multiple Correlation Coefficients and Coefficients of Determination

Multiple correlation coefficient (R) represents the correlation between the dependent variable, empowerment, and the linear combination of the terms (for example, one term for a linear model, two terms for a second order polynomial model) representing the independent commitment variable. The multiple coefficient of determination (R^2) represents the proportion of variance in the empowerment variable accounted for by the commitment variable in the form of either a linear or polynomial model. Multiple correlation coefficients and coefficients of determination for the regression analyses were presented in Table 4. Values were presented for linear as well as statistically significant

second, third, and fourth order polynomials. As previously described in the methods section, a polynomial model was chosen over the linear model if it was statistically significant ($p<.05$) and added more than three percent of variance explained per polynomial term. Of the fifteen regression analyses, three second order polynomial models were selected. These models were: competence cubed on affective commitment; competence cubed on normative commitment; and self-determination squared on affective commitment. A linear model was chosen for the remaining twelve regression analyses. Of the 15 analyses, the two strongest correlations each explained slightly more than 20 percent of the variance in empowerment. These two models were: meaning squared on affective commitment ($R^2 = .227$); and meaning squared on normative commitment ($R^2 = .251$).

Regression Analyses

The results of the regression analyses are discussed in terms of the hypotheses presented in Chapter III, Hypotheses and Methodology. The hypotheses were phrased in terms of untransformed variables. However, a statistically significant linear relationship between transformed variables implies a statistically significant curvilinear relationship among untransformed variables. In order to satisfy the linearity and other regression assumptions, all empowerment variables, except impact, were transformed with a power of two or three. Additionally, in three of the analyses, the commitment variable was transformed by way of a polynomial model. The regression weights and the standard errors calculated in the regression analyses apply to centered variables (original variable - mean). For each of the 15 tables (Tables 5-20), model 1 represents regression analyses without control variables and model 2 represents regression analyses with control variables. The tests of these hypotheses will be presented in pairs. For the first

hypothesis no control variables were present (model 1). The second hypothesis introduces control variables (model 2).

Hypothesis 1a: There will be no significant association between the gestalt of empowerment and affective commitment.

Decision: Rejected.

Affective commitment was a significant predictor of empowerment gestalt-squared (Table 5, Model 1, F=58.26, df=1 and 392, p<.0001). Therefore, the null hypothesis was rejected. Affective commitment alone accounted for 13 percent of the variance in empowerment gestalt-squared (R^2=.13). The estimated standard errors (se) were relatively small compared to the estimated regression weights (b), thus suggesting that parameter estimates of the model were stable. This model predicted that a one unit increase in the affective commitment variable corresponds with a 2.7 increase in the empowerment gestalt-squared variable. This is equivalent to a 1.6 (square root of 2.7) increase in the empowerment gestalt variable (unsquared). This relationship was presented visually in Figure 4.

Hypothesis 1d: There will be no significant association between the gestalt of empowerment and affective commitment after controlling for age, tenure, gender, and education.

Decision: Rejected.

The linear combination of affective commitment, the control variables, and the significant interaction between affective commitment and education was a significant predictor of empowerment gestalt-squared (Table 5, Model 2, F=18.49, df=5 and 285, p<.0001). This linear combination accounted for 24 percent of the variance in the empowerment gestalt-squared (R^2=.24). Overall, the model appears stable when comparing the estimated standard errors (se) to the estimated regression weights (b).

Affective commitment was a significant predictor of empowerment gestalt-squared, after controlling for tenure, gender, education, and the interaction effect (Table 5, Model 2, partial F=61.73, df=1 and 285, p<.0001). Therefore, the null hypothesis was rejected. This model predicted that a one unit increase in the affective commitment variable corresponds with a 2.7 increase in the empowerment gestalt-squared variable. This is equivalent to a 1.6 (square root of 2.7) increase in the empowerment gestalt variable (unsquared) after adjusting for control variables and interaction effect.

However, the effect of affective commitment on the empowerment gestalt needs to be interpreted with caution because there was a statistically significant interaction effect between affective commitment and education. The interaction effect implies that the relationship between affective commitment and the empowerment gestalt depends on the level of education. Therefore, it is necessary to describe the relationship within each level of education (Table 20, part A). The relationship was statistically significant, positive, and at least moderate in strength for both education levels (no college and at least one year of college). However, the relationship was stronger for those with some college (r=.53, p<.001, n=121) than those with no college (r=.33, p<.0001, n=170).

Hypothesis 1b: There will be no significant association between the gestalt of empowerment and continuance commitment.

Decision: Rejected.

Continuance commitment was a significant predictor of empowerment gestalt-squared (Table 6, Model 1, F=41.80, df=1 and 392, p<.0001). Therefore, the null hypothesis was rejected. Continuance commitment alone accounted for ten percent of the variance in empowerment gestalt-squared (R^2=.10). The estimated standard errors (se) were relatively small compared to the estimated regression weights (b), thus suggesting that parameter estimates of the model were stable. This model predicted that a one unit

increase in the continuance commitment variable corresponds with a 2.2 increase in the empowerment gestalt-squared variable. This is equivalent to a 1.5 (square root of 2.2) increase in the empowerment gestalt variable (unsquared). This relationship was presented visually in Figure 6.

Hypothesis 1e: There will be no significant association between the gestalt of empowerment and continuance commitment after controlling for age, tenure, gender, and education.

Decision: Rejected.

The linear combination of continuance commitment, the control variables, and the significant three-way interaction between continuance commitment, education, and gender, was a significant predictor of empowerment gestalt-squared (Table 6, Model 2, $F=5.49$, $df=8$ and 282, $p<.0001$). This linear combination accounted for 13 percent of the variance in empowerment gestalt-squared ($R^2=.13$). Overall, the model appears stable when comparing the estimated standard errors (se) to the estimated regression weights (b).

Continuance commitment was a significant predictor of empowerment gestalt-squared after controlling for tenure, gender, education, and the three-way interaction effect (Table 6, Model 2, partial $F=13.71$, $df=1$ and 282, $p=.0003$). Therefore, the null hypothesis was rejected. This model predicted that a one unit increase in the continuance commitment variable corresponds with a 1.5 increase in the empowerment gestalt-squared variable. This is equivalent to a 1.2 (square root of 1.5) increase in the empowerment gestalt variable (unsquared) after adjusting for control variables and interaction effect.

However, the effect of continuance commitment on the empowerment gestalt needs to be interpreted with caution, because there was a statistically significant

interaction effect between continuance commitment, education, and gender. The interaction effect implies that the relationship between continuance commitment and empowerment gestalt depends on the level of education and gender. Therefore, it is necessary to describe the relationship by gender and each level of education. (Table 21, part A). For males, the relationship was statistically nonsignificant for those with at least one year of college (r=-.07, n=78). However, for males without any college education, the relationship was statistically significant, positive, and moderate to high in strength (r=.49, p<.0001, n=72). For females, the differentiation between those without any college and those with some college was minimal. The relationship was statistically nonsignificant for those with at least one year of college (r=.14, n=43). For females without any college education, the relationship was statistically significant, positive, and low in strength (r=.22, p<.05, n=98).

Hypothesis 1c: There will be no significant association between the gestalt of empowerment and normative commitment.

Decision: Rejected.

Normative commitment was a significant predictor of empowerment gestalt-squared (Table 7, Model 1, F=72.79, df=1 and 392, p<.0001). Therefore, the null hypothesis was rejected. Normative commitment alone accounted for 16 percent of the variance in empowerment gestalt-squared (R^2=.16). The estimated standard errors (se) were relatively small compared to the estimated regression weights (b), thus suggesting that parameter estimates of the model were stable. This model predicted that a one unit increase in the normative commitment variable corresponds with a 2.7 increase in the empowerment gestalt-squared variable. This is equivalent to a 1.6 (square root of 2.7) increase in the empowerment gestalt variable (unsquared). This relationship was presented visually in Figure 8.

Hypothesis 1f: There will be no significant association between the gestalt of empowerment and normative commitment after controlling for age, tenure, gender, and education.

Decision: Rejected.

The linear combination of normative commitment and the control variables was a significant predictor of empowerment gestalt-squared (Table 7, Model 2, F=21.90, df=4 and 286, p<.0001). This linear combination accounted for 23 percent of the variance in empowerment gestalt-squared (R^2=.23). Overall, the model appears stable when comparing the estimated standard errors (se) to the estimated regression weights (b).

Normative commitment was a significant predictor of empowerment gestalt-squared after controlling for tenure, gender, and education (Table 7, Model 2, partial F=63.41, df=1 and 286, p<.0001). Therefore, the null hypothesis was rejected. This model predicted that a one unit increase in the normative commitment variable corresponds with a 2.5 increase in the empowerment gestalt-squared variable. This is equivalent to a 1.6 (square root of 2.5) increase in the empowerment gestalt variable (unsquared), after adjusting for control variables.

Hypothesis 2a: There will be no significant association between the sense of meaning and affective commitment.

Decision: Rejected.

Affective commitment was a significant predictor of sense of meaning-squared (Table 8, Model 1, F=115.35, df=1 and 392, p<.0001). Therefore, the null hypothesis was rejected. Affective commitment alone accounted for 23 percent of the variance in sense of meaning-squared (R^2=.23). The estimated standard errors (se) were relatively small compared to the estimated regression weights (b), thus suggesting that parameter estimates of the model were stable. This model predicted that a one unit increase in the

affective commitment variable corresponds with a 4.8 increase in the sense of meaning-squared variable. This is equivalent to a 2.2 (square root of 4.8) increase in the sense of meaning variable (unsquared). This relationship was presented visually in Figure 10.

Hypothesis 2d: There will be no significant association between the sense of meaning and affective commitment after controlling for age, tenure, gender, and education.

Decision: Rejected.

The linear combination of affective commitment, the control variables, and the significant interaction between affective commitment and education, was a significant predictor of the sense of meaning-squared (Table 8, Model 2, F=20.83, df=5 and 285, p<.0001). This linear combination accounted for 27 percent of the variance in sense of meaning-squared (R^2=.27). Overall, the model appears stable when comparing the estimated standard errors (se) to the estimated regression weights (b).

Affective commitment was a significant predictor of sense of meaning-squared, after controlling for tenure, gender, education, and the interaction effect (Table 8, Model 2, partial F=89.75, df=1 and 285, p<.0001). Therefore, the null hypothesis was rejected. This model predicted that a one unit increase in the affective commitment variable corresponds with a 4.6 increase in the sense of meaning-squared variable. This is equivalent to a 2.2 (square root of 4.6) increase in the sense of meaning variable (unsquared) after adjusting for control variables and interaction effect.

However, the effect of affective commitment on the sense of meaning needs to be interpreted with caution because there was a statistically significant interaction effect between affective commitment and education. The interaction effect implies that the relationship between affective commitment and sense of meaning depends on the level of education. Therefore, it is necessary to describe the relationship within each level of

education (Table 20, part B). The relationship is statistically significant, positive, and at least moderate in strength for both education levels (no college and at least one year of college). However, the relationship was stronger for those with some college ($r=.65$, $p<.0001$, $n=121$) than those with no college ($r=.37$, $p<.0001$, $n=170$).

Hypothesis 2b: There will be no significant association between the sense of meaning and continuance commitment.

Decision: Rejected.

Continuance commitment was a significant predictor of sense of meaning-squared (Table 9, Model 1, $F=18.60$, $df=1$ and 392, $p<.0001$). Therefore, the null hypothesis was rejected. Continuance commitment alone accounted for five percent of the variance in sense of meaning-squared ($R^2=.05$). The estimated standard errors (se) were relatively small compared to the estimated regression weights (b), thus suggesting that parameter estimates of the model were stable. This model predicted that a one unit increase in the continuance commitment variable corresponds with a 2.1 increase in the sense of meaning-squared variable. This is equivalent to a 1.4 (square root of 2.1) increase in the sense of meaning variable (unsquared). This relationship was presented visually in Figure 12.

Hypothesis 2e: There will be no significant association between the sense of meaning and continuance commitment after controlling for age, tenure, gender, and education.

Decision: Retained.

The linear combination of continuance commitment, the control variables, and the significant four-way interaction between continuance commitment, education, gender, and tenure was a significant predictor of the sense of meaning-squared (Table 9, Model 2, $F=2.16$, $df=15$ and 275, $p=.008$). This linear combination accounted for 11 percent of the

variance in sense of meaning-squared (R^2=.11). Overall, the model appears stable when comparing the estimated standard errors (se) to the estimated regression weights (b). However, the estimated standard error for the interaction between gender and education was considerably larger than the regression weight (se=3.06, b=.21). This was primarily due to the relative instability of the education parameter (se=1.52, b=.23). The relative instability of the education parameter should have a minimal affect on the hypothesis of interest.

Continuance commitment was not a significant predictor of sense of meaning-squared, after controlling for tenure, gender, education, and the four-way interaction effect (Table 9, Model 2, partial F=3.29, df=1 and 275, p=.07). Therefore, the null hypothesis was retained. This model predicted that a one unit increase in the continuance commitment variable corresponds with a 1.2 increase in the sense of meaning-squared variable. This is equivalent to a 1.1 (square root of 1.2) increase in the sense of meaning variable (unsquared), after adjusting for control variables and interaction effect.

However, the non-significant effect of continuance commitment on sense of meaning needs to be interpreted with caution because there was a statistically significant interaction effect between continuance commitment, education, gender, and tenure. The interaction effect implies that the relationship between continuance commitment and sense of meaning depends on the level of education, gender, and tenure. Therefore, it is necessary to describe the relationship by gender, each level of education, and tenure (Table 22, part A). For ease of examination, tenure was divided into two groups: ≤ six years and > six years. Of the eight combinations of gender, education, and tenure categories, the only significant relationship between continuance commitment and meaning-squared was that of males with no college and less than or equal to six years of tenure (r=.57, p<.001, n=36). This correlation was moderately high. Although the other

seven combinations were non-significant, they contain small sample sizes; and the magnitude of the relationships need to be considered. Of particular interest was the low negative relationship for males with some college in both tenure categories (r=-.26, r=-.20)

Hypothesis 2c: There will be no significant association between the sense of meaning and normative commitment.

Decision: Rejected.

Normative commitment was a significant predictor of sense of meaning-squared. (Table 10, Model 1, F=120.90, df=1 and 392, p<.0001). Therefore, the null hypothesis was rejected. Normative commitment alone accounted for 24 percent of the variance in sense of meaning-squared (R^2=.24). The estimated standard errors (se) were relatively small compared to the estimated regression weights (b), thus suggesting that parameter estimates of the model were stable. This model predicted that a one unit increase in the normative commitment variable corresponds with a 4.5 increase in the sense of meaning-squared variable. This is equivalent to a 2.1 (square root of 4.5) increase in the sense of meaning-variable (unsquared). This relationship was presented visually in Figure 14.

Hypothesis 2f: There will be no significant association between the sense of meaning and normative commitment after controlling for age, tenure, gender, and education.

Decision: Rejected.

The linear combination of normative commitment, the control variables, and the significant four-way interaction between normative commitment, education, gender, and tenure was a significant predictor of sense of meaning-squared (Table 10, Model 2, F=7.92, df=15 and 275, p<.0001). This linear combination accounted for 30 percent of the variance in sense of meaning-squared (R^2=.30). Overall, the model appears stable

when comparing the estimated standard errors (se) to the estimated regression weights (b). However, the estimated standard error for the interaction between normative commitment and education was considerable larger than the regression weight (se=1.15, b=.08). This should have a minimal affect on the hypothesis of interest.

Normative commitment was a significant predictor of sense of meaning-squared, after controlling for tenure, gender, education, and the four-way interaction effect (Table 10, Model 2, partial F=51.77, df=1 and 275, p<.0001). Therefore, the null hypothesis was rejected. This model predicted that a one unit increase in the normative commitment variable corresponds with a 3.9 increase in the sense of meaning-squared variable, which is equivalent to a 2.0 (square root of 3.9) increase in the sense of meaning variable (unsquared) after adjusting for control variables and interaction effect.

However, the highly significant effect of normative commitment on the sense of meaning needs to be interpreted with caution because there was a statistically significant interaction effect between normative commitment, education, gender, and tenure. The interaction effect implies that the relationship between normative commitment and sense of meaning depends on the level of education, gender, and tenure. Therefore, it is necessary to describe the relationship by gender, each level of education, and tenure. (Table 22, part B). For ease of examination, tenure was divided into two groups: ≤ six years and > six years. Of the eight combinations of gender, education, and tenure categories, all were significantly positive except for females with some college and greater than six years of tenure. The two strongest relationships observed were for males (n=37) and females (33) with some college and ≤ six tenure years (r=.72, p<.0001 for both genders). For these relationships, 52 percent of the variance in sense of meaning-squared scores can be explained by normative commitment scores. The next strongest relationship observed was for males with no college and ≤ six tenure years (r=.62,

$p<.0001$, $n=36$) where 38 percent of the variance was explained. The remaining categories with significant relationships contained associations of moderate strength ($.31 \leq r \leq .42$).

Hypothesis 3a: There will be no significant association between a sense of competence and affective commitment.

Decision: Rejected.

Affective commitment in the form of a second-order polynomial was a significant predictor of a sense of competence-cubed (Table 11, Model 1, $F=8.85$, $df=2$ and 391, $p=.0002$). Therefore, the null hypothesis was rejected. The affective commitment polynomial model accounted for four percent of the variance in sense of competence-cubed ($R^2=.04$). The estimated standard errors (se) were relatively small compared to the estimated regression weights (b), thus suggesting that parameter estimates of the model were stable. This relationship was presented visually in Figure 16.

Hypothesis 3d: There will be no significant association between a sense of competence and affective commitment after controlling for age, tenure, gender, and education.

Decision: Rejected.

The linear combination of affective commitment (with quadratic term) and the control variables was a significant predictor of a sense of competence-cubed (Table 11, Model 2, $F=7.19$, $df=5$ and 285, $p<.0001$). This linear combination accounted for 11 percent of the variance in sense of competence-cubed ($R^2=.11$). Overall, the model appears stable when comparing the estimated standard errors (se) to the estimated regression weights (b).

Affective commitment in the form of a second-order polynomial was a significant predictor of a sense of competence-cubed after controlling for tenure, gender, and

education (Table 11, Model 2, partial F=5.06, df=2 and 285, p=.0007). Therefore, the null hypothesis was rejected.

Hypothesis 3b: There will be no significant association between a sense of competence and continuance commitment.

Decision: Rejected.

Continuance commitment was a significant predictor of sense of competence-cubed (Table 12, Model 1, F=11.49, df=1 and 392, p=.0008). Therefore, the null hypothesis was rejected. Continuance commitment alone accounted for three percent of the variance in sense of competence-cubed (R^2=.03). The estimated standard errors (se) were relatively small compared to the estimated regression weights (b),thus suggesting that parameter estimates of the model were stable. This model predicted that a one unit increase in the continuance commitment variable corresponds with a 12.2 increase in the sense of competence-cubed variable. This is equivalent to a 2.3 (cubed root of 12.2) increase in the sense of competence variable (uncubed). This relationship was presented visually in Figure 18.

Hypothesis 3e: There will be no significant association between a sense of competence and continuance commitment after controlling for age, tenure, gender, and education.

Decision: Retained.

The linear combination of continuance commitment and the control variables, was a significant predictor of the sense of competence-cubed (Table 12, Model 2, F=6.72, df=4 and 286, p<.0001). This linear combination accounted for nine percent of the variance in sense of competence-cubed (R^2=.09). Overall, the model appears stable when comparing the estimated standard errors (se) to the estimated regression weights (b).

Continuance commitment was not a significant predictor of sense of competence-cubed after controlling for tenure, gender, and education (Table 12, Model 2, partial F=1.68, df=1 and 286, p=.20). Therefore, the null hypothesis was retained. This model predicted that a one unit increase in the continuance commitment variable corresponds with a 5.4 increase in the sense of competence-cubed variable. This is equivalent to a 1.75 (cubed root of 5.4) increase in the sense of competence variable (uncubed) after adjusting for control variables.

Hypothesis 3c: There will be no significant association between a sense of competence and normative commitment.

Decision: Rejected.

Normative commitment in the form of a second-order polynomial was a significant predictor of a sense of competence-cubed (Table 13, Model 1, F=8.47, df=2 and 391, p=.0002). Therefore, the null hypothesis was rejected. Normative commitment polynomial model accounted for four percent of the variance in sense of competence-cubed (R^2=.04). The estimated standard errors (se) were relatively small compared to the estimated regression weights (b), thus suggesting that parameter estimates of the model were stable. This relationship was presented visually in Figure 20.

Hypothesis 3f: There will be no significant association between a sense of competence and normative commitment after controlling for age, tenure, gender, and education.

Decision: Rejected.

The linear combination of normative commitment (with quadratic term) and the control variables was a significant predictor of a sense of competence-cubed (Table 13, Model 2, F=10.10, df=5 and 285, p<.0001). This linear combination accounted for 15 percent of the variance in sense of competence-cubed (R^2=.15). Overall, the model

appears stable when comparing the estimated standard errors (se) to the estimated regression weights (b).

Normative commitment in the form of a second-order polynomial was a significant predictor of sense of competence-cubed after controlling for tenure, gender, and education (Table 13, Model 2, partial F=11.67, df=2 and 285, p<.0001). Therefore, the null hypothesis was rejected.

Hypothesis 4a: There will be no significant association between a sense of self-determination and affective commitment.

Decision: Rejected.

Affective commitment in the form of a second-order polynomial was a significant predictor of sense of self-determination-squared (Table 14, Model 1, F=9.20, df=2 and 391, p=.0001). Therefore, the null hypothesis was rejected. Affective commitment alone accounted for four percent of the variance in self-determination-squared (R^2=.04). The estimated standard errors (se) were relatively small compared to the estimated regression weights (b), thus suggesting that parameter estimates of the model were stable. This relationship was presented visually in Figure 22.

Hypothesis 4d: There will be no significant association between a sense of self-determination and affective commitment after controlling for age, tenure, gender, and education.

Decision: Rejected.

The linear combination of affective commitment (with quadratic term), the control variables, and the significant interaction between affective commitment and tenure was a significant predictor of self-determination-squared (Table 14, Model 2, F=11.47, df=2 and 284, p<.0001). This linear combination accounted for 15 percent of the variance in

self-determination-squared (R^2=.15). Overall, the model appears stable when comparing the estimated standard errors (se) to the estimated regression weights (b).

Affective commitment in the form of a second-order polynomial was a significant predictor of self-determination-squared after controlling for tenure, gender, education, and the interaction effect (Table 14, Model 2, partial F=11.47, df=2 and 284, p<.0001). Therefore, the null hypothesis was rejected.

However, the effect of affective commitment on self-determination-cubed needs to be interpreted with caution because there was a statistically significant interaction effect between affective commitment and log (tenure + 1). The interaction effect implies that the relationship between affective commitment and self-determination depends on the level of tenure. Therefore, it is necessary to describe the relationship within each tenure level (Table 20, part C). The relationship was statistically significant, positive, and moderate in strength for ≤ six tenure years (r=.28, p<.001, n=152). The relationship was statistically non-significant for > six tenure years (r=-.03, n=139).

Hypothesis 4b: There will be no significant association between a sense of self-determination and continuance commitment.

Decision: Rejected.

Continuance commitment was a significant predictor of self-determination-squared (Table 15, Model 1, F=26.78, df=1 and 392, p<.0001). Therefore, the null hypothesis was rejected. Continuance commitment alone accounted for six percent of the variance in self-determination-squared (R^2=.06). The estimated standard errors (se) were relatively small compared to the estimated regression weights (b), thus suggesting that parameter estimates of the model were stable. This model predicted that a one unit increase in the continuance commitment variable corresponds with a 2.3 increase in the self-determination-squared variable. This is equivalent to a 1.5 (square root of 2.3)

increase in the self-determination variable (unsquared). This relationship was presented visually in Figure 24.

Hypothesis 4e: There will be no significant association between a sense of self-determination and continuance commitment after controlling for age, tenure, gender, and education.

Decision: Retained.

The linear combination of continuance commitment, the control variables, and the significant three-way interaction between continuance commitment, education, and tenure was a significant predictor of the self-determination-squared (Table 15, Model 2, F=3.85, df=8 and 282, p=.0003). This linear combination accounted for ten percent of the variance in self-determination-squared (R^2=.10). Overall, the model appears stable when comparing the estimated standard errors (se) to the estimated regression weights (b).

Continuance commitment was a non-significant predictor of self-determination-squared after controlling for tenure, gender, education, and the three-way interaction effect (Table 15, Model 2, partial F=3.64, df=1 and 282, p=.06). Therefore, the null hypothesis was retained. This model predicted that a one unit increase in the continuance commitment variable corresponds with a 1.0 increase in the self-determination-squared variable. This is equivalent to a 1.0 (square root of 1.0) increase in the self-determination variable (unsquared) after adjusting for control variables and interaction effect.

However, the non-significant effect of continuance commitment on self-detrmination-squared needs to be interpreted with caution because there was a statistically significant interaction effect between continuance commitment, education, and tenure. The interaction effect implies that the relationship between continuance commitment and a sense of self-determination depends on the level of education and tenure. Therefore, it was necessary to describe the relationship by level of education and

tenure (Table 21, part B). There was only one significant combination of education and tenure levels - those with no college and > six tenure years. The relationship between self-determination squared and continuance commitment for those with no college and > six tenure years was statistically significant, positive, and moderate in strength (r=.36, p<.001, n=88). For those with no college and ≤ six tenure years the relationship was statistically non-significant (r=.13, n=82). In addition, for the category with at least 1 year of college the relationship was statistically non-significant (tenure ≤6, r=.05, n=70; tenure > 6, r=-.05, n=51).

Hypothesis 4c: There will be no significant association between a sense of self-determination and normative commitment.

Decision: Rejected.

Normative commitment was a significant predictor of self-determination-squared (Table 16, Model 1, F=9.24, df=1 and 392, p=.003). Therefore, the null hypothesis was rejected. Normative commitment alone accounted for two percent of the variance in self-determination-squared (R^2=.02). The estimated standard errors (se) were relatively small compared to the estimated regression weights (b), thus suggesting that parameter estimates of the model were stable. This model predicted that a one unit increase in the normative commitment variable corresponds with a 1.3 increase in the self-determination-squared variable. This is equivalent to a 1.1 (square root of 1.3) increase in the self-determination variable (unsquared). This relationship was presented visually in Figure 26.

Hypothesis 4f: There will be no significant association between a sense of self-determination and normative commitment after controlling for age, tenure, gender, and education.

Decision: Retained.

The linear combination of normative commitment, the control variables, and the significant three-way interaction between normative commitment, education, and tenure was a significant predictor of the self-determination-squared (Table 16, Model 2, F=4.62, df=8 and 282, p<.0001). This linear combination accounted for 12 percent of the variance in self-determination-squared (R^2=.12). Overall, the model appears stable when comparing the estimated standard errors (se) to the estimated regression weights (b).

Normative commitment was a non-significant predictor of self-determination-squared after controlling for tenure, gender, education, and the three-way interaction effect (Table 16, Model 2, partial F=2.51, df=1 and 282, p=.11). Therefore, the null hypothesis was retained. This model predicted that a one unit increase in the normative commitment variable corresponds with a 0.7 increase in the self-determination-squared variable. This is equivalent to a .84 (square root of 0.7) increase in the self-determination variable (unsquared) after adjusting for control variables and interaction effect.

However, the non-significant effect of normative commitment on self-determination-squared needs to be interpreted with caution because there was a statistically significant interaction effect between normative commitment, education, and tenure. The interaction effect implies that the relationship between normative commitment and a sense of self-determination depends on the level of education and tenure. Therefore, it was necessary to describe the relationship by level of education and tenure. (Table 21, part C). There was only one combination of education and tenure for which the relationship was non-significant: no college and > six tenure years (r=.10, n=88). The strongest significant relationship was for those with some college, and tenure ≤six years. The relationship was statistically significant, positive, and moderate in strength (r=.31, p<.05). However, for those with some college and tenure > six years the direction of the relationship changed from positive to negative. The relationship was

statistically significant, negative, and moderate in strength ($r=-.28$, $p<.05$). For those with no college and tenure ≤six years, the relationship between self-determination squared and normative commitment was statistically significant, positive, and low to moderate in strength ($r=.24$, $p<.05$).

Hypothesis 5a: There will be no significant association between a sense of impact and affective commitment.

Decision: Rejected.

Affective commitment was a significant predictor of a sense of impact (Table 17, Model 1, $F=57.29$, $df=1$ and 392, $p<.0001$). Therefore, the null hypothesis was rejected. Affective commitment alone accounted for 13 percent of the variance in impact ($R^2=.13$). The estimated standard errors (se) were relatively small compared to the estimated regression weights (b), thus suggesting that parameter estimates of the model were stable. This model predicted that a one unit increase in the affective commitment variable corresponds with a .44 increase in the impact variable.

Hypothesis 5c: There will be no significant association between a sense of impact and affective commitment after controlling for age, tenure, gender, and education.

Decision: Rejected.

The linear combination of affective commitment, the control variables, and the significant three-way interaction between affective commitment, gender, and tenure was a significant predictor of a sense of impact (Table 17, Model 2, $F=8.37$, $df=8$ and 282, $p<.0001$). This linear combination accounted for 19 percent of the variance in impact ($R^2=.19$). Overall, the model appears stable when comparing the estimated standard errors (se) to the estimated regression weights (b).

Affective commitment was a significant predictor of a sense of impact, after controlling for tenure, gender, education, and the three-way interaction effect (Table 17,

Model 2, partial F=42.48, df=1 and 282, p<.0001). Therefore, the null hypothesis was rejected. This model predicted that a one unit increase in the affective commitment variable corresponds with a .42 increase in the impact variable after adjusting for control variables and interaction effect.

However, the effect of affective commitment on a sense of impact needs to be interpreted with caution, because there was a statistically significant interaction effect between affective commitment, gender and tenure. The interaction effect implies that the relationship between affective commitment and impact depends on gender and length of tenure. Therefore, it is necessary to describe the relationship by gender and tenure (Table 21, part D). For males, the relationship was statistically significant, positive, and moderate in strength for both those with ≤ six tenure years (r=.31, p<.01 n=73) and those > six tenure years (r=.41, p<.001, n=77). The relationship between impact and affective commitment was statistically significant, positive, and strong for females with ≤ six tenure years (r=.53, p<.0001, n=79). However, for females with tenure > six years the relationship was statistically non-significant (r=.14, n=62).

Hypothesis 5b: There will be no significant association between a sense of impact and continuance commitment.

Decision: Rejected.

Continuance commitment was a significant predictor of a sense of impact (Table 18, Model 1, F=28.09, df=1 and 392, p<.0001). Therefore, the null hypothesis was rejected. Continuance commitment alone accounted for seven percent of the variance in impact (R^2=.07). The estimated standard errors (se) were relatively small compared to the estimated regression weights (b), thus suggesting that parameter estimates of the model were stable. This model predicted that a one unit increase in the continuance commitment variable corresponds with a .31 increase in the impact variable.

Hypothesis 5e: There will be no significant association between a sense of impact and continuance commitment after controlling for age, tenure, gender, and education.

Decision: Rejected.

The linear combination of continuance commitment, the control variables, and the significant interaction between continuance commitment and tenure was a significant predictor of a sense of impact (Table 18, Model 2, F=6.67, df=5 and 285, p<.001). This linear combination accounted for ten percent of the variance in impact (R^2=.10). Overall, the model appears stable when comparing the estimated standard errors (se) to the estimated regression weights (b).

Continuance commitment was a significant predictor of a sense of impact after controlling for tenure, gender, education, and the interaction effect (Table 18, Model 2, partial F=8.86, df=1 and 285, p=<.003). Therefore, the null hypothesis was rejected. This model predicted that a one unit increase in the continuance commitment variable corresponds with a .20 increase in the impact variable after adjusting for control variables and interaction effect.

However, the effect of continuance commitment on a sense of impact needs to be interpreted with caution, because there was a statistically significant interaction effect between continuance commitment and tenure. The interaction effect implies that the relationship between continuance commitment and a sense of impact depends on the length of tenure. Therefore, it was necessary to describe the relationship within each level of tenure (Table 20, part D). The relationship was statistically significant, positive, and at least moderate in strength for tenure > 6 years (r=.41, p>.0001, n=139). However, the relationship was statistically non-significant for tenure ≤ 6 years (r=-.04, n=152).

Hypothesis 5c: There will be no significant association between a sense of impact and normative commitment.

Decision: Rejected.

Normative commitment was a significant predictor of a sense of impact (Table 19, Model 1, F=65.48, df=1 and 392, p<.0001). Therefore, the null hypothesis was rejected. Normative commitment alone accounted for 14 percent of the variance in impact (R^2=.14). The estimated standard errors (se) were relatively small compared to the estimated regression weights (b), thus suggesting that parameter estimates of the model were stable. This model predicted that a one unit increase in the normative commitment variable corresponds with a 0.4 increase in the impact variable.

Hypothesis 5f: There will be no significant association between a sense of impact and normative commitment after controlling for age, tenure, gender, and education.

Decision: Rejected.

The linear combination of normative commitment and the control variables was a significant predictor of a sense of impact (Table 19, Model 2, F=13.46, df=4 and 286, p<.0001). This linear combination accounted for 16 percent of the variance in impact (R^2=.16). Overall, the model appears stable when comparing the estimated standard errors (se) to the estimated regression weights (b).

Normative commitment was a significant predictor of a sense of impact after controlling for tenure, gender, and education (Table 19, Model 2, partial F=44.53, df=1 and 286, p<.0001). Therefore, the null hypothesis was rejected. This model predicted that a one unit increase in the normative commitment variable corresponds with a 0.4 increase in the impact variable after adjusting for control variables.

Overall, of the thirty null hypotheses presented, twenty-six were rejected and four were retained. Three of the hypotheses retained tested the relationship between continuance commitment and empowerment dimensions meaning, competence, and self-determination (all three hypotheses included control variables). The fourth hypothesis

tested the relationship between normative commitment and self-determination (control variables included). In summary, the twenty-six rejected null hypotheses provide evidence supporting the presence of a relationship between employee empowerment and organizational commitment.

CHAPTER V

SUMMARY AND CONCLUSIONS

The purpose of this study was to develop an initial research foundation for distinguishing the empowerment construct using statistical procedures. Employee empowerment is a major concern of organizations and managers, but minimal empirical research has been conducted on this phenomenon. Existing research on empowerment is primarily prescriptive in nature, describing how empowering employees has made significant performance improvements in organizations. The review of the literature in chapter two points to problems of conceptual clarity and suggests the need for empirical research which may delineate the empowerment construct. Limited guidance is available for the development of sound empirical literature on empowerment; more specifically, the development of constructs which may enable better understanding of related individual behaviors. Implicit in the empowerment literature is an assumed relationship between employee empowerment and employee commitment. This fundamental assumption was examined in the effort to develop constructs and enable better understanding of related individual behaviors, more specifically, empowerment and commitment.

Implicit in the empowerment literature is the reliance on employee commitment as a form of employee control. Etzioni's (1967) conceptualization of an "active society," an icon of an empowered society, substitutes commitment as a control mechanism in place of the control mechanism compliance, represented by complying with traditional rules and procedures . The existence of a relationship between empowerment and commitment is a fundamental assumption in the empowerment literature that has yet to

be rigorously examined. This research asks the question, "Is there a relationship between employee empowerment and employee commitment?" This study provides a statistically rigorous examination of the relationship between employee empowerment and organizational commitment, thus evaluating a fundamental assumption implicit in the empowerment literature.

To aid in the examination of the relationship between employee empowerment and employee commitment, a conceptual framework for the constructs empowerment and commitment was developed. The conceptual framework based on the work of Thomas and Velthouse (1990) and Spreitzer (1992) was used to define empowerment. The conceptual framework based on the work of Meyer and Allen (1987) was used to define commitment.

In this study, empowerment is defined as increasing task motivation by enhancing feelings of meaning and control (Spreitzer, 1992). Thomas and Velthouse (1990) and Spreitzer (1992) have developed models that identify four task assessments as a basis for worker empowerment. These four dimensions of empowerment are meaning, competence, self-determination (choice), and impact. The first dimension, meaning, is defined as "the value of the task goal or purpose, judged in relation to the individual's own ideals or standards" (Thomas and Velthouse, 1990, p.672). The second dimension, competence, is defined as "the degree to which a person can perform task activities skillfully when he or she tries" (p.672). Self-determination is the third dimension of empowerment. "To be self-determining means to experience a sense of choice in initiating and regulating one's own actions" (Deci, Copnnell, and Ryan, 1989, p.580). The fourth dimension is impact. Impact is defined as the "extent to which one can causally influence a desired environmental outcome" (Spreitzer, 1992, p.20). In addition to four distinct dimensions of empowerment, Spreitzer (1995) suggested there is an

"empowerment gestalt." Spreitzer suggested that the combination of the four dimensions of empowerment contribute to an overall construct of empowerment, or an "empowerment gestalt."

This study utilizes Meyer and Allen's multidimensional approach to organizational commitment. Meyer and Allen (1987) divide commitment into three dimensions: affective, continuance, and normative commitment. Common to each dimension is a "psychological state that a) characterizes the employee's relationship with the organization, and b) has implications for the decision to continue or discontinue membership in the organization" (Ko, 1996, p.14). The first dimension of commitment, affective commitment, is defined as the extent to which an individual identifies with, is involved in, and enjoys membership in an organization (Mowday, Steers, and Porter, 1982). Continuance commitment, the second dimension, is an attachment to an organization based on an employee's awareness of the costs associated with discontinuing membership (Becker, 1960). The third dimension, normative commitment, is defined as the totality of internalized normative pressures to act in a way which meets organizational goals and interests (Wiener, 1982).

In summary, implicit in the empowerment literature is an assumed relationship between employee empowerment and employee commitment. This fundamental assumption was examined to contribute to the development of constructs and enable better understanding of related individual behaviors, more specifically, empowerment and commitment. This study provides a rigorous statistical examination of the relationship between empowerment and commitment. Spreitzer's conceptual framework of empowerment and Meyer and Allen's conceptual framework of commitment was utilized in this examination.

Discussion of Results

To examine the relationship between employee empowerment and organizational commitment, fifteen hypotheses were suggested to analyze the association of each dimension of empowerment and the empowerment gestalt with each dimension of commitment. The following hypotheses were examined.

Hypothesis 1a: There will be no significant association between the gestalt of empowerment and affective commitment.

Decision: Rejected

Hypothesis 1b: There will be no significant association between the gestalt of empowerment and continuance commitment.

Decision: Rejected

Hypothesis 1c: There will be no significant association between the gestalt of empowerment and normative commitment.

Decision: Rejected

Hypothesis 1d: There will be no significant association between the gestalt of empowerment and affective commitment after controlling for age, tenure, gender, and education.

Decision: Rejected

Hypothesis 1e: There will be no significant association between the gestalt of empowerment and continuance commitment after controlling for age, tenure, gender, and education.

Decision: Rejected

Hypothesis 1f: There will be no significant association between the gestalt of empowerment and normative commitment after controlling for age, tenure, gender, and education.

Decision: Rejected

Hypothesis 2a: There will be no significant association between a sense of meaning and affective commitment.

Decision: Rejected

Hypothesis 2b: There will be no significant association between a sense of meaning and continuance commitment.

Decision: Rejected

Hypothesis 2c: There will be no significant association between a sense of meaning and normative commitment.

Decision: Rejected

Hypothesis 2d: There will be no significant association between a sense of meaning and affective commitment after controlling for age, tenure, gender, and education.

Decision: Rejected

Hypothesis 2e: There will be no significant association between a sense of meaning and continuance commitment after controlling for age, tenure, gender, and education.

Decision: Retained

Hypothesis 2f: There will be no significant association between a sense of meaning and normative commitment after controlling for age, tenure, gender, and education.

Decision: Rejected

Hypothesis 3a: There will be no significant association between a sense of competence and affective commitment.

Decision: Rejected

Hypothesis 3b: There will be no significant association between a sense of competence and continuance commitment.

Decision: Rejected

Hypothesis 3c: There will be no significant association between a sense of competence and normative commitment.

Decision: Rejected

Hypothesis 3d: There will be no significant association between a sense of competence and affective commitment after controlling for age, tenure, gender, and education.

Decision: Rejected

Hypothesis 3e: There will be no significant association between a sense of competence and continuance commitment after controlling for age, tenure, gender, and education.

Decision: Retained

Hypothesis 3f: There will be no significant association between a sense of competence and normative commitment after controlling for age, tenure, gender, and education.

Decision: Rejected

Hypothesis 4a: There will be no significant association between a sense of self-determination and affective commitment.

Decision: Rejected

Hypothesis 4b: There will be no significant association between a sense of self-determination and continuance commitment.

Decision: Rejected

Hypothesis 4c: There will be no significant association between a sense of self-determination and normative commitment.

Decision: Rejected

Hypothesis 4d: There will be no significant association between a sense of self-determination and affective commitment after controlling for age, tenure, gender, and education.

Decision: Rejected

Hypothesis 4e: There will be no significant association between a sense of self-determination and continuance commitment after controlling for age, tenure, gender, and education.

Decision: Retained

Hypothesis 4f: There will be no significant association between a sense of self-determination and normative commitment after controlling for age, tenure, gender, and education.

Decision: Retained

Hypothesis 5a: There will be no significant association between a sense of impact and affective commitment.

Decision: Rejected

Hypothesis 5b: There will be no significant association between a sense of impact and continuance commitment.

Decision: Rejected

Hypothesis 5c: There will be no significant association between a sense of impact and normative commitment.

Decision: Rejected

Hypothesis 5d: There will be no significant association between a sense of impact and affective commitment after controlling for age, tenure, gender, and education.

Decision: Rejected

Hypothesis 5e: There will be no significant association between a sense of impact and continuance commitment after controlling for age, tenure, gender, and education.

Decision: Rejected

Hypothesis 5f: There will be no significant association between a sense of impact and normative commitment after controlling for age, tenure, gender, and education.

Decision: Rejected

Overall, of the thirty null hypotheses presented, twenty-six were rejected and four were retained. Three of the hypotheses retained tested the relationship between continuance commitment and empowerment dimensions meaning, competence, and self-determination. The fourth hypothesis retained tested the relationship between normative commitment and self-determination. (All four retained null hypotheses contained control variables.) The following is a matrix summarizing the evidence supporting/not supporting the relationship between employee empowerment and organizational commitment (with control variables).

	Affective	Continuance	Normative
Gestalt	Supported	Supported	Supported
Meaning	Supported	Not Supported	Supported
Competence	Supported	Not Supported	Supported
Self-determination	Supported	Not Supported	Not Supported
Impact	Supported	Supported	Supported

There is evidence supporting the existence of a relationship between empowerment and commitment. Of the thirty hypotheses examined, twenty-six support the existence of a relationship between empowerment and commitment. For the

empowerment gestalt and the empowerment dimension impact there is evidence supporting a relationship between all three dimensions of commitment - affective, continuance, and normative. For all dimensions of empowerment and the gestalt, there is evidence supporting a relationship with affective commitment. Except for self-determination, the same is true for normative commitment (evidence is present supporting a relationship between the gestalt, meaning, competence and impact with normative commitment.) Evidence supporting a relationship between empowerment and continuance commitment is weaker. There is evidence supporting a relationship between the empowerment gestalt and the dimension impact with continuance commitment. However, there is no support for the remaining empowerment dimensions of meaning, competence, and self-determination with continuance commitment.

Intuitively, the lack of evidence supporting a relationship between empowerment and continuance commitment seems appropriate when one examines the definition of the construct. Continuance commitment is defined as an attachment to an organization based on an employee's awareness of the costs associated with discontinuing membership (Becker 1960). The employee is a member of the organization because of need. There is not evidence supporting a relationship between the empowerment dimensions of meaning, competence, and self-determination and continuance commitment. This seems plausible that an employee's level of empowerment is not related to their commitment to an organization based on a need to belong. It seems "empowered" employees remain members of organizations because they want to belong and would have a confidence level that would enable them to leave if they so desired. If a relationship does exist at all between empowerment and continuance commitment, it seems it would be an inverse one.

When summarizing the results of the hypotheses, it is interesting to note the significant interaction effects present. The level of education, gender, and tenure had implications on the relationship between empowerment and commitment. The strongest interaction effects of supported hypotheses will be summarized. The relationship between the gestalt and meaning with affective commitment was stronger for those respondents with some college. The strongest relationship was between meaning and affective commitment. For respondents with some college, 42 percent of the variance in sense of meaning-squared scores can be explained by affective commitment scores. For meaning and normative commitment the relationship was strongest for those with some college and tenure of ≤ six years. For this group, 52 percent of the variance in sense of meaning-squared scores can be explained by normative commitment scores. The relationship between continuance commitment and the gestalt was strongest for males with no college. The relationship between self-determination and affective commitment was strongest for respondents with ≤ six tenure years. For impact and affective commitment the relationship was strongest for females with ≤ six tenure years and for all males. For males, 17 percent of the variance in sense of impact scores, and females with ≤ six tenure years, 28 percent of the variance in sense of impact scores, can be explained by affective commitment scores. The relationship between impact and continuance commitment was strongest for those with tenure of > six years. In summary, the relationship between empowerment and commitment was affected by gender, education, and tenure.

Overall, there is substantial evidence supporting a relationship between empowerment and the affective and normative dimensions of commitment. There is less evidence supporting a relationship between empowerment and continuance commitment.

Recommendations for Future Research

As mentioned previously, minimal empirical research has been conducted to study "employee empowerment," yet this phenomenon is widely promulgated to improve organizational performance. To aid in the pursuit of knowledge derived from empirical examination of the empowerment construct, several recommendations for future research will be suggested. Directions for future research will be discussed by addressing two areas of concern: methodology and theoretical considerations.

Methodology

Methodology will be divided into two areas for discussion. These are: construct definition and measurement, and statistical methods.

Construct Definition and Measurement

The results of this research suggest there is a relationship between empowerment and affective and normative commitment. However, the support for a relationship between empowerment and continuance commitment is weaker. This may be attributed to confusion as to whether continuance commitment is a behavioral or attitudinal construct.

There is some argument by scholars as to whether continuance commitment is a behavioral construct or an attitudinal construct (Ko, 1996). The behavioral approach to commitment examines the process by which individuals are bound to an organization through past behavior and how they adjust to it (Ko, 1996, p.9). Behavioral commitment refers to the person's readiness to respond and tendency to act as a member of the employing organization (Wallace, 1992). Attitudinal commitment refers to the degree to which an employee is emotionally attached to his or her employing organization (Wallace, 1992, p.12). This is in contrast to behavioral commitment which is viewed to be affectively neutral (Mattaz, 1989). Meyer and Allen argue that continuance

commitment represents a component of attitudinal commitment because it emphasizes the awareness or recognition of the costs associated with leaving the organization. However, Becker (1960) defines commitment as a consistent line of activity (i.e., maintaining membership in the organization) and attempts to explain what causes a consistent line of activity, thus focusing mainly on the consistency of behavior.

This research does not attempt resolve this dilemma. In future research, behavioral and attitudinal commitment should be distinguished. According to the results in this study, a relationship between attitudinal commitment and empowerment is overall supported with the exception of continuance commitment. For future research, the researcher recommends utilizing the Organizational Commitment Questionnaire (OCQ), a global measure of organizational commitment that is consistent with the attitudinal approach (Mowday, Steers, and Porter, 1979). This OCQ has sound psychometric properties and also has been widely used in commitment research (Mathieu and Zajac, 1990; Morrow, 1993; Mowday, Steers, and Porter, 1979).

Statistical Methods

With regard to statistical methods for future research, it is important to examine linearity assumptions between constructs, and when necessary, perform appropriate variable transformations prerequisite to utilizing linear regression procedures. This research revealed that the fifteen bivariate relationships between the five empowerment and three commitment variables were, in most cases, nonlinear. This was primarily due to the negative skew of the meaning, competence, self-determination, and gestalt empowerment variables. If linear regression had been performed on the original empowerment variables (except impact), the most important assumption of linearity would have been violated in addition to the violation of other assumptions. An examination of residuals revealed that linear regression on the original variables (except

for impact) violated linear regression assumptions. The linear regression assumptions violated include constant variance of empowerment scores across levels of commitment scores and the normal distribution of errors (equivalently, normality of empowerment scores). Results of studies neglecting to examine linearity assumptions prior to performing linear regression procedures on empowerment need to be interpreted with caution. A majority of research utilizing statistical methods to examine empowerment has been conducted by Spreitzer (1992, 1993, 1996). Results of this research need to be interpreted with caution as linearity assumptions were not tested prior to performing linear regression procedures between empowerment and organizational variables. (It must be noted that Spreitzer's work on developing an empowerment measurement has done much to promote theoretical and empirical research on the empowerment construct.)

In addition to examination of linearity assumptions, it is recommended that a spectrum of organizations be examined in future research in order to enhance generalizability of research conclusions. Data collected to examine empowerment are limited. To expand the knowledge base on empowerment, it is necessary to have a large data base comprised of a wide demographic representation of organizations. A large body of data collected from service, government, manufacturing, and non-profit organizations of various sizes that are geographically dispersed enhances generalizability of conclusions derived from research.

Theoretical Implications

Two theoretical implications are proposed for future research. First is the examination of the relationship between individual empowerment and collective empowerment. Second is the examination of the role trust plays in organizations and how trust is related to organizational dynamics on a macro and micro level.

One theoretical consideration for future research is to examine the relationship between individual empowerment and collective empowerment. Empowerment of a collectivity focuses on the empowerment of people through group membership. Team based structures is a management technique that proposes to empower employees in the workplace. The use of self-directed teams allows a sphere of authority to be delegated so that decisions that apply to work situations can be made effectively. The assumption that empowered teams are comprised of empowered members needs to be examined. It is possible that the more empowered a team is the less empowered its' members may be, in that individuals may feel less autonomy on a team where decision making and responsibilities have to be shared among team members (Kirkman and Rosen, 1999).

Another consideration for future research is to examine the role trust plays in organizations and how trust is related to organizational dynamics. Management systems that empower employees are predicated on the notion that employees are to be trusted. Command and control management systems are based on low trust of employees so firm external control mechanisms are required to insure adherence to performance standards (Guest, 1992). Command and control management systems are being replaced by management systems that are based on high employee trust, and utilize commitment as a form of control. For example, traditional models of authority assume that workers lack the ability for self-direction, find their work distasteful, and are instrumentally motivated. Hence, managers must closely supervise their employees and cannot trust them. In contrast, more human resource models assume that workers can be creative and self-directed, enjoy their work, and motivated by interest in task. In this view, managers need to create an environment in which workers can be trusted (Kramer and Tyler, 1996, p.6).

Management systems of high employee trust are being instituted; yet "organizations have generally experienced declines in their perceived trustworthiness in

the eyes of both employees and the members of other organizations" (Kramer and Tyler, 1996, p.7). Widely publicized organizational practices, such as the high compensation of CEOs (Sheppard, Lewicki, and Minton, 1992) and downsizing (McKinley, Sanchez, and Schick, 1995), are attributed to declining trust. No longer is loyalty fostered through long tenures of employment relationships. Downsizing has compounded the decline in loyalty through corporate America (McKinley, Sanchez, and Schick, 1995). Between 1987 and 1991, more than 85% of the Fortune 1000 corporations downsized their white-collar staffs (Cameron, Freeman, and Mishra, 1991). Downsizing has had negative effects on employee morale, commitment, and work effort (McKinley, Sanshez, and Schick, 1995). Organizational trust of employees is increasing and yet employee trust of organizations is decreasing. The dynamics of organizational trust and implications toward employee empowerment needs to be analyzed in future research.

In summary, several recommendations are proposed for future research. With regard to methodology, behavioral and attitudinal commitment need to be distinguished. The Organizational Commitment Questionnaire is recommended for use. In addition to construct definition and measurement, it is recommended that linearity assumptions be tested, appropriate variable transformations be computed when necessary, and sample variability be increased to improve generalizability. Two theoretical implications are proposed for future research. Further examination of the relationship between individual empowerment and collective empowerment is recommended. Also, research on the role of trust in organizations and how trust is related to organizational dynamics require further examination.

Implications for Management Practices

This research suggests that there is a relationship between employee empowerment and organizational commitment. Implicit in the empowerment literature is

the reliance on employee commitment as a form employee control. An underlying assumption of this research was that empowered organizations substitute commitment as a control mechanism in place of compliance to traditional rules and procedures. To create an empowered organization, managers need to replace compliance based management systems with commitment based management systems.

Blanchard, Carlos, and Randolph (1999) propose three keys to empowerment to facilitate the transformation from a compliance based management system to a commitment based management system. These three keys are: to share information, to create autonomy through boundaries, and to implement self-directed teams.

Sharing information with everyone is the first key to empowerment. Having employees understand the business and its needs is fundamental in allowing employees to make responsible decisions. The sharing of information also allows employees and leaders to begin to trust each other. "When leaders are willing to share whatever information they have - both good and bad - they begin to gain the trust of their people, who then feel included and trusted by leadership" (Blanchard, Carlos, and Randolph, 1999, p.10).

"Working in conjunction with information sharing, the second key to empowerment clarifies the need to create autonomy by establishing boundaries" (Blanchard, Carlos, and Randolph, 1999, p.11). In a command and control management system, rules, procedures, and structure are intended to tell employees what they cannot do. Hierarchical structures introduce a pecking order, the function of which is to police non-compliance and punish those that break the rules. In empowerment, boundaries are intended to establish a framework with which employees can act with autonomy. These "boundaries" often take the form of vision statements, collaborative goals, decision-making rules, and performance management partnerships (Blanchard, Carlos, and

Randolph, 1999). Boundaries begin to replace formalized rules and procedures, thus allowing employees flexibility to act.

The third key to empowerment is to change from a hierarchical structure to a team based structure. Self-directed teams are proposed as a work structure because they are more effective in complex situations, because they allow input from a collection of people, and because they provide a support mechanism (Blanchard, Carlos, and Randolph, 1999). Empowered, self-directed teams "make and implement decisions and are held accountable for results; they do not just recommend ideas" (Blanchard, Carlos, and Randolph, 1999, p.12).

Developing an organization comprised of empowered employees is a journey rather than a destination. It is an evolutionary process reacting to the needs of the organization which, in turn, is constantly being influenced by an ever changing external environment. To maximize organizational performance potential, the performance of each element that comprises an organization must also be maximized. A key to maximizing the potential of the organization's employees may reside within employee empowerment.

APPENDIX A

PARTICIPANT INVITATION LETTER

I am pursuing my Ph.D. at the University of Iowa; and in doing so, I am conducting research regarding the relationship between employee empowerment and employee commitment. This project focuses on concepts associated with worker empowerment and commitment and is based on employees' perceptions of the levels of empowerment and commitment perceived in the work organization. Your participation is critical to the success of this project, and I would appreciate your taking the time to answer all of the questions on the enclosed questionnaire.

All collected data will remain strictly confidential. No respondent will be identified, data will be reported in the aggregate, and questionnaires will be destroyed after analysis. The completion and return of the questionnaire acknowledges your willingness to participate voluntarily and anonymously.

All data will be analyzed and presented to individuals who participate in the survey. Information presented will be reported by work group and includes the average numerical response for each question, for each dimension of employee empowerment, and for each dimension of employee commitment. In addition, each dimension of employee empowerment and employee commitment will be defined and explained.

If you have any questions, please contact me at 319-754-0769. I am grateful to you for your interest and assistance and I look forward to your response.

Sincerely,

Denise Baker
Research Associate

APPENDIX B

SURVEY

Listed below are a number of orientations people can have with respect to their work. Please indicate the extent to which you believe each is true with respect to your work role. There are no right or wrong answers. Please circle one response to each item.

1	2	3	4	5	6	7
Very Strongly Disagree	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Very Strongly Agree

1. The work I do is meaningful.	1	2	3	4	5	6	7
2. The work I do is very important to me.	1	2	3	4	5	6	7
3. My job activities are personally meaningful to me	1	2	3	4	5	6	7
4. I am confident about my ability to do my job.	1	2	3	4	5	6	7
5. I am self-assured about my capability to perform my work	1	2	3	4	5	6	7
6. I have mastered the skills necessary for my job.	1	2	3	4	5	6	7
7. I have significant autonomy in determining how I do my job.	1	2	3	4	5	6	7
8. I can decide on my own how to go about doing my work.	1	2	3	4	5	6	7
9. I have considerable opportunity for independence and freedom in how I do my job.	1	2	3	4	5	6	7
10. My impact on what happens in my department is large.	1	2	3	4	5	6	7
11. I have a great deal of control over what happens in my department.	1	2	3	4	5	6	7
12. I have significant influence over what happens in my department.	1	2	3	4	5	6	7
13. I would be very happy to spend the rest of my career with this organization.	1	2	3	4	5	6	7
14. I really feel as if this organization's problems are my own.	1	2	3	4	5	6	7
15. I do not feel a strong sense of belonging to my organization.	1	2	3	4	5	6	7
16. I do not feel emotionally attached to this organization.	1	2	3	4	5	6	7
17. I do not feel like part of the family at my organization.	1	2	3	4	5	6	7
18. This organization has a great deal of personal meaning for me.	1	2	3	4	5	6	7
19. Right now, staying with my organization is a matter of necessity as much as desire.	1	2	3	4	5	6	7

1	2	3	4	5	6	7
Very Strongly Disagree	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Very Strongly Agree

20. It would be very hard for me to leave my organization right now, even if I wanted to.	1	2	3	4	5	6	7
21. Too much of my life would be disrupted if I decided I wanted to leave my organization now.	1	2	3	4	5	6	7
22. I feel that I have too few options to consider leaving this organization.	1	2	3	4	5	6	7
23. If I had not already put so much of myself into this organization, I might consider working elsewhere.	1	2	3	4	5	6	7
24. One of the few negative consequences of leaving this organization would be the scarcity of available alternatives .	1	2	3	4	5	6	7
25. I do not feel any obligation to remain with my current employer.	1	2	3	4	5	6	7
26. Even if it were to my advantage, I do not feel it would be right to leave my organization now.	1	2	3	4	5	6	7
27. I would feel guilty if I left my organization now.	1	2	3	4	5	6	7
28. This organization deserves my loyalty.	1	2	3	4	5	6	7
29. I would not leave my organization right now because I have a sense of obligation to the people in it.	1	2	3	4	5	6	7
30. I owe a great deal to my organization.	1	2	3	4	5	6	7

Please answer the following questions.

Age (in years) _____

Tenure (Years worked at company) _____

Circle one response for each category.

Gender

1. Female
2. Male

Education

1. Less than high school graduate
2. High school graduate
3. 1-2 years college
4. Associate degree
5. 3-4 years college
6. Bachelors degree
7. Graduate Work
8. Masters degree
9. Doctorate degree

APPENDIX C

TABLES

Table 2. Descriptive Statistics

	Empowerment (dependent) variables				Commitment (independent) variables				Control variables	
	Meaning (n=394)	Competence (n=394)	Self-determination (n=394)	Impact (n=394)	Gestalt (n=394)	Affective (n=394)	Continuance (n=394)	Normative (n=394)	Age (n=315)	Tenure (n=305)
Mean	5.38	6.04	5.49	4.39	5.32	4.24	4.48	3.89	38.77	9.40
Q1	5.00	5.67	5.00	3.67	4.92	3.50	3.83	3.17	30	2
Median	5.67	6.33	5.67	4.33	5.42	4.17	4.50	4.00	38	6
Q3	6.33	7.00	6.33	5.33	5.92	5.00	5.33	4.67	48	15
SD	1.30	1.06	1.19	1.50	0.97	1.22	1.26	1.32	11.15	9.33
Min	1	1	1	1	1	1	1	1	18	0
Max	7	7	7	7	7	7	7	7	65	41

Control Variables

Education (n=359)

value	description	Number	%
1	<H.S. grad	17	4.74
2	H.S. grad	204	56.82
3	1-2 yrs college	80	22.28
4	associate degree	19	5.29
5	3-4 yrs college	13	3.62
6	B.S. degree	11	3.06
7	grad work	3	0.84
8	Masters degree	7	1.95
9	Doctorate degree	5	1.39

Gender (n=351)

value	description	#(%)
1	female	180(51.28)
0	male	171(48.72)

Table 3. Pearson Correlation Coefficients

A. Among untransformed variables

	Empowerment (dependent) variables					Commitment (independent) variables				
Variables	Meaning (n=394)	Competence (n=394)	Self-determination (n=394)	Impact (n=394)	Gestalt (n=394)	Affective (n=394)	Continuance (n=394)	Normative (n=394)	Age (n=315)	(1
Empowerment										
Meaning										
Competence	0.41****									
Self-determination	0.51****	0.65****								
Impact	0.43****	0.25****	0.48****							
Gestalt	0.77****	0.71****	0.84****	0.75****						
Commitment										
Affective	0.45****	-0.01	0.14**	0.36****	0.33****					
Continuance	0.26****	0.26****	0.29****	0.26****	0.35****	0.10*				
Normative	0.50****		0.19***	0.38****	0.39****	0.63****	0.26****			
Control										
Age	0.16**		0.12*	0.12*	0.18**	0.13*				
Tenure	0.13*	0.10	0.16**	0.14*	0.19**	0.07	0.15*	-0.00	0.62****	
Gender		0.19***	0.11*		0.10	-	0.13*	-	0.13*	
Education	-	-0.17**	-0.18***	-0.12*	-0.18***	-0.01	-0.24****	-	-0.03	(

ıles		Control variables		
ve	Age	Tenure	Gender (0:M,1:F)	Education (1:<HS,9:PhD)
4)	(n=315)	(n=305)	(n=351)	(n=359)
	0.62****			
	0.13*	-0.01		
	-0.03	0.01	-0.29****	

Table 3 (continued)

B. Among transformed variables (correlations enclosed in boxes are the same as those for untransformed variables above)

	Meaning squared	Competence cubed	Self-determination squared	Impact	Gestalt squared	Affective	Continuance	Normative	Age	(Te
Empowerment										
(Meaning)2										
(Competence)3	0.29****									
(Self-determination)2	0.45****	0.60****								
Impact	0.41****	0.18***	0.45****							
(Gestalt)2	0.74****	0.61****	0.80****	0.77****						
Commitment										
Affective	0.48****	-	0.12*	0.36****	.36****					
Continuance	0.21****	0.17***	0.25****	0.26****	.31****	0.10*				
Normative	0.49****	0.01	0.15**	0.38****	.40****	0.63****	0.26****			
Control										
Age	0.17**	0.12*	0.13*	0.12*	0.20***	0.13*				
Log(Tenure+1)	0.12*	0.09	0.17**	0.16**	0.20***	0.07	0.14*	-0.03	0.58****	
Gender	-0.00	0.22****	0.13*	0.02	0.11*	-0.06	0.13*	-0.06	0.13*	-(
Education (0, 1)	-0.02	-0.02	-0.09	-0.07	-0.08	0.01	-0.19***	-0.10*	-0.08	-(

*p<.05; **p<.01; ***p<.001; ****p<.0001 for test of hypothesis that population correlation is different from zero.
Note on correlations: age,tenure, n=290; age,gender, n=309; age,educ, n=304; tenure,gender, n=300; tenure,educ, n=296; gender,educ, n=33

med variables above)				Education
Normative	Age	Log (Tenure+1)	Gender	(0 = no college, 1 = some)
-0.03	0.58****			
-0.06	0.13*	-0.09		
-0.10*	-0.08	-0.11	-0.21***	

n zero.
,educ, n=296; gender,educ, n=333.

Table 4. Multiple Correlation Coefficients (R) and Coefficients of Determination (R2) for Transformed Empowerment (Dependent) Variables by Linear, and Statistically Significant ($p<.05$) Second, Third, and Fourth Order Polynomial Functions of the Commitment (Dependent) Variables*

Commitment (Independent) Variables	Empowerment (Dependent Variables) Meaning squared		Competence cubed		Self-determination squared		Impact untransformed		Gestalt squared	
	R	R2	R	R2	R	R2	R	R2	R	R2
Affective										
linear	**0.48**	**0.227**	0.03	0.001	0.12	0.015	**0.36**	**0.127**	**0.36**	**0.129**
X2			**0.21**	**0.043**	**0.21**	**0.045**			0.38	0.146
X3										
X4	0.50	0.250								
Continuance										
linear	**0.21**	**0.045**	**0.17**	**0.028**	**0.25**	**0.064**	**0.26**	**0.067**	**0.31**	**0.096**
X2	0.25	0.064					0.28	0.076		
X3	0.27	0.074							0.34	0.118
X4										
Normative										
linear	0.50	0.251	0.00	0.000	**0.15**	**0.023**	**0.38**	**0.143**	**0.40**	**0.157**
X2	0.51	0.265	**0.20**	**0.042**	0.21	0.046				
X3										
X4							0.41	0.170		

*Bold indicates the type of model chosen. A polynomial model was chosen if it increased the R2 (proportion of variance accounted for) by more than .03 (i.e., 3%) per extra term, over the linear model, and if the model visually fit the graph better

Table 5. Regression Analysis: Gestalt Empowerment-Squared Regressed on Affective Commitment

Model 1. Affective Commitment alone (n=394).

R=0.36 R2=0.13

Independent Variables	Variable Abrev.	Parameter estimates b	se	F value	dfnum	dfden	p-value
intercept		29.577	0.425				
Affective Commitment	C	2.662	0.349	58.26	1	392	<.0001

Model 2. Controling for Log (Tenure+1), Gender, Education (0,1) and significant interactions, using only cases with complete data (n=291)

Overall F test: F=18.49 , df=5 and 285, p<.0001; MSR=949.487 MSE=51.34899

R=0.49 R2=0.24 Adj. R=0.48 Adj. R2=0.23

	Variable Abrev.	Parameter estimates b	se	Partial F test F value	dfnum	dfden	p-value	Partial r	Partial r2
intercept		30.175	0.420						
Affective Commitment	C	2.721	0.346	61.73	1	285	<.0001	0.42	0.18
Log (Tenure+1)	T	1.468	0.412	12.71	1	285	0.0004	0.21	0.04
Gender	G	3.489	0.870	16.07	1	285	<.0001	0.23	0.05
Education (0, 1)*	E	0.858	0.881	0.95	1	285	0.33	0.06	0.00
Interaction	CxE	1.445	0.695	4.33	1	285	0.04	0.12	0.01

*Education: 0=H.S. graduate or less (no college), 1=at least 1 year of college.

Table 6. Regression Analysis: Gestalt Empowerment-Squared Regressed on Continuance Commitment

Model 1. Continuance Commitment alone (n=394).

R= 0.31 R2= 0.10

Independent Variables	Variable Abrev.	Parameter estimates b	se	F value	dfnum	dfden	p-value
intercept		29.372	0.432				
Continuance Commitment	C	2.210	0.342	41.80	1	392	<.0001

Model 2. Controling for Log (Tenure+1), Gender, Education (0,1) and significant interactions, using only cases with complete data (n=291).

Overall F test: F= 5.49 df=8 and 282, p=; p<.0001 MSR=326.681 SE=59.463

R= 0.37 R2= 0.13 Adj. R= 0.33 Adj. R2=0.11

	Variable Abrev.	Parameter estimates b	se	Partial F test F value	dfnum	dfden	p-value	Partial r	Partial r2
Intercept		30.089	0.476						
Continuance Commitment	C	1.484	0.401	13.71	1	282	0.0003	0.22	0.05
Log (Tenure+1)	T	1.315	0.452	8.47	1	282	0.004	0.17	0.03
Gender	G	2.178	0.959	5.15	1	282	0.02	0.13	0.02
Education (0, 1)*	E	0.743	0.977	0.58	1	282	0.45	0.05	0.00
Interaction	GxE	-0.903	1.963	0.21	1	282	0.65	0.03	0.00
Interaction	CxG	-0.507	0.793	0.41	1	282	0.52	0.04	0.00
Interaction	CxE	-2.391	0.786	9.25	1	282	0.003	0.18	0.03
Interaction	CxExG	3.085	1.574	3.84	1	282	0.05	0.12	0.01

*Education: 0=H.S. graduate or less (no college), 1=at least 1 year of college.

Table 7. Regression Analysis: Gestalt Empowerment-Squared Regressed on Normative Commitment

Model 1. Normative Commitment alone (n=394).

R=0.40 R2=0.16

Independent Variables	Variable Abrev.	Parameter estimates b	se	F value	dfnum	dfden	p-value
intercept		29.327	0.417				
Normative Commitment	C	2.690	0.315	72.79	1	392	<.0001

Model 2. Controling for Log (Tenure+1), Gender, Education (0,1) and significant interactions using only cases with complete data (n=291).

Overall F test: F= 21.90 ,df=4 and 286; p<.0001 MSR=1136.045 MSE=51.880

R=0.48 R2=0.23 Adj. R=0.47 Adj. R2=0.22

	Variable Abrev.	Parameter estimates b	se	Partial F test F value	dfnum	dfden	p-value	Partial R	Partial r2
intercept		30.183	0.422						
Normative Commitment	C	2.549	0.320	63.41	1	286	<.0001	0.43	0.18
Log (Tenure+1)	T	1.849	0.412	20.12	1	286	<.0001	0.26	0.07
Gender	G	3.322	0.873	14.49	1	286	0.0002	0.22	0.05
Education (0, 1)*	E	1.553	0.890	3.05	1	286	0.08	0.10	0.01

*Education: 0=H.S. graduate or less (no college), 1=at least 1 year of college.

Table 8. Regression Analysis: Meaning Empowerment-Squared Regressed on Affective Commitment

Model 1. Affective Commitment alone (n=394).

R= 0.48 R2= 0.23

Independent Variables	Variable Abrev.	Parameter estimates b	se	F value	dfnum	dfden	p-value
intercept		31.130	0.544				
Affective Commitment	C	4.790	0.446	115.35	1	392	<.0001

Model 2. Controling for Log (Tenure+1), Gender, Education (0,1) and significant interactions, using only cases with complete data (n=291).

Overall F test: F= 20.83 , df=5 and 285, p<.0001; MSR=2138.439 MSE=102.681

R=0.52 R2=0.27 Adj. R=0.50 Adj. R2=0.25

	Variable Abrev.	Parameter estimates b	se	Partial F test F value	dfnum	dfden	p-value	Partial r	Partial r2
intercept		31.853	0.594						
Affective Commitment	C	4.642	0.490	89.75	1	285	<.0001	0.49	0.24
Log (Tenure+1)	T	0.917	0.582	2.48	1	285	0.12	0.09	0.01
Gender	G	2.000	1.231	2.64	1	285	0.11	0.10	0.01
Education (0, 1)*	E	0.967	1.245	0.60	1	285	0.44	0.05	0.00
Interaction	CxE	2.502	0.982	6.49	1	285	0.01	0.15	0.02

*Education: 0=H.S. graduate or less (no college), 1=at least 1 year of college.

Table 9. Regression Analysis: Meaning Empowerment-Squared Regressed on Continuance Commitment

Model 1. Continuance Commitment alone (n=394).

R= 0.22 R2= 0.05

Independent Variables	Variable Abrev.	Parameter estimates b	se	F value	dfnum	dfden	p-value
intercept		30.681	0.603				
Continuance Commitment	C	2.057	0.477	18.60	1	392	<.0001

Model 2. Controling for Log (Tenure+1), Gender, Education (0,1) and significant interactions, using only cases with complete data (n=291).

Overall F test: F= 2.16 df=15 and 275, p=.008; MSR=281.031 MSE=129.966

R=0.33 R2=0.11 Adj. R=0.24 Adj. R2=0.06

	Variable Abrev.	Parameter estimates b	se	Partial F test F value	dfnum	dfden	p-value	Partial r	Partial r2
intercept		32.229	0.744						
Continuance Commitment	C	1.172	0.646	3.29	1	275	0.07	0.10	0.01
Log (Tenure+1)	T	0.164	0.737	0.05	1	275	0.82	0.01	0.00
Gender	G	-0.258	1.492	0.03	1	275	0.86	0.01	0.00
Education (0, 1)*	E	0.232	1.523	0.02	1	275	0.88	0.01	0.00
Interaction	TxG	2.590	1.467	3.12	1	275	0.08	0.10	0.01
Interaction	TxE	0.575	1.473	0.15	1	275	0.70	0.02	0.00
Interaction	GxE	0.214	3.063	0.00	1	275	0.94	0.00	0.00
Interaction	CxT	-1.191	0.625	3.63	1	275	0.06	0.11	0.01
Interaction	CxG	-0.917	1.291	0.50	1	275	0.48	0.04	0.00
Interaction	CxE	-3.786	1.298	8.51	1	275	0.004	0.17	0.03
Interaction	ExGxT	-2.415	2.942	0.67	1	275	0.41	0.05	0.00
Interaction	CxExG	6.043	2.602	5.39	1	275	0.02	0.14	0.02
Interaction	CxExT	1.074	1.218	0.78	1	275	0.38	0.05	0.00
Interaction	CxGxT	1.766	1.239	2.03	1	275	0.16	0.09	0.01
Interaction	CxExGxT	-5.574	2.425	5.28	1	275	0.02	0.14	0.02

*Education: 0=H.S. graduate or less (no college), 1=at least 1 year of college.

Table 10. Regression Analysis: Meaning Empowerment-Squared Regressed on Normative Commitment

Model 1. Normative Commitment alone (n=394).

R= 0.49 R2= 0.24

Independent Variables	Variable Abrev.	Parameter estimates b	se	F value	dfnum	dfden	p-value
intercept		30.675	0.539				
Normative Commitment	C	4.486	0.408	120.90	1	392	<.0001

Model 2. Controling for Log (Tenure+1), Gender, Education (0,1) and significant interactions, using only cases with complete data (n=291).

Overall F test: F= 7.92 df=15 and 275, p<.0001; MSR=803.669 MSE=101.459

R=0.55 R2=0.30 Adj. R=0.51 Adj. R2=0.26

	Variable Abrev.	Parameter estimates b	se	Partial F test F value	dfnum	dfden	p-value	Partial r	Partial r2
intercept		31.487	0.672						
Normative Commitment	C	3.907	0.543	51.77	1	275	<.0001	0.40	0.16
Log (Tenure+1)	T	1.463	0.658	4.94	1	275	0.03	0.13	0.02
Gender	G	1.348	1.351	1.00	1	275	0.32	0.06	0.00
Education (0, 1)*	E	1.310	1.413	0.86	1	275	0.35	0.06	0.00
Interaction	TxG	-0.533	1.313	0.16	1	275	0.69	0.02	0.00
Interaction	TxE	-0.620	1.349	0.21	1	275	0.65	0.03	0.00
Interaction	GxE	-2.009	2.851	0.50	1	275	0.48	0.04	0.00
Interaction	CxT	-1.044	0.498	4.39	1	275	0.04	0.13	0.02
Interaction	CxG	-1.352	1.094	1.53	1	275	0.22	0.07	0.01
Interaction	CxE	0.080	1.149	0.00	1	275	0.94	0.00	0.00
Interaction	ExGxT	-0.570	2.703	0.04	1	275	0.83	0.01	0.00
Interaction	CxExG	-1.186	2.326	0.26	1	275	0.61	0.03	0.00
Interaction	CxExT	-1.277	1.022	1.56	1	275	0.21	0.07	0.01
Interaction	CxGxT	1.945	0.998	3.80	1	275	0.05	0.12	0.01
Interaction	CxExGxT	-4.844	2.055	5.56	1	275	0.02	0.14	0.02

*Education: 0=H.S. graduate or less (no college), 1=at least 1 year of college.

Table 11. Regression Analysis: Competence Empowerment-Cubed Regressed on Affective Commitment (with quadratic term)

Model 1. Affective Commitment alone (n=394).

R= 0.21 R2= 0.04

Independent Variables	Variable Abrev.	Parameter estimates b	se	F value	dfnum	dfden	p-value
intercept		225.994	5.441				
Affective Commitment	C	1.660	3.868				
Affective Commitment Squared	C2	8.658	2.088	8.85	2	391	0 0002

Model 2. Controling for Log (Tenure+1), Gender, Education (0,1) and significant interactions, using only cases with complete data (n=291).

Overall F test: F= 7.19 df=5 and 285,p<.0001 MSR=48493.000 MSE=6748.191

R=0.33 R2=0.11 Adj. R=0.31 Adj. R2=0.10

	Variable Abrev.	Parameter estimates b	se	Partial F test F value	dfnum	dfden	p-value	Partial r	Partial r2
intercept		232.033	5.835						
Affective Commitment	C	3.358	4.000						
Affective Commitment Squared	C2	6.922	2.201	5.06	2	285	0.007	0.19	0.04
Log (Tenure+1)	T	10.390	4.735	4.81	1	285	0.03	0.13	0.02
Gender	G	46.108	9.998	21.27	1	285	<.0001	0.26	0.07
Education (0, 1)*	E	13.334	10.105	1.74	1	285	0.19	0.08	0.01

*Education: 0=H.S. graduate or less (no college), 1=at least 1 year of college.

Table 12. Regression Analysis: Competence Empowerment-Cubed Regressed on Continuance Commitment

Model 1. Continuance Commitment alone (n=394).

R= 0.17 R2= 0.03

Independent Variables	Variable Abrev.	Parameter estimates b	se	F value	dfnum	dfden	p-value
intercept		239.207	4.558				
Continuance Commitment	C	12.232	3.608	11.49	1	392	0.0008

Model 2. Controling for Log (Tenure+1), Gender, Education (0,1) and significant interactions, using only cases with complete data (n=291)

Overall F test: F= 6.72 df=4 and 286,p<.0001 MSR=46526.000 MSE=6921.659

R=0.30 R2=0.09 Adj. R=0.26 Adj. R2=0.07

	Variable Abrev.	Parameter estimates b	se	Partial F test F value	dfnum	dfden	p-value	Partial r	Partial r2
intercept		242.395	4.877						
Continuance Commitment	C	5.361	4.137	1.68	1	286	0.20	0.08	0.01
Log (Tenure+1)	T	8.029	4.797	2.80	1	286	0.10	0.10	0.01
Gender	G	47.057	10.114	21.65	1	286	<.0001	0.27	0.07
Education (0, 1)*	E	16.200	10.288	2.48	1	286	0.12	0.09	0.01

*Education: 0=H.S. graduate or less (no college), 1=at least 1 year of college.

Table 13. Regression Analysis: Competence Empowerment-Cubed Regressed on Normative Commitment (with quadratic term)

Model 1. Normative Commitment alone (n=394).

R=0.20 R2=0.04

Independent Variables	Variable Abrev.	Parameter estimates b	se	F value	dfnum	dfden	p-value
intercept		225.095	5.607				
Normative Commitment	C	1.531	3.438				
Normative Commitment Squared	C2	7.790	1.893	8.47	2	391	0.0002

Model 2. Controling for Log (Tenure+1), Gender, Education (0,1) and significant interactions,using only cases with complete data (n=291).

Overall F test: F= 10.10 df=5 and 285, p<.0001 MSR=65174.000 MSE=6455.539

R=0.39 R2=0.15 Adj. R=0.37 Adj. R2=0.14

	Variable Abrev.	Parameter estimates b	se	Partial F test F value	dfnum	dfden	p-value	Partial r	Partial r2
intercept		225.747	5.834						
Normative Commitment	C	3.158	3.602						
Normative Commitment Squared	C2	9.424	1.949	11.67	2	285	<.0001	0.29	0.08
Log (Tenure+1)	T	13.401	4.688	8.17	1	285	0.005	0.17	0.03
Gender	G	49.389	9.736	25.73	1	285	<.0001	0.29	0.08
Education (0, 1)*	E	13.840	9.930	1.94	1	285	0.16	0.08	0.01

*Education: 0=H.S. graduate or less (no college), 1=at least 1 year of college.

Table 14. Regression Analysis: Self-determination Empowerment-Squared Regressed on Affective Commitment (with quadratic term)

Model 1. Affective Commitment alone (n=394).

R= 0.21 R2= 0.04

Independent Variables	Variable Abrev.	Parameter estimates b	se	F value	dfnum	dfden	p-value
intercept		30.333	0.681				
Affective Commitment	C	1.625	0.484				
Affective Commitment Squared	C2	0.909	0.261	9.20	2	391	0.0001

Model 2. Controling for Log (Tenure+1), Gender, Education (0,1) and significant interactions, using only cases with complete data (n=291).

Overall F test: F= 8.40 df=6 and 284,p=<.0001 MSR=791.577 MSE=94.216

R=0.39 R2=0.15 Adj. R=0.36 Adj. R2=0.13

	Variable Abrev.	Parameter estimates b	se	Partial F test F value	dfnum	dfden	p-value	Partial r	Partial r2
intercept		30.635	0.690						
Affective Commitment	C	1.300	0.479						
Affective Commitment Squared	C2	1.112	0.265	11.47	2	284	<.0001	0.24	0.06
Log (Tenure+1)	T	1.918	0.560	11.73	1	284	0.0007	0.20	0.04
Gender	G	3.447	1.181	8.52	1	284	0.004	0.17	0.03
Education (0, 1)*	E	0.269	1.197	0.05	1	284	0.82	0.01	0.00
Interaction	CxT	-1.494	0.444	11.32	1	284	0.0009	0.20	0.04

*Education: 0=H.S. graduate or less (no college), 1=at least 1 year of college.

Table 15. Regression Analysis: Self-determination Empowerment-Squared Regressed on Continuance Commitment

Model 1. Continuance Commitment alone (n=394).

R=0.25 R2=0.06

Independent Variables	Variable Abrev.	Parameter estimates b	se	F value	dfnum	dfden	p-value
intercept		31.600	0.561				
Continuance Commitment	C	2.297	0.444	26.78	1	392	<.0001

Model 2. Controling for Log (Tenure+1), Gender, Education (0,1) and significant interactions, using only cases with complete data (n=291).

Overall F test: F=3.85 df=8 and 282, p=.0003; MSR=387.911 MSE=100.722

R=0.31 R2=0.10 Adj. R=0.27 Adj. R2=0.07

	Variable Abrev.	Parameter estimates b	se	Partial F test F value	dfnum	dfden	p-value	Partial r	Partial r2
intercept		32.015	0.601						
Continuance Commitment	C	0.975	0.511	3.64	1	282	0.06	0.11	0.01
Log (Tenure+1)	T	1.490	0.580	6.59	1	282	0.01	0.15	0.02
Gender	G	3.235	1.259	6.60	1	282	0.01	0.15	0.02
Education (0, 1)*	E	1.256	1.256	1.00	1	282	0.32	0.06	0.00
Interaction	TxE	-0.039	1.182	0.00	1	282	0.97	0.00	0.00
Interaction	CxT	-0.082	0.444	0.03	1	282	0.85	0.01	0.00
Interaction	CxE	-1.840	1.024	3.23	1	282	0.07	0.11	0.01
Interaction	CxExT	-2.160	0.889	5.90	1	282	0.02	0.14	0.02

*Education: 0=H.S. graduate or less (no college), 1=at least 1 year of college.

Table 16. Regression Analysis: Self-determination Empowerment-Squared Regressed on Normative Commitment

Model 1. Normative Commitment alone (n=394).

R=0.15 R2=0.02

Independent Variables	Variable Abrev.	Parameter estimates b	se	F value	dfnum	dfden	p-value
intercept		31.527	0.572				
Normative Commitment	C	1.316	0.433	9.24	1	392	0.003

Model 2. Controling for Log (Tenure+1), Gender, Education (0,1) and significant interactions, using only cases with complete data (n=291

Overall F test: F= 4.62 df=8 and 282, p= ; p=<.0001; MSR=456.019 MSE=98.790

R=0.34 R2=0.12 Adj. R=0.30 Adj. R2=0.09

	Variable Abrev.	Parameter estimates b	se	Partial F test F value	dfnum	dfden	p-value	Partial r	Partial r2
intercept		31.838	0.595						
Normative Commitment	C	0.737	0.465	2.51	1	282	0.11	0.09	0.01
Log (Tenure+1)	T	1.583	0.584	7.34	1	282	0.007	0.16	0.03
Gender	G	3.804	1.225	9.65	1	282	0.002	0.18	0.03
Education (0, 1)*	E	0.313	1.252	0.06	1	282	0.80	0.01	0.00
Interaction	TxE	-0.690	1.199	0.33	1	282	0.57	0.03	0.00
Interaction	CxT	-1.109	0.419	7.00	1	282	0.009	0.15	0.02
Interaction	CxE	-1.205	0.939	1.64	1	282	0.20	0.08	0.01
Interaction	CxExT	-1.823	0.837	4.75	1	282	0.03	0.13	0.02

*Education: 0=H.S. graduate or less (no college), 1=at least 1 year of college.

Table 17. Regression Analysis: Impact Empowerment Regressed on Affective Commitment

Model 1. Affective Commitment alone (n=394).

R= 0.36 R2= 0.13

Independent Variables	Variable Abrev.	Parameter estimates b	se	F value	dfnum	dfden	p-value
intercept		4.435	0.071				
Affective Commitment	C	0.440	0.058	57.29	1	392	<.0001

Model 2. Controling for Log (Tenure+1), Gender, Education (0,1) and significant interactions, using only cases with complete data (n=291).

Overall F test: F= 8.37 df=8 and 282; p<.0001 p<.0001 MSR=14.142 MSE=1.690

R=0.44 R2=0.19 Adj. R=0.41 Adj. R2=0.17

	Variable Abrev.	Parameter estimates b	se	Partial F test F value	dfnum	dfden	p-value	Partial r	Partial r2
intercept		4.533	0.077						
Affective Commitment	C	0.422	0.065	42.48	1	282	<.0001	0.36	0.13
Log (Tenure+1)	T	0.171	0.075	5.10	1	282	0.02	0.13	0.02
Gender	G	0.255	0.158	2.59	1	282	0.11	0.10	0.01
Education (0, 1)*	E	0.070	0.162	0.19	1	282	0.67	0.03	0.00
Interaction	TxG	0.264	0.151	3.06	1	282	0.08	0.10	0.01
Interaction	CxT	-0.004	0.060	0.00	1	282	0.95	0.00	0.00
Interaction	CxG	-0.102	0.129	0.62	1	282	0.43	0.05	0.00
Interaction	CxGxT	-0.359	0.118	9.20	1	282	0.003	0.18	0.03

*Education: 0=H.S. graduate or less (no college), 1=at least 1 year of college.

Table 18. Regression Analysis: Impact Empowerment Regressed on Continuance Commitment

Model 1. Continuance Commitment alone (n=394).

R=0.26 R2=0.07

Independent Variables	Variable Abrev.	Parameter estimates b	se	F value	dfnum	dfden	p-value
intercept		4.399	0.073				
Continuance Commitment	C	0.306	0.058	28.09	1	392	<.0001

Model 2. Controling for Log (Tenure+1), Gender, Education (0,1) and significant interactions, using only cases with complete data (n=291).

Overall F test: F= 6.67 ,df=5 and 285, p<.001 MSR=12.356 MSE=1.853

R=0.32 R2=0.10 Adj. R=0.30 Adj. R2=0.09

	Variable Abrev.	Parameter estimates b	se	Partial F test F value	dfnum	dfden	p-value	Partial r	Partial r2
intercept		4.479	0.080						
Continuance Commitment	C	0.202	0.068	8.86	1	285	0.003	0.17	0.03
Log (Tenure+1)	T	0.183	0.079	5.41	1	285	0.02	0.14	0.02
Gender	G	0.063	0.165	0.14	1	285	0.71	0.02	0.00
Education (0, 1)*	E	0.063	0.168	0.14	1	285	0.71	0.02	0.00
Interaction	CxT	0.232	0.059	15.68	1	285	<.0001	0.23	0.05

*Education: 0=H.S. graduate or less (no college), 1=at least 1 year of college.

Table 19. Regression Analysis: Impact Empowerment Regressed on Normative Commitment

Model 1. Normative Commitment alone (n=394).

R=0.38 R2=0.14

Independent Variables	Variable Abrev.	Parameter estimates b	se	F value	dfnum	dfden	p-value
intercept		4.394	0.070				
Normative Commitment	C	0.428	0.053	65.48	1	392	<.0001

Model 2. Controling for Log (Tenure+1), Gender, Education (0,1) and significant interactions, using only cases with complete data (n=291).

Overall F test: F= 13.46 df=4 and 286; p<.0001 MSR=23.362 MSE=1.736

R=0.40 R2=0.16 Adj. R=0.38 Adj. R2=0.15

	Variable Abrev.	Parameter estimates b	se	Partial F test F value	dfnum	dfden	p-value	Partial r	Partial r2
intercept		4.519	0.077						
Normative Commitment	C	0.391	0.059	44.53	1	286	<.0001	0.37	0.13
Log (Tenure+1)	T	0.256	0.075	11.52	1	286	0.0008	0.20	0.04
Gender	G	0.198	0.160	1.55	1	286	0.21	0.07	0.01
Education (0, 1)*	E	0.136	0.163	0.69	1	286	0.41	0.05	0.00

*Education: 0=H.S. graduate or less (no college), 1=at least 1 year of college.

Table 20. Examination of the Four Significant 2-way Interactions

A. Pearson Correlation Coefficients (r) between Affective Commitment and Gestalt Empowerment-Squared.

Education=0 (No college)	Education=1 (Some college)
(n=170)	(n=121)
0.33****	0.53***

B. Pearson Correlation Coefficients (r) between Affective Commitment and Meaning Empowerment-Squared.

Education=0 (No college)	Education=1 (Some college)
(n=170)	(n=121)
0.37****	0.65****

C. Pearson Correlation Coefficients (r) between Affective Commitment and Self-determination Empowerment-Squared.

Tenure LE 6 yrs	Tenure GT 6 yrs
(n=152)	(n=139)
0.28***	-0.03

D. Pearson Correlation Coefficients (r) between Continuance Commitment and Impact Empowerment-Squared.

Tenure LE 6 yrs	Tenure GT 6 yrs
(n=152)	(n=139)
-0.04	0.41****

*p<.05; **p<.01; ***p<.001; ****p<.0001 for test of hypothesis that population correlation is different from zero.

Table 21. Examination of the Four Significant 3-way Interactions

A. Pearson Correlation Coefficients (r) between Continuance Commitment and Gestalt Empowerment-Squared.

Gender=0 (Male)		Gender=1 (Female)	
Education=0 (No college)	Education=1 (Some college)	Education=0 (No college)	Education=1 (Some college)
(n=72)	(n=78)	(n=98)	(n=43)
0.49****	-0.07	0.22*	0.14

b

B. Pearson Correlation Coefficients (r) between Continuance Commitment and Self-determination Empowerment-Squared.

Education=0 (No college)		Education=1 (Some college)	
Tenure LE 6 yrs	Tenure GT 6 yrs	Tenure LE 6 yrs	Tenure GT 6 yrs
(n=82)	(n=88)	(n=70)	(n=51)
0.13	0.36***	0.05	-0.05

C. Pearson Correlation Coefficients (r) between Normative Commitment and Self-determination Empowerment-Squared.

Education=0 (No college)		Education=1 (Some college)	
Tenure LE 6 yrs	Tenure GT 6 yrs	Tenure LE 6 yrs	Tenure GT 6 yrs
(n=82)	(n=88)	(n=70)	(n=51)
0.24*	0.10	0.31*	-0.28*

D. Pearson Correlation Coefficients (r) between Affective Commitment and Impact Empowerment.

Gender=0 (Male)		Gender=1 (Female)	
Tenure LE 6 yrs	Tenure GT 6 yrs	Tenure LE 6 yrs	Tenure GT 6 yrs
(n=73)	(n=77)	(n=79)	(n=62)
0.31**	0.41***	0.53****	0.14

*p<.05; **p<.01; ***p<.001; ****p<.0001 for test of hypothesis that population correlation is different from zero.

Table 22. Examination of the Two Significant 4-way Interactions

A. Pearson Correlation Coefficients (r) between Continuance Commitment and Meaning Empowerment Squared.

Gender=0 (Male)				Gender=1 (Female)			
Education=0 (no college)		Education=1 (some college)		Education=0 (no college)		Education=1 (some college)	
tenure LE 6 yrs (n=36)	tenure GT 6 yrs (n=36)	tenure LE 6 yrs (n=37)	tenure GT 6 yrs (n=41)	tenure LE 6 yrs (n=46)	tenure GT 6 yrs (n=52)	tenure LE 6 yrs (n=33)	tenure GT 6 yrs (n=10)
0.57***	0.31	-0.26	-0.20	0.03	0.20	0.18	-0.07

B. Pearson Correlation Coefficients (r) between Normative Commitment and Meaning Empowerment Squared.

Gender=0 (Male)				Gender=1 (Female)			
Education=0 (no college)		Education=1 (some college)		Education=0 (no college)		Education=1 (some college)	
tenure LE 6 yrs (n=36)	tenure GT 6 yrs (n=36)	tenure LE 6 yrs (n=37)	tenure GT 6 yrs (n=41)	tenure LE 6 yrs (n=46)	tenure GT 6 yrs (n=52)	tenure LE 6 yrs (n=33)	tenure GT 6 yrs (n=10)
0.62****	0.39*	0.72****	0.42**	0.31*	0.37**	0.72****	0.14

*p<.05; **p<.01; ***p<.001; ****p<.0001 for test of hypothesis that population correlation is different from zero.

APPENDIX D

FIGURES

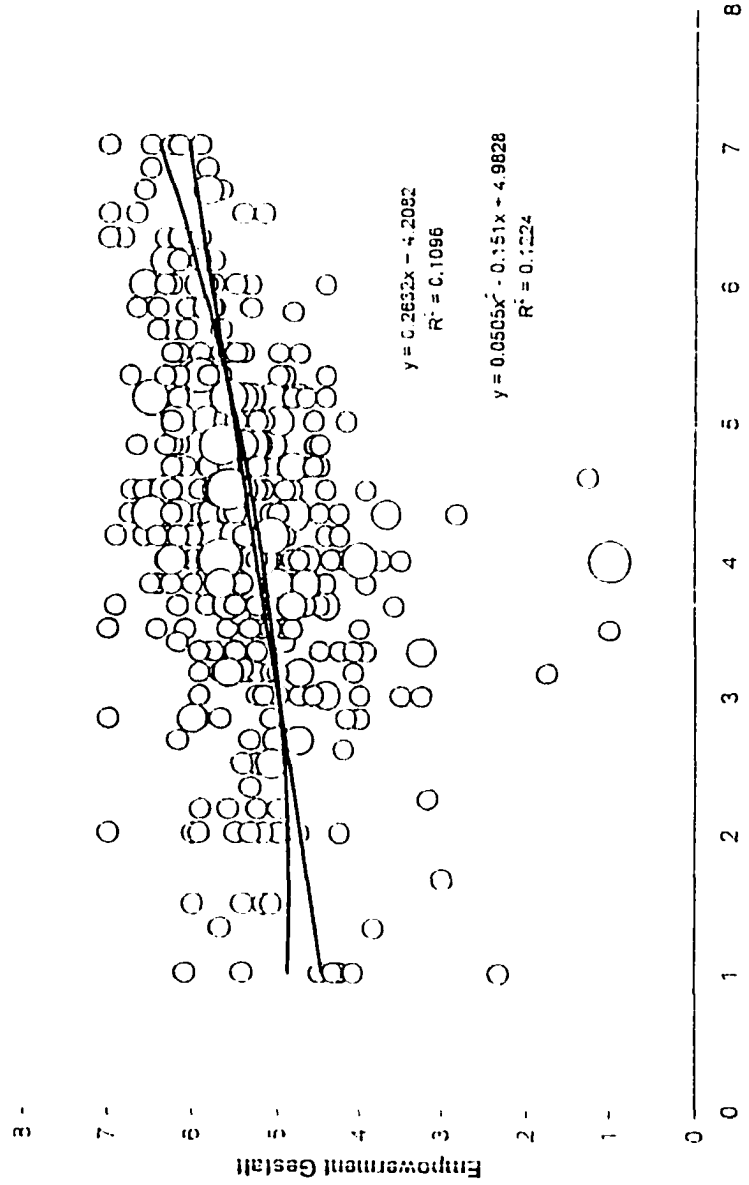

Figure 3. Empowerment Gestalt by Affective Commitment

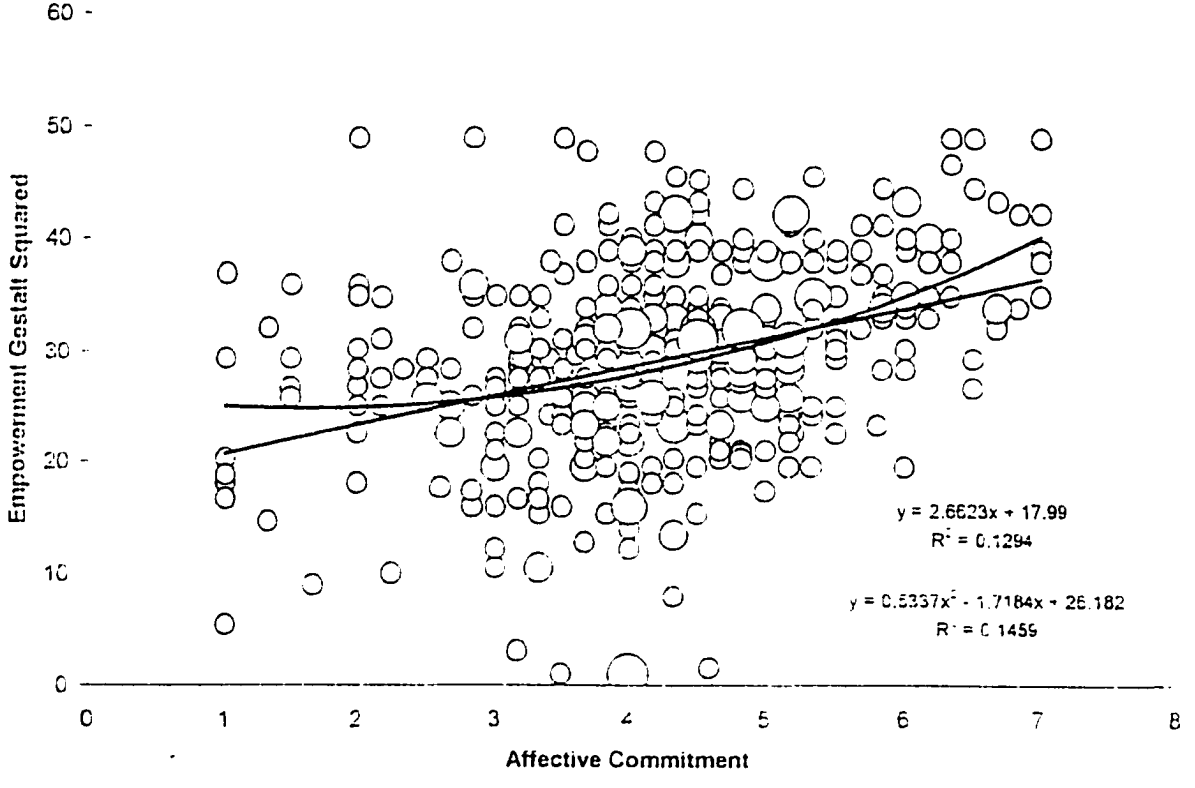

Figure 4. Empowerment Gestalt Squared by Affective Commitment

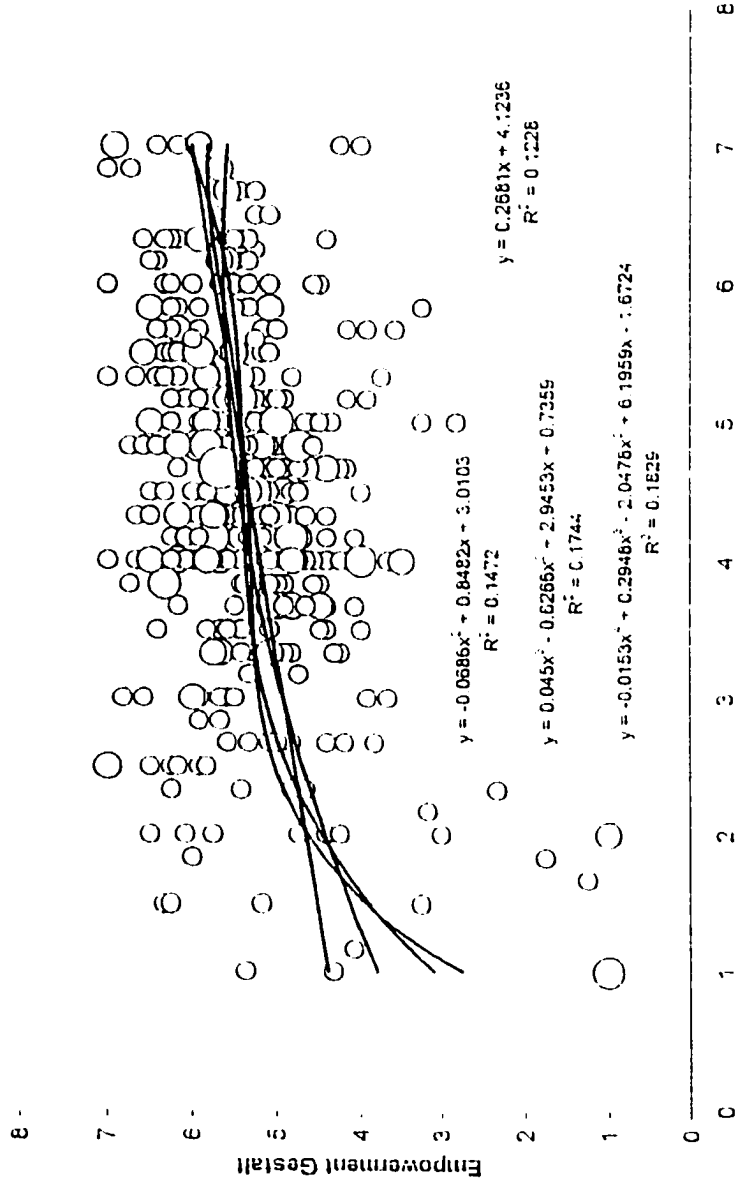

Figure 5. Empowerment Gestalt by Continuance Commitment

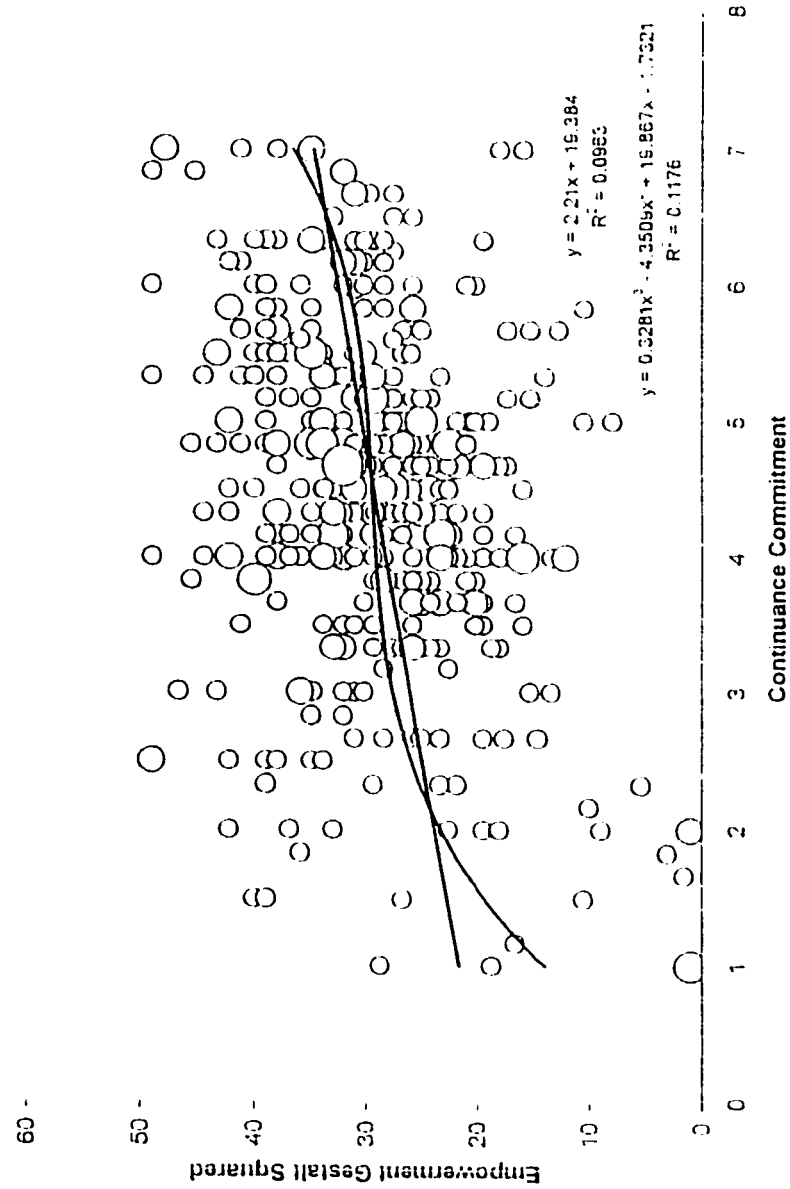

Figure 6. Empowerment Gestalt Squared by Continuance Commitment

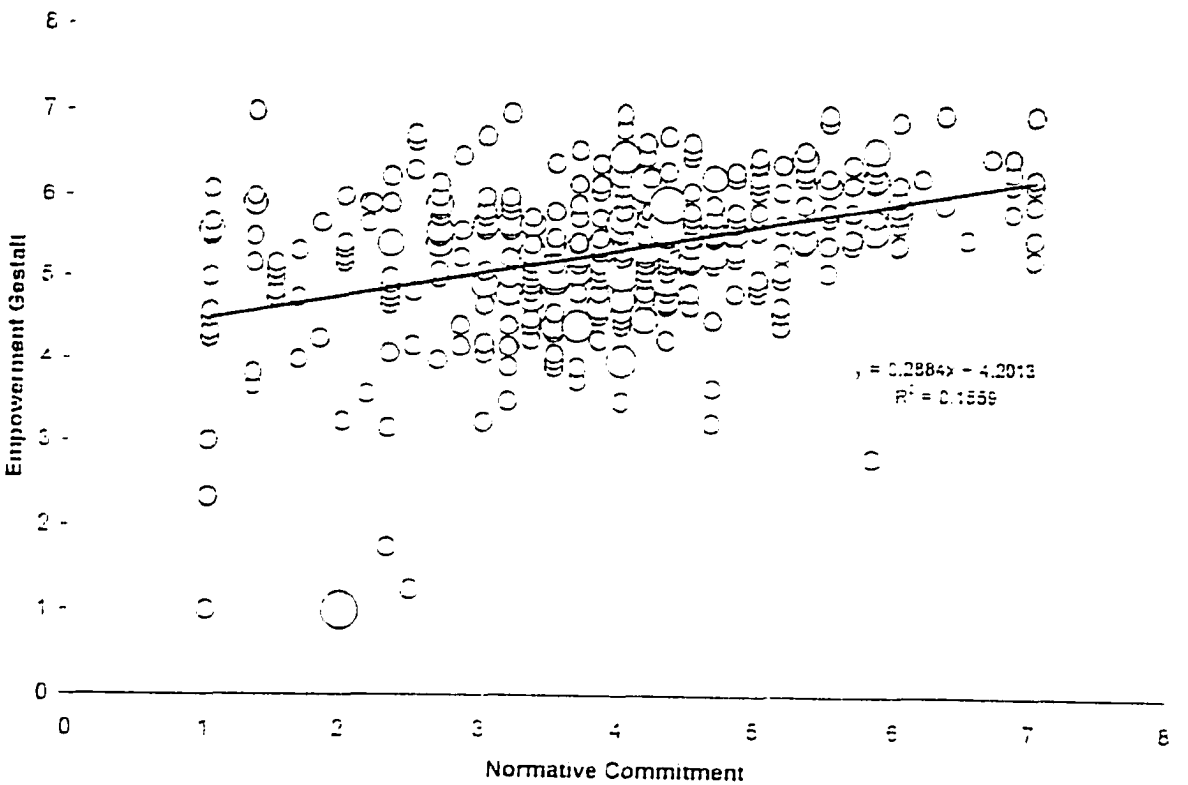

Figure 7. Empowerment Gestalt by Normative Commitment

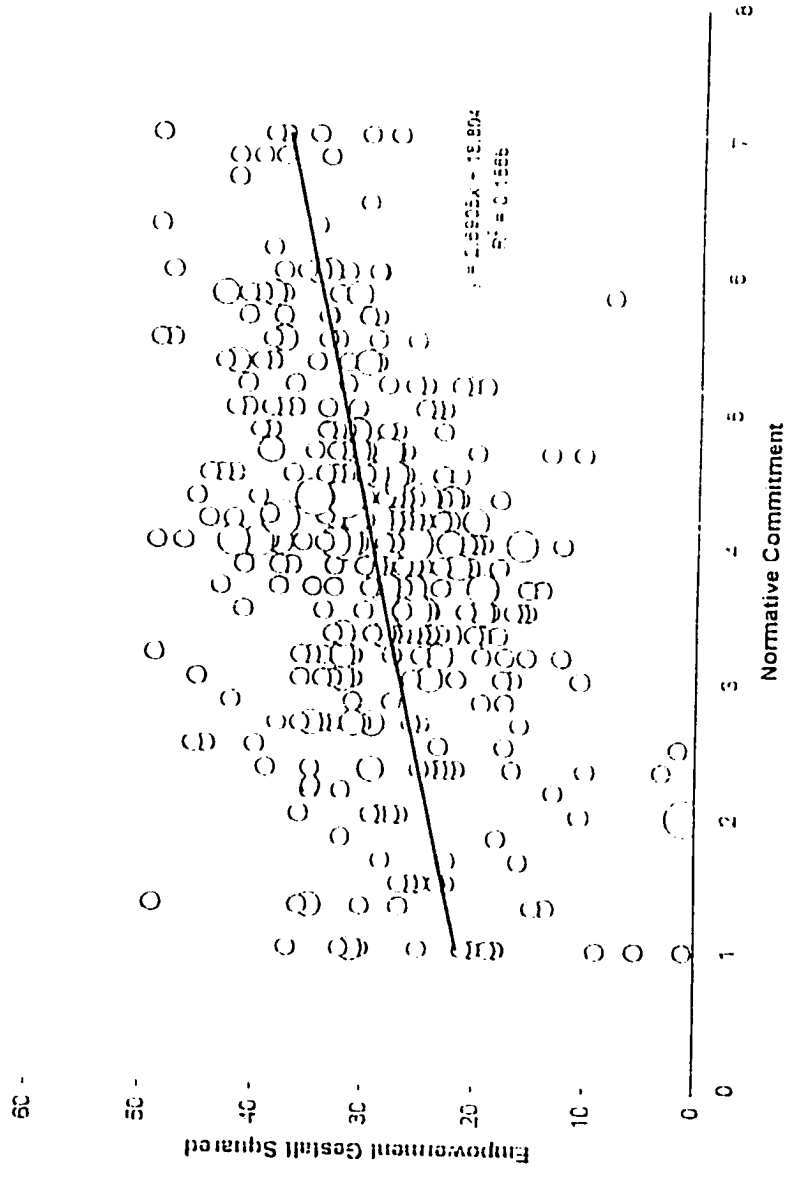

Figure 8. Empowerment Gestalt Squared by Normative Commitment

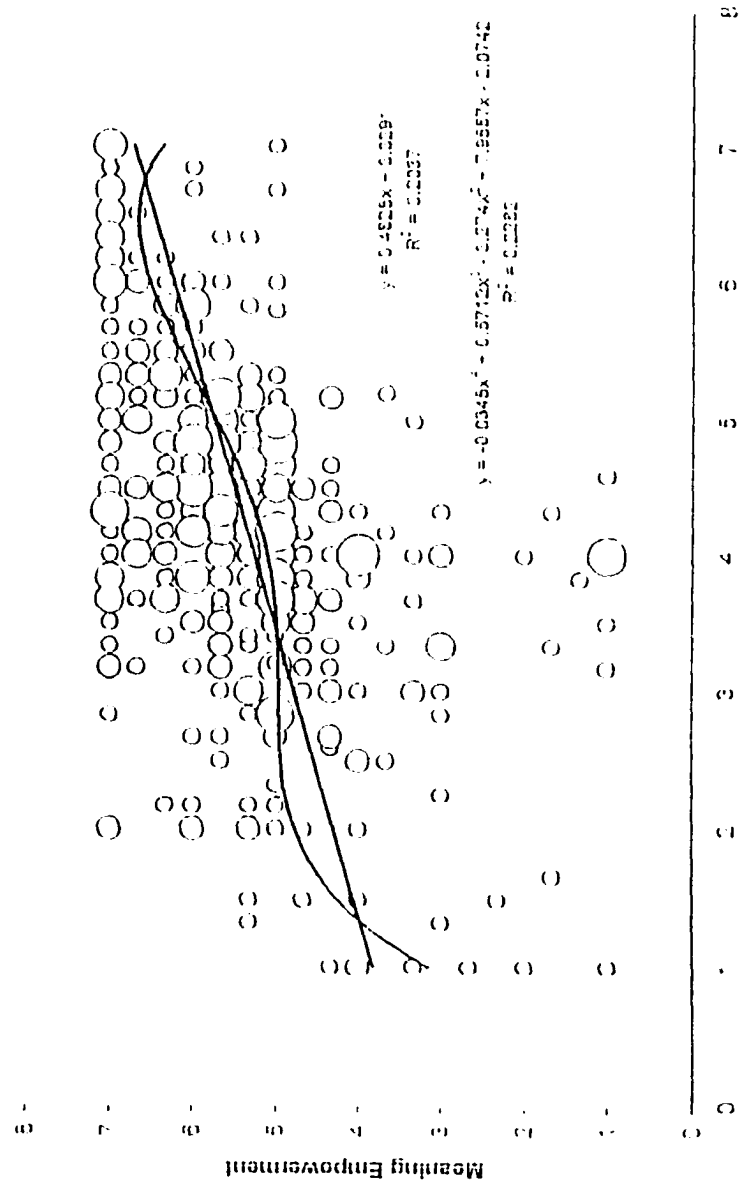

Figure 9. Meaning Empowerment by Affective Commitment

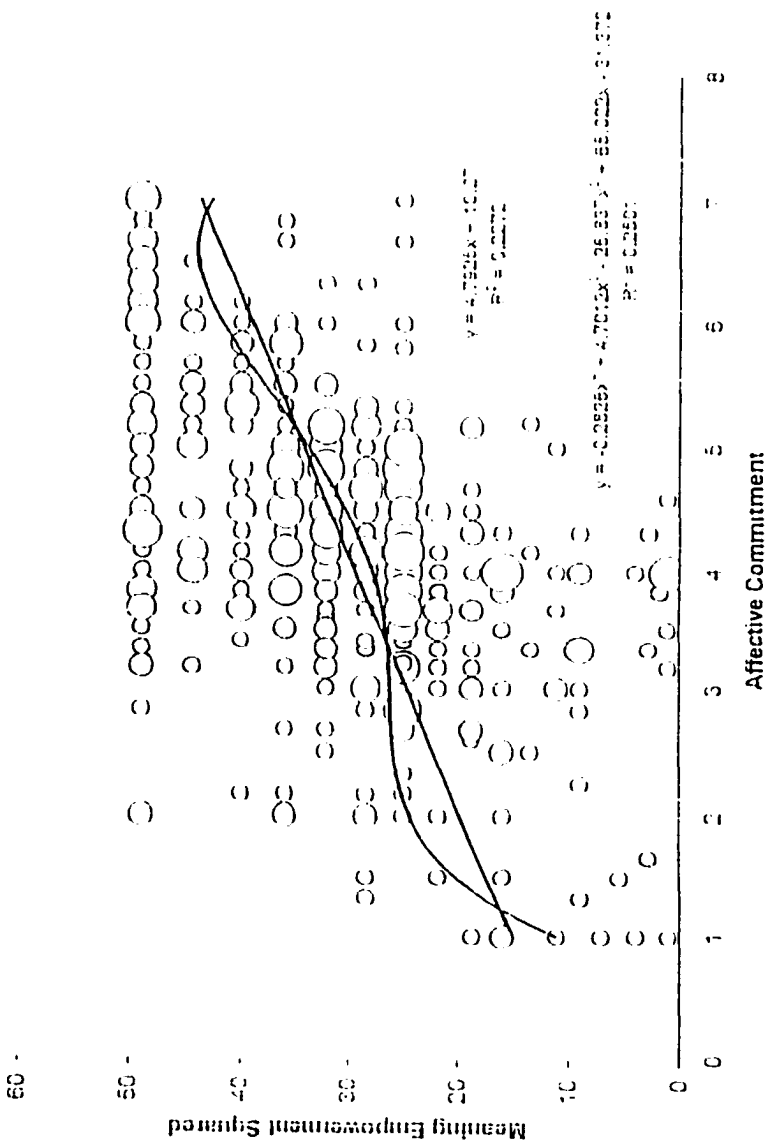

Figure 10. Meaning Empowerment Squared by Affective Commitment

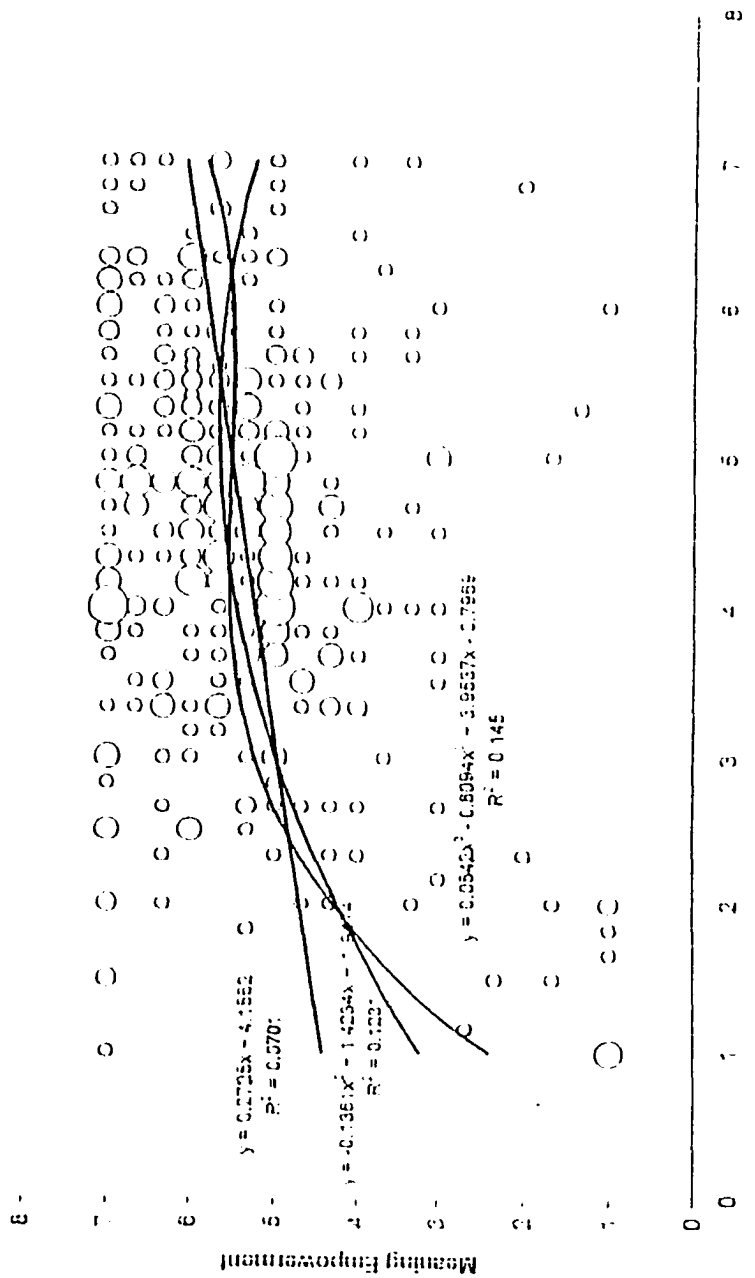

Figure 11. Meaning Empowerment by Continuance Commitment

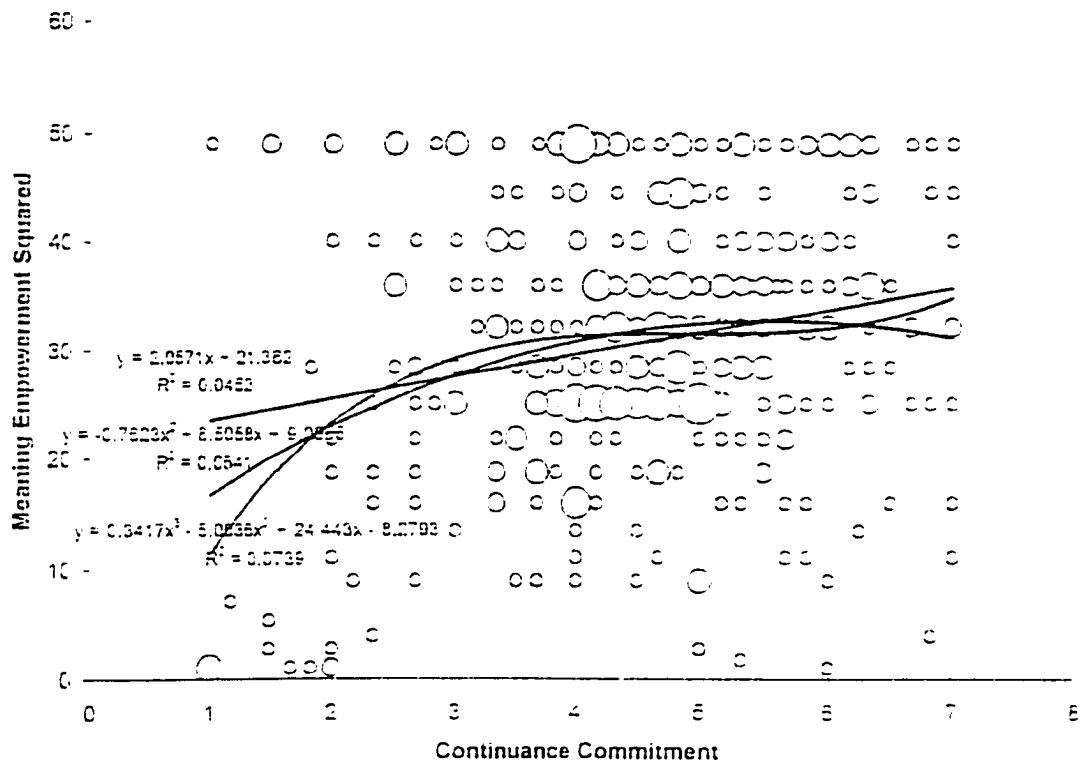

Figure 12. Meaning Empowerment Squared by Continuance Commitment

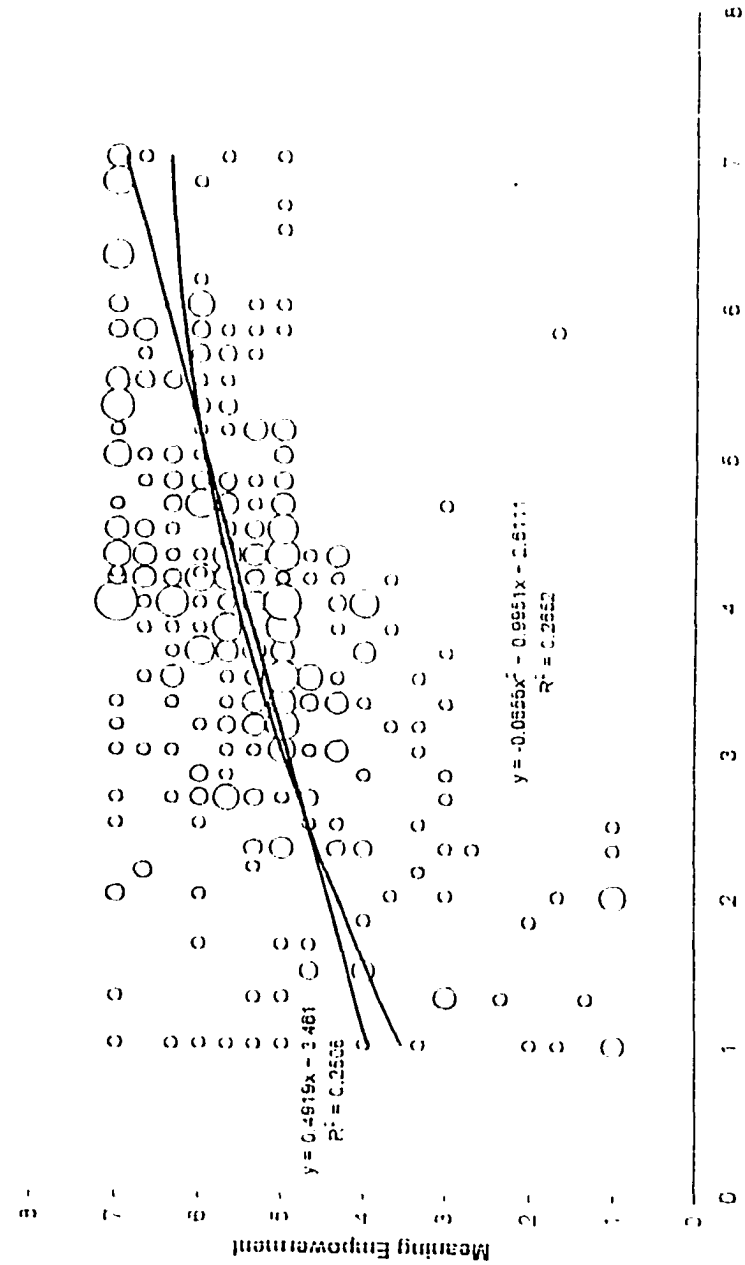

Figure 13. Meaning Empowerment by Normative Commitment

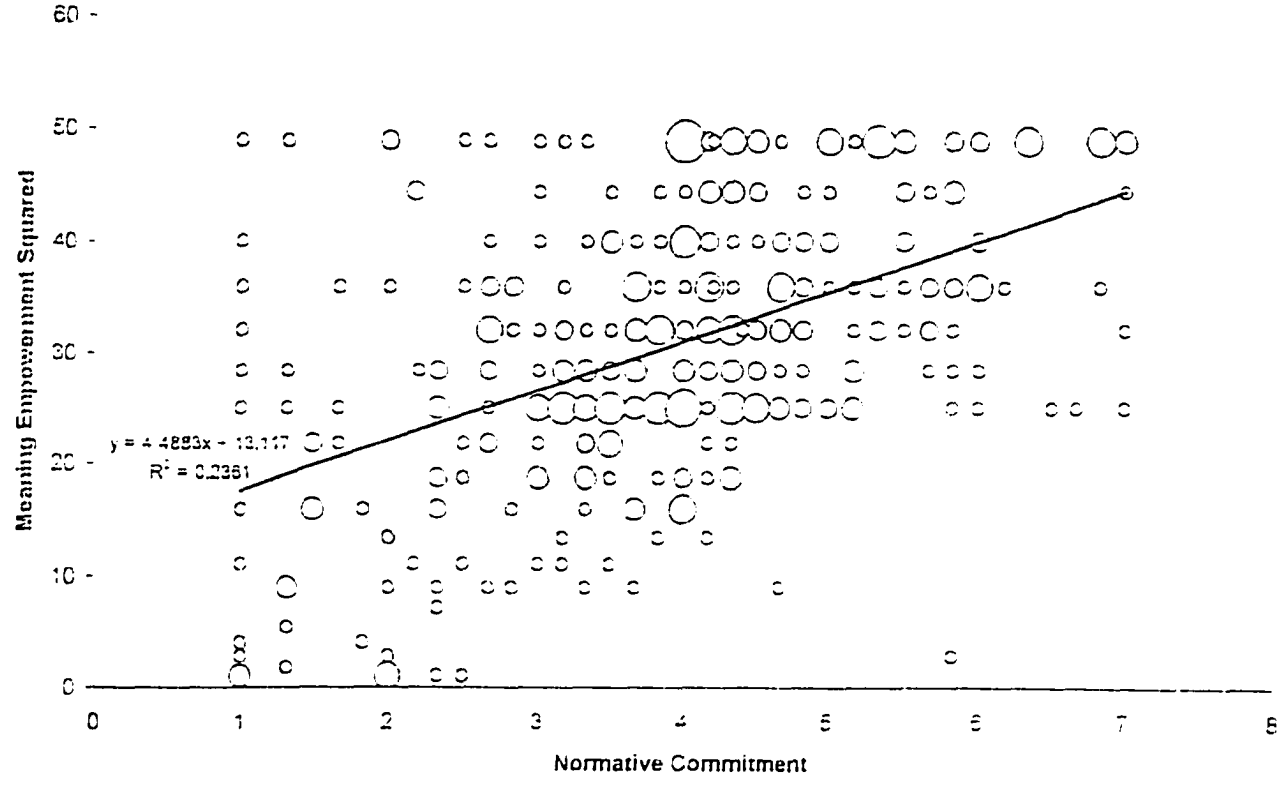

Figure 14. Meaning Empowerment Squared by Normative Commitment

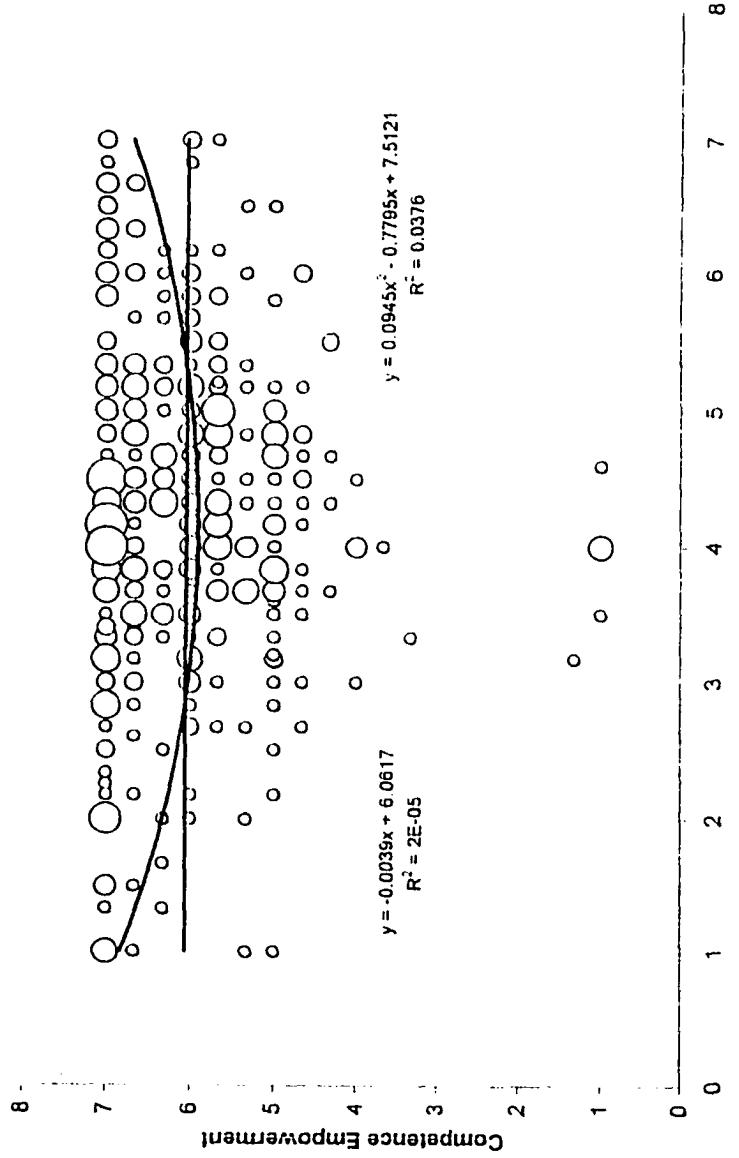

Figure 15. Competence Empowerment by Affective Commitment

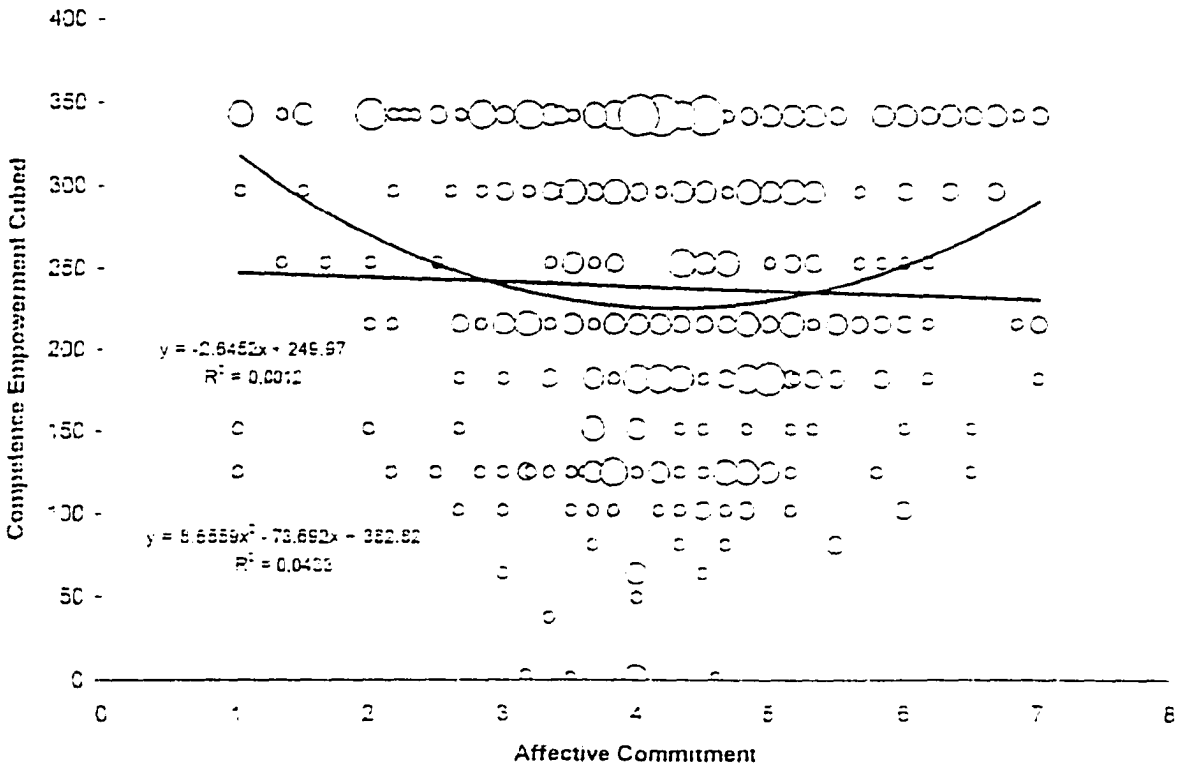

Figure 16. Competence Empowerment Cubed by Affective Commitment

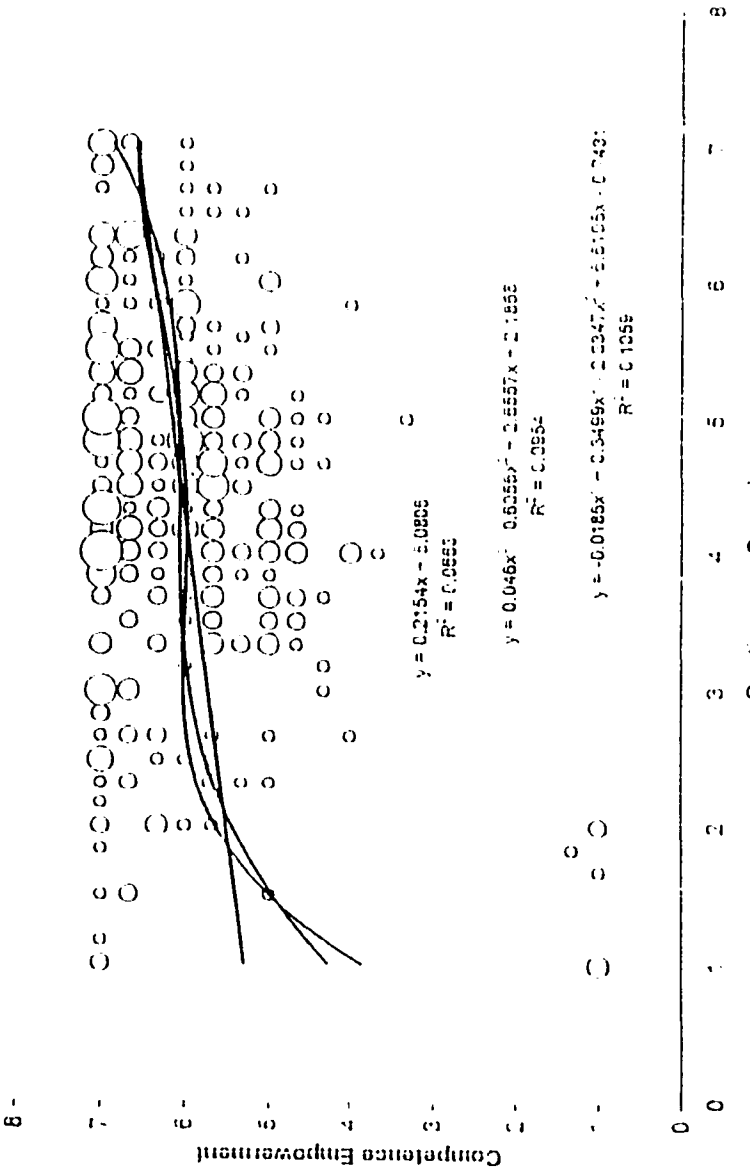

Figure 17. Competence Empowerment by Continuance Commitment

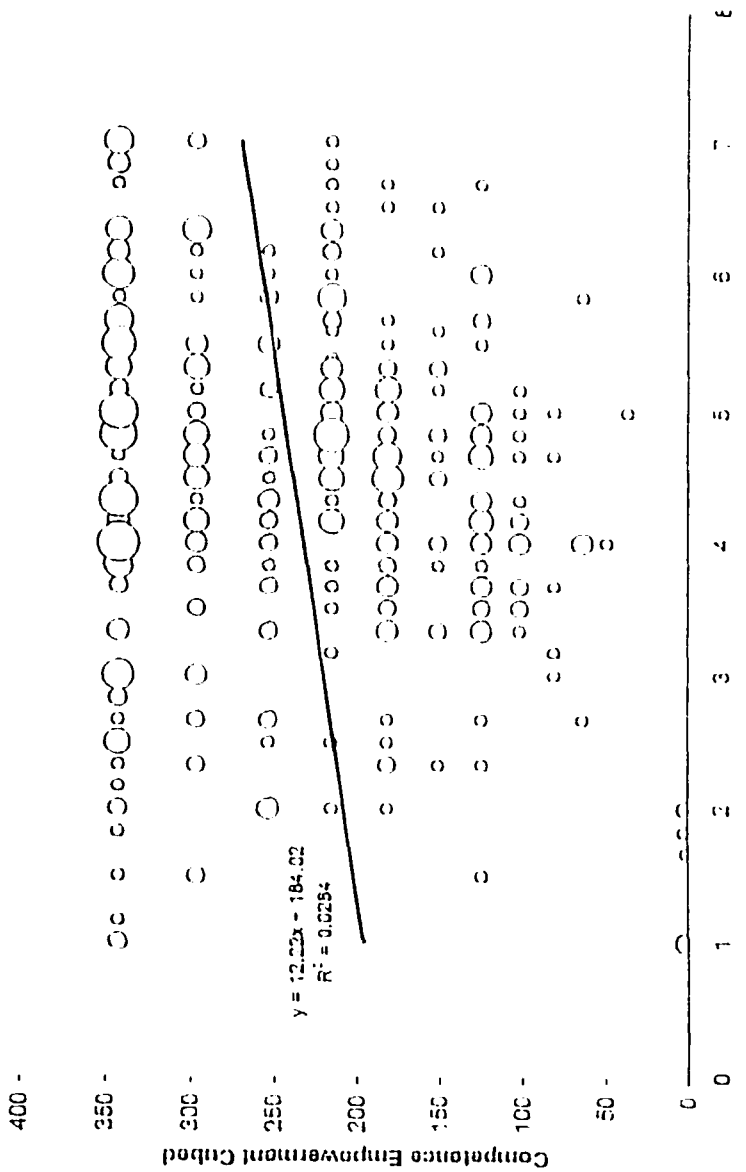

Figure 18. Competence Empowerment Cubed by Continuance Commitment

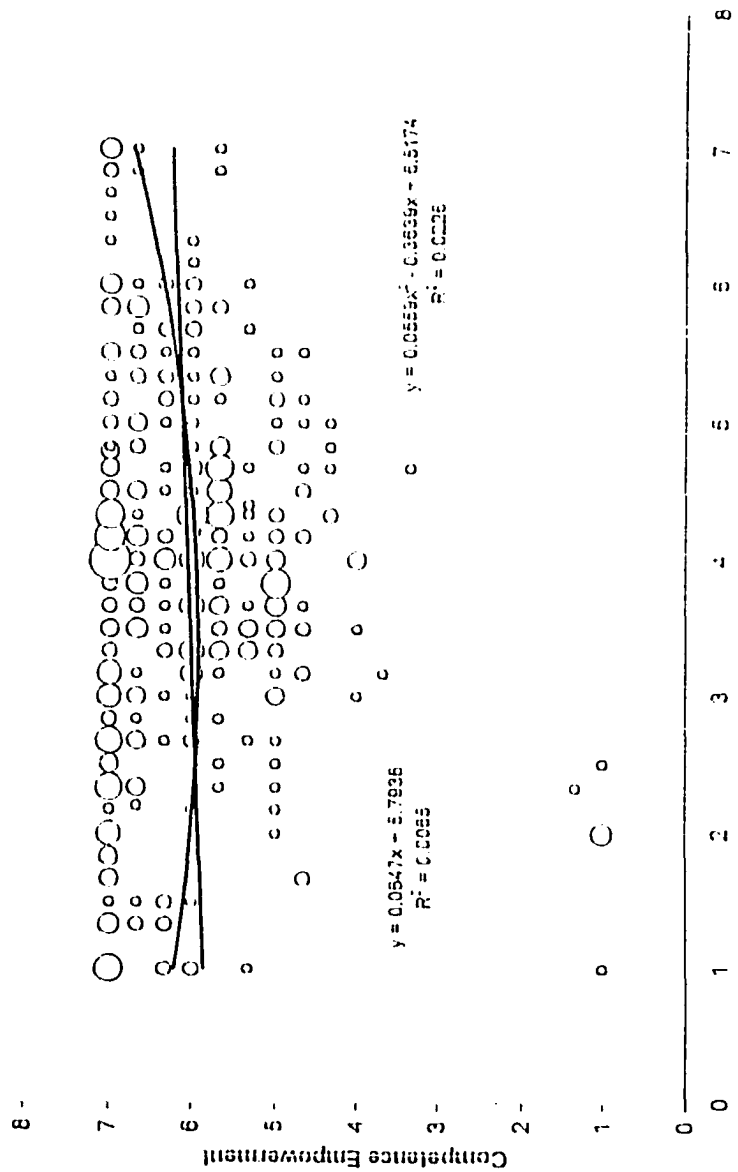

Figure 19. Competence Empowerment by Normative Commitment

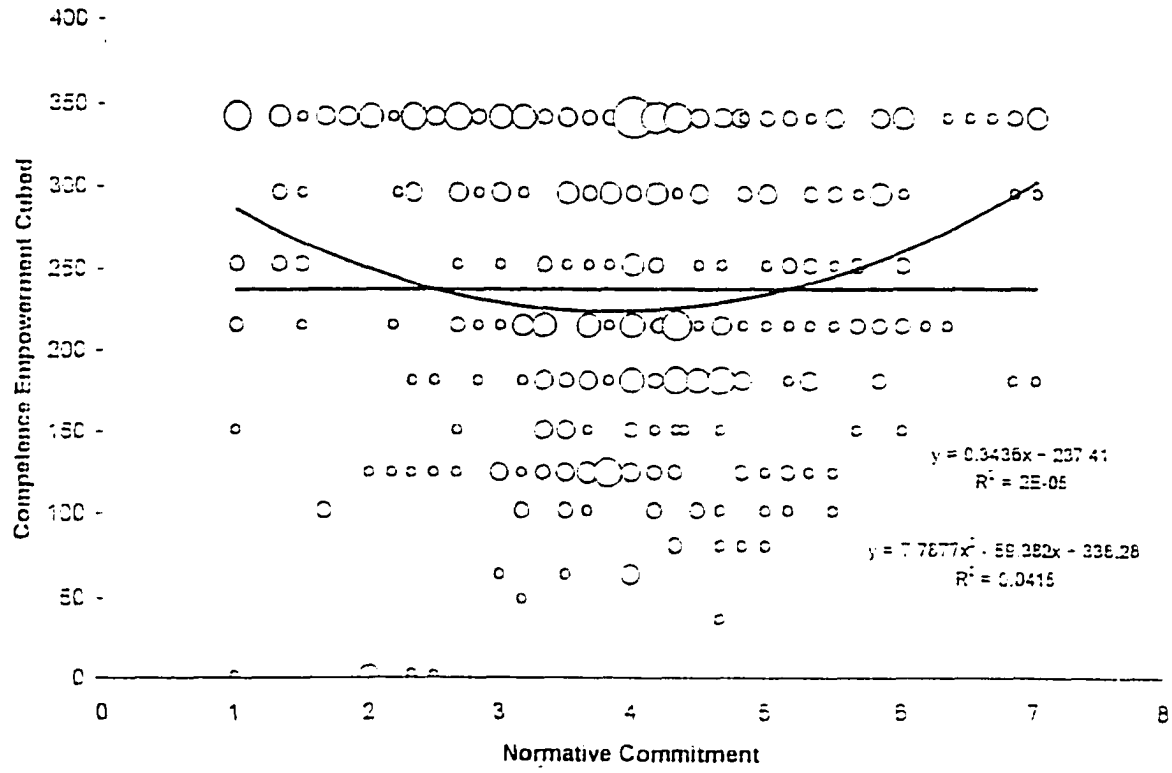

Figure 20. Competence Empowerment Cubed by Normative Commitment

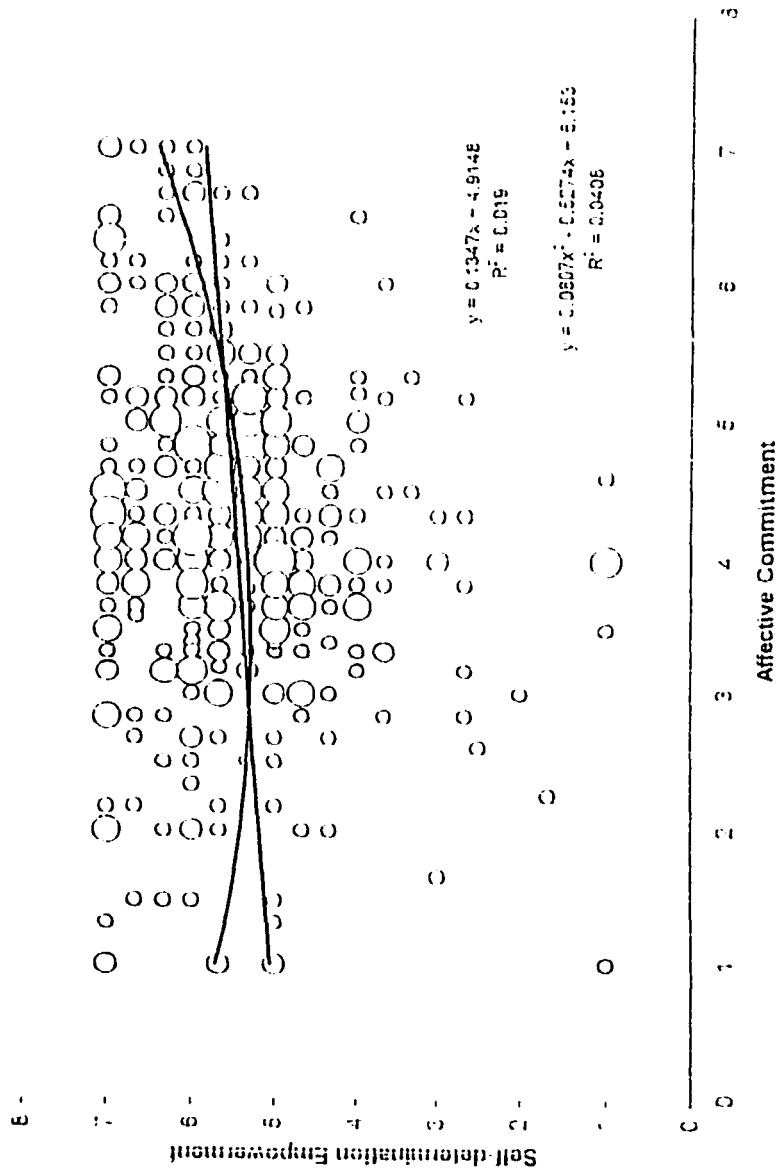

Figure 21. Self-determination Empowerment by Affective Commitment

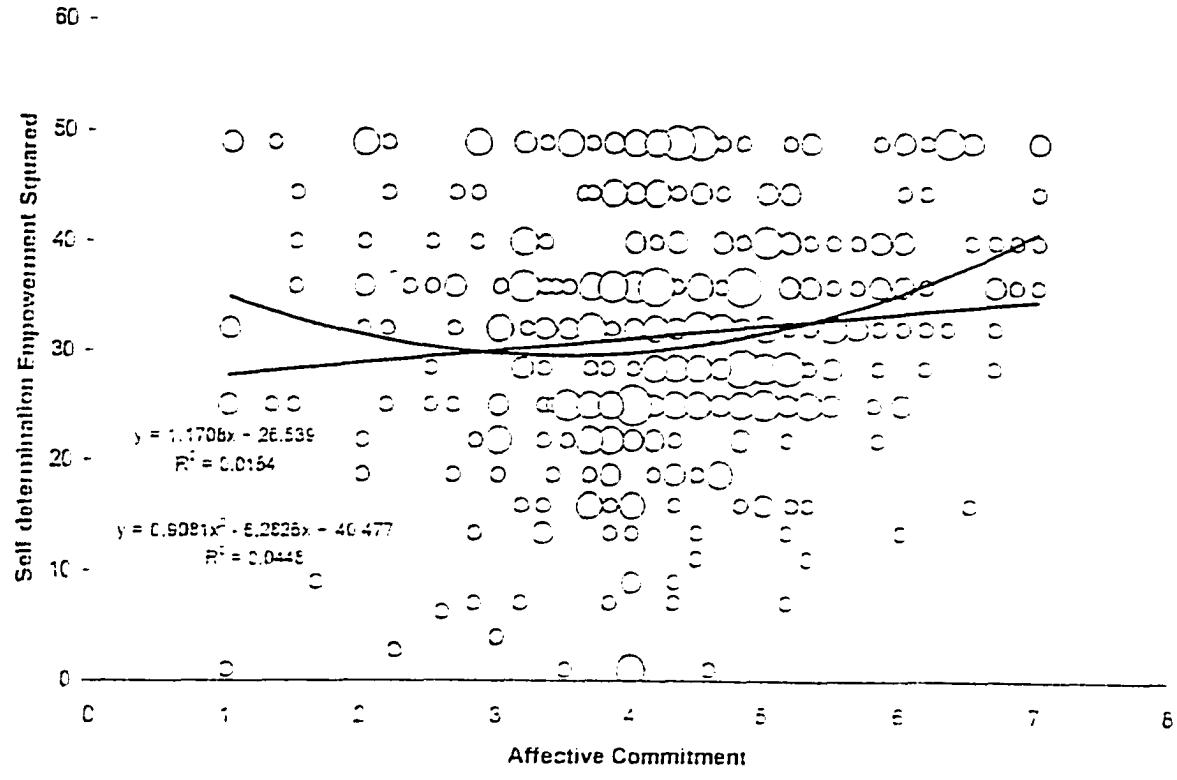

Figure 22. Self-determination Empowerment Squared by Affective Commitment

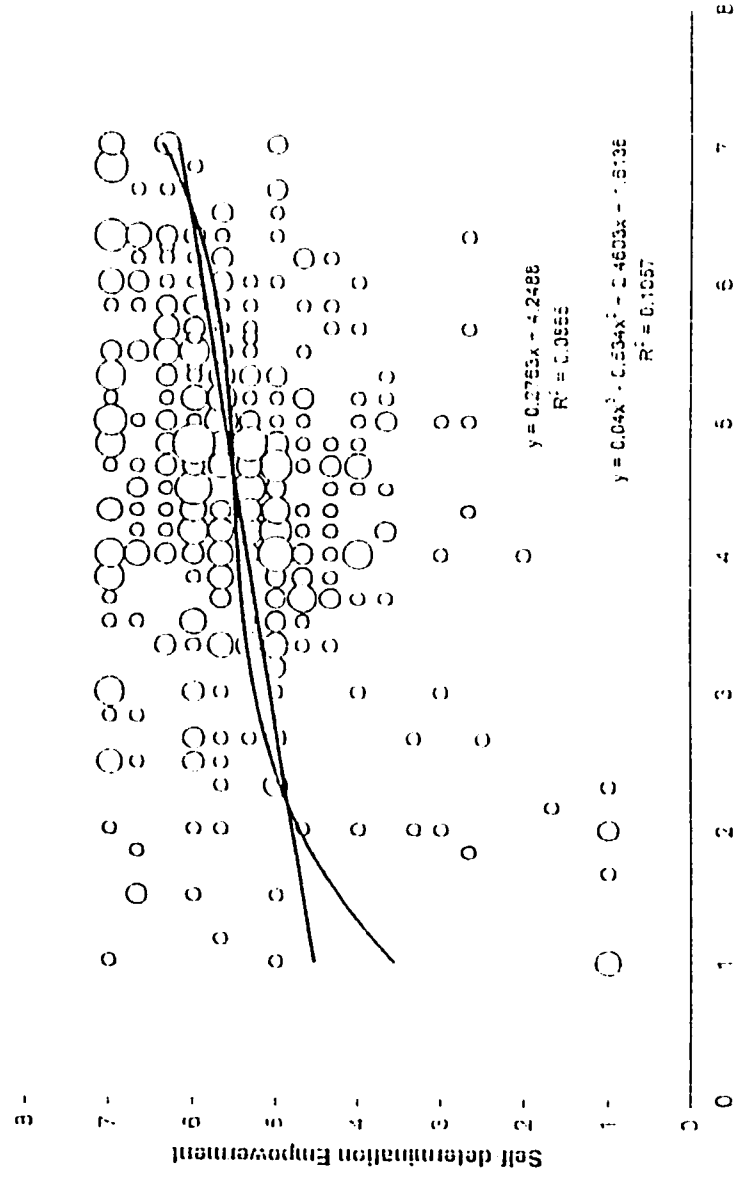

Figure 23. Self-determination Empowerment by Continuance Commitment

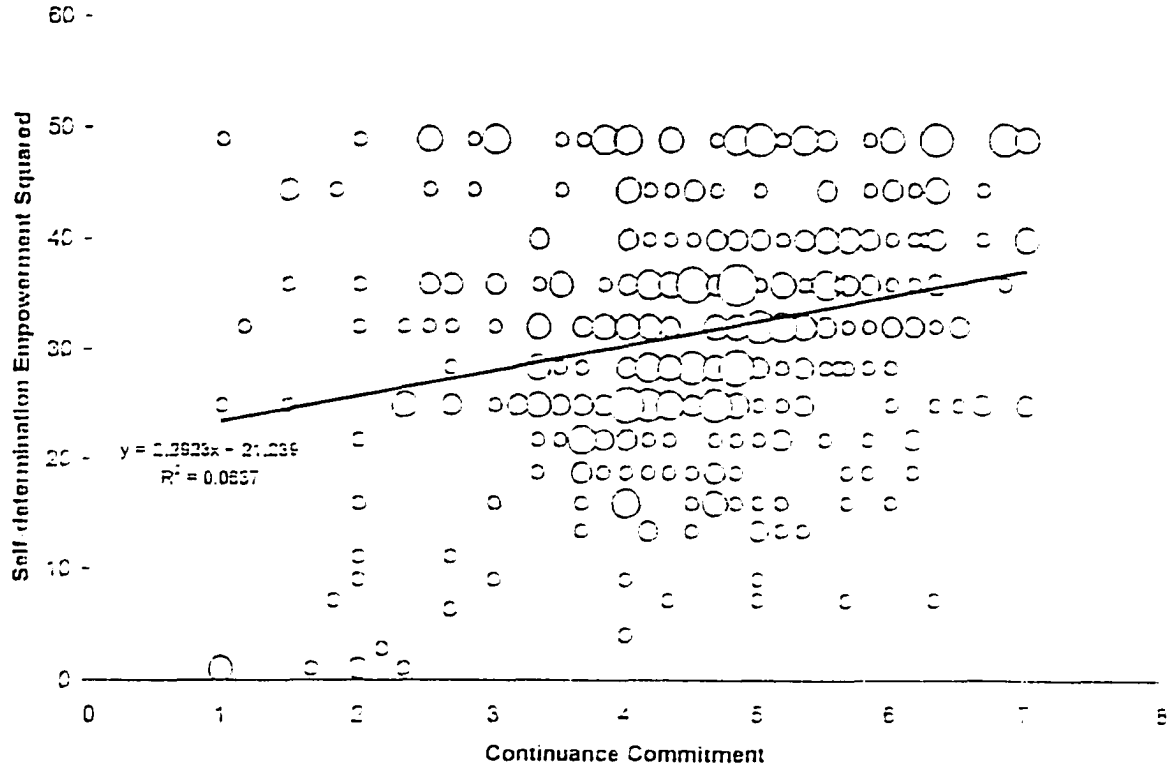

Figure 24. Self-determination Empowerment Squared by Continuance Commitment

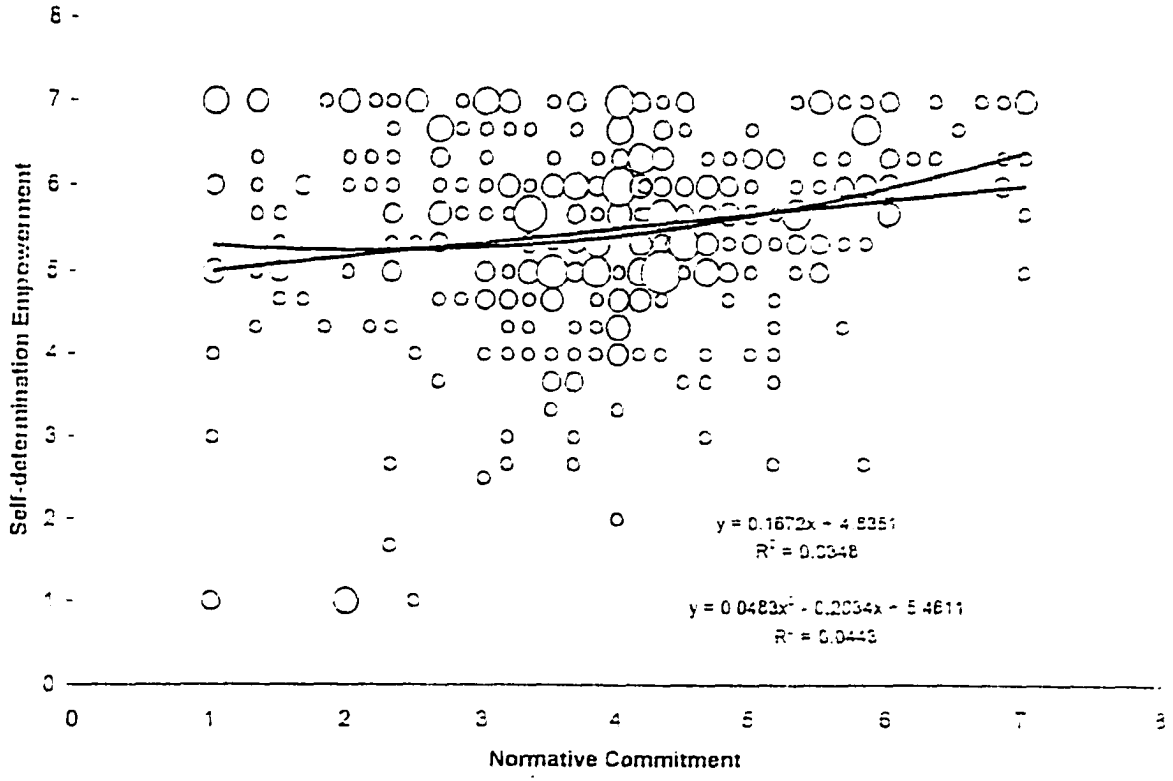

Figure 25. Self-determination Empowerment by Normative Commitment

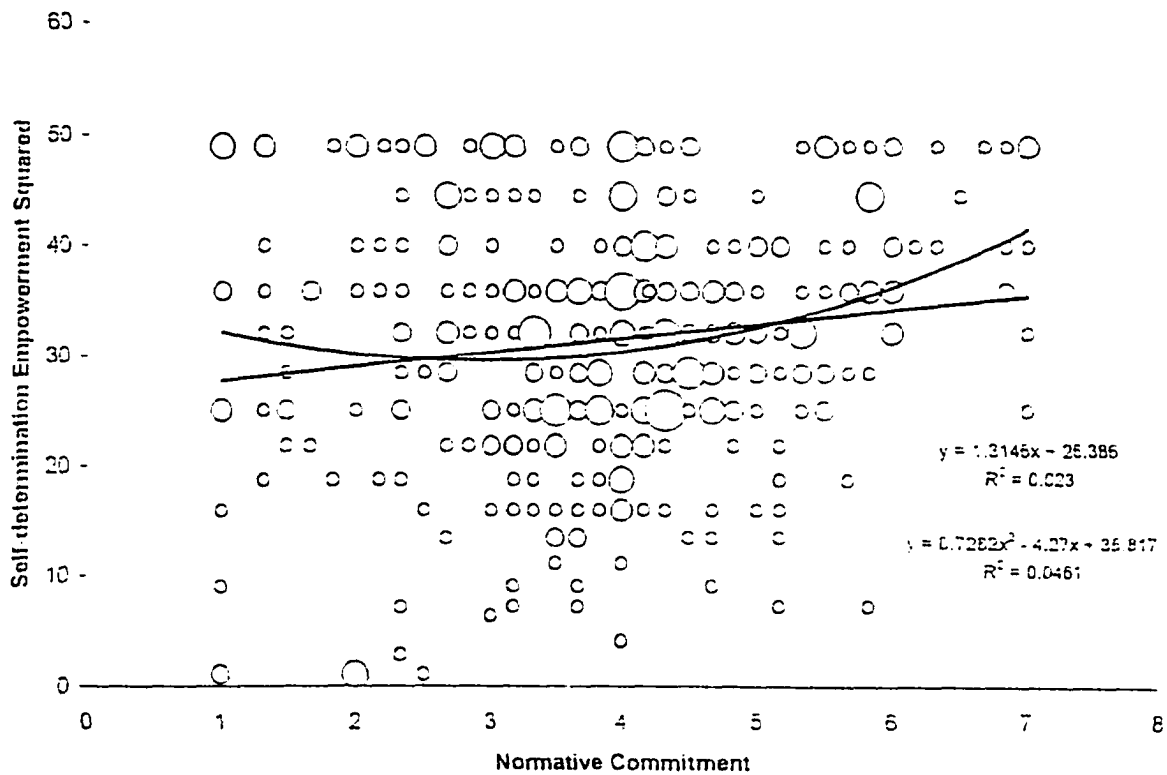

Figure 26. Self-determination Empowerment Squared by Normative Commitment

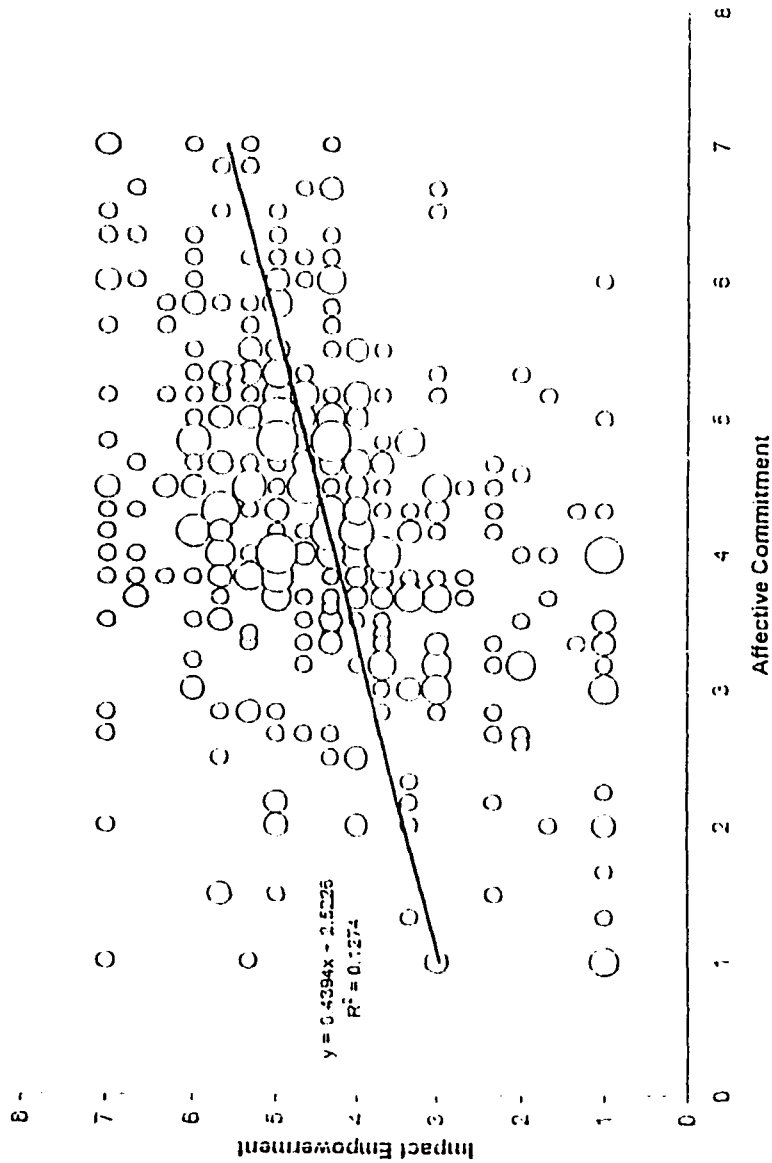

Figure 27. Impact Empowerment by Affective Commitment

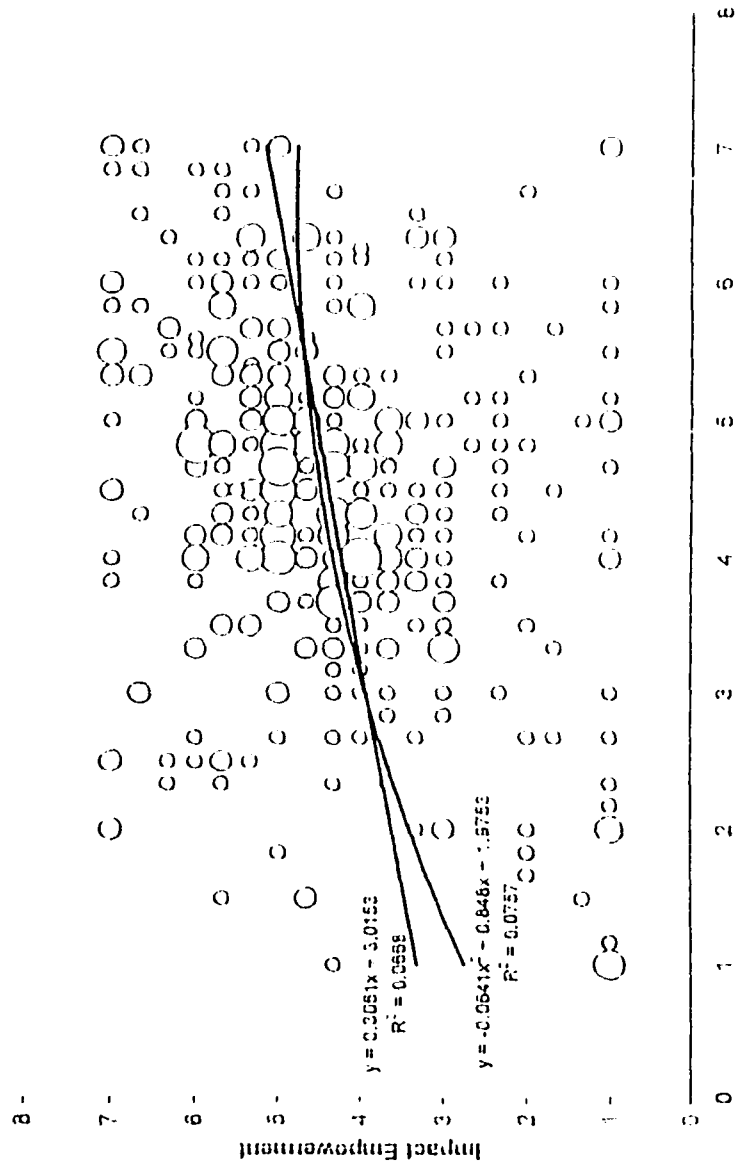

Figure 28. Impact Empowerment by Continuance Commitment

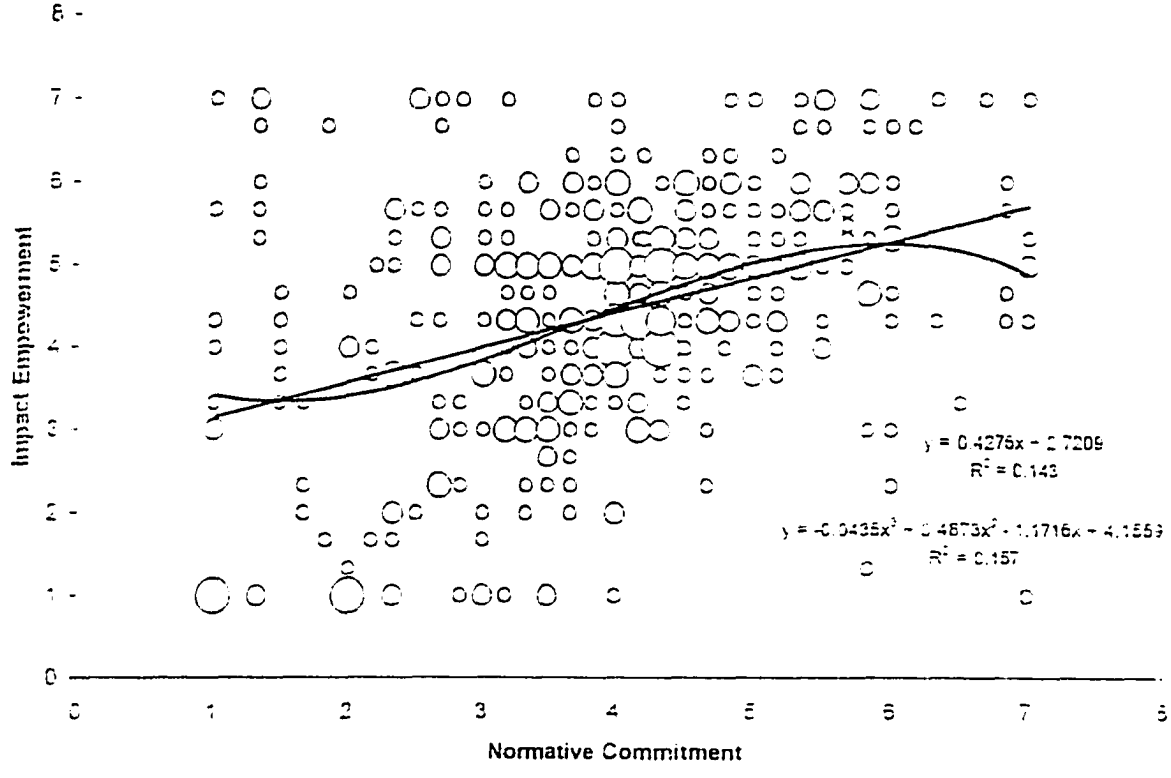

Figure 29. Impact Empowerment by Normative Commitment

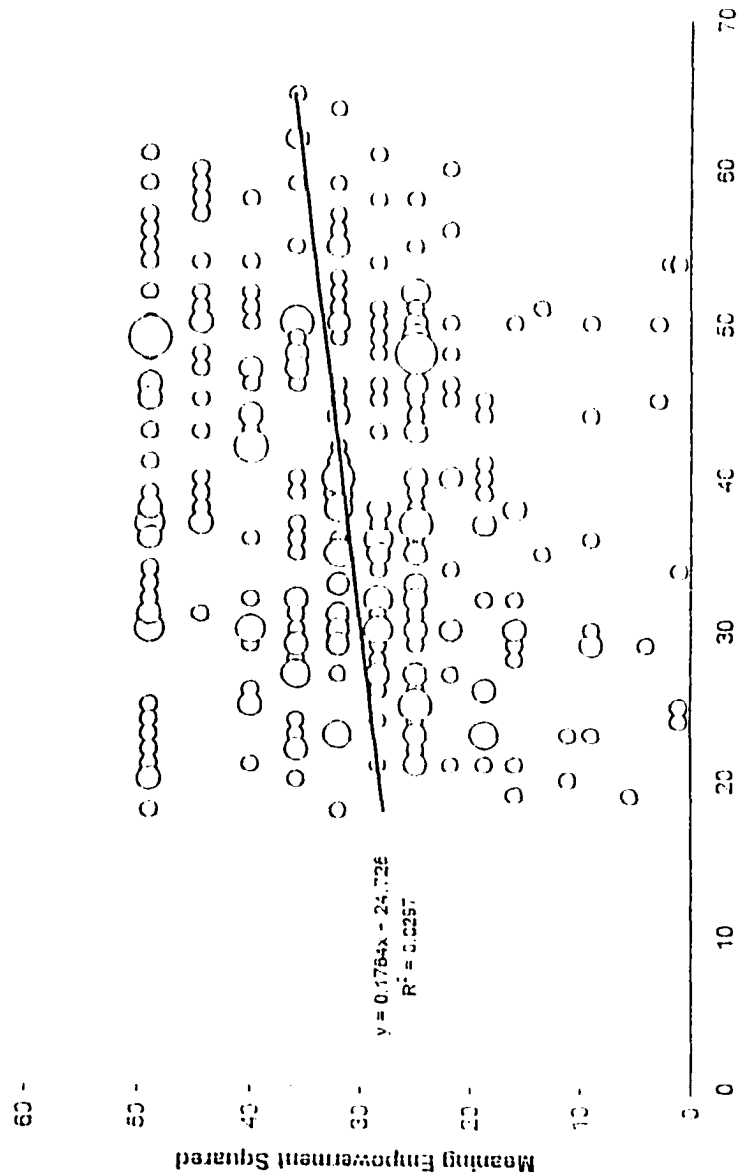

Figure 30. Meaning Empowerment Squared by Age

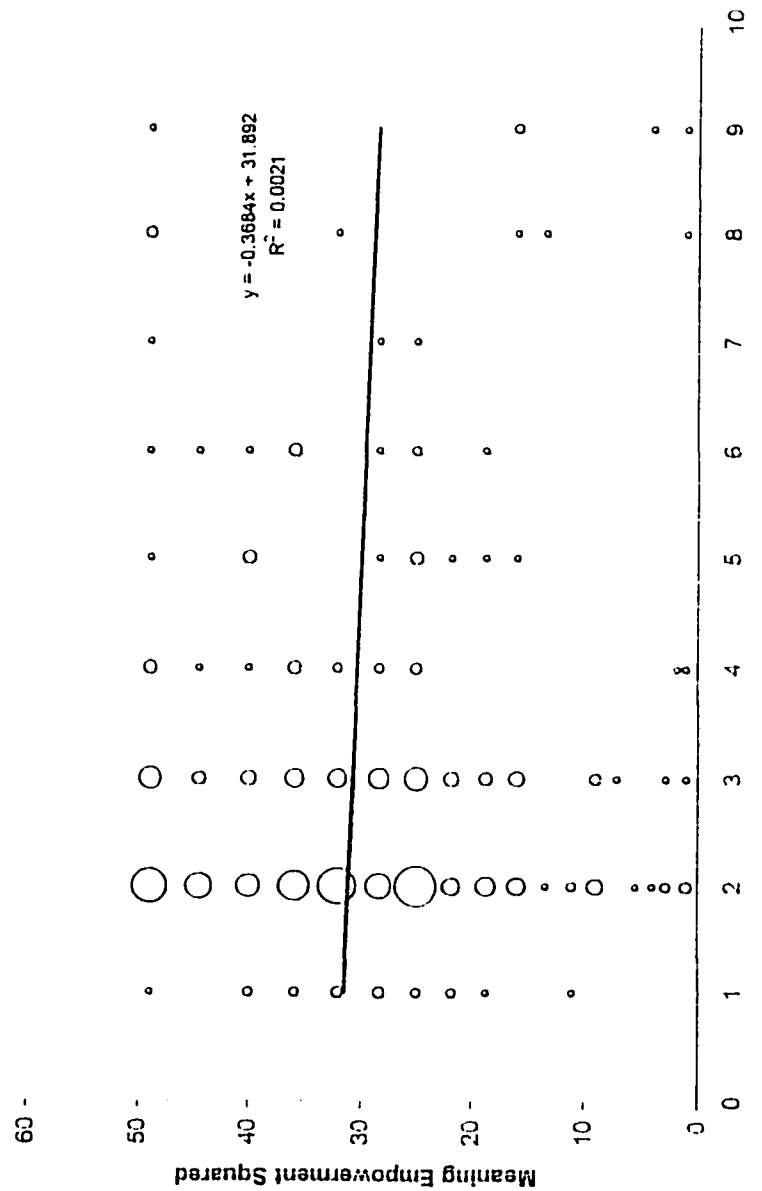

Figure 31. Meaning Empowerment Squared by Education Level

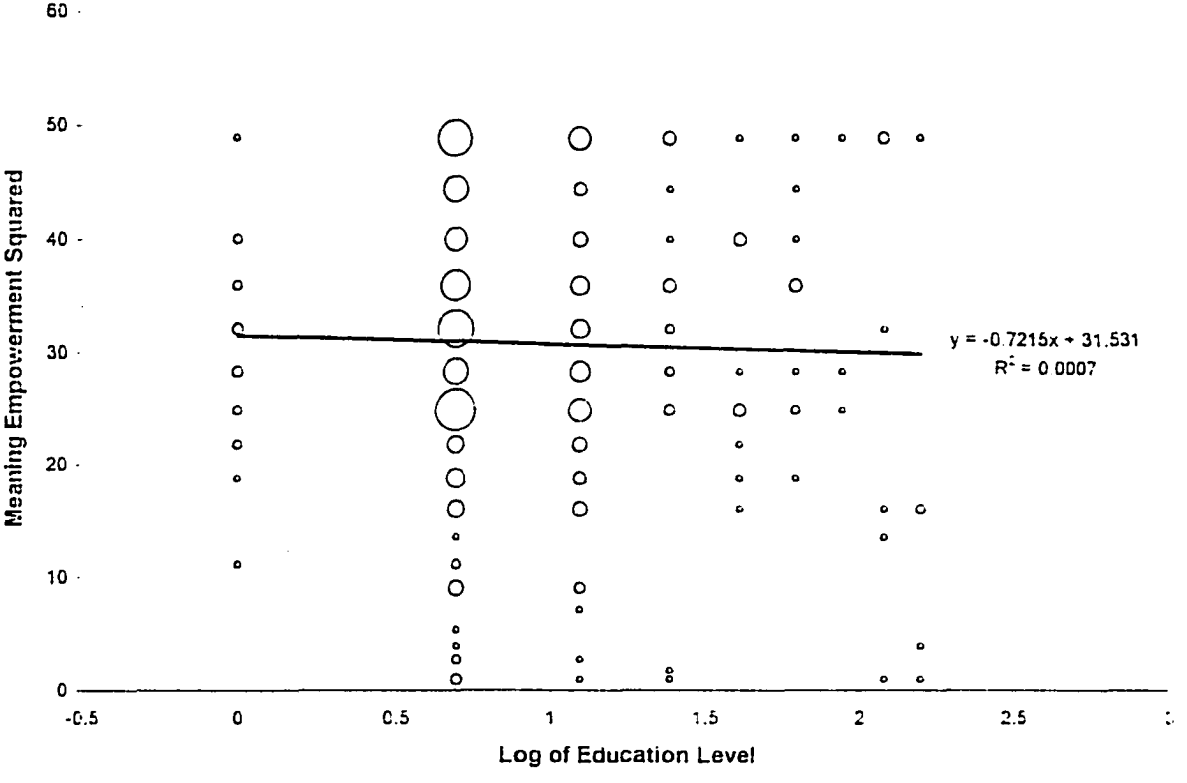

Figure 32. Meaning Empowerment Squared by Log of Education Level

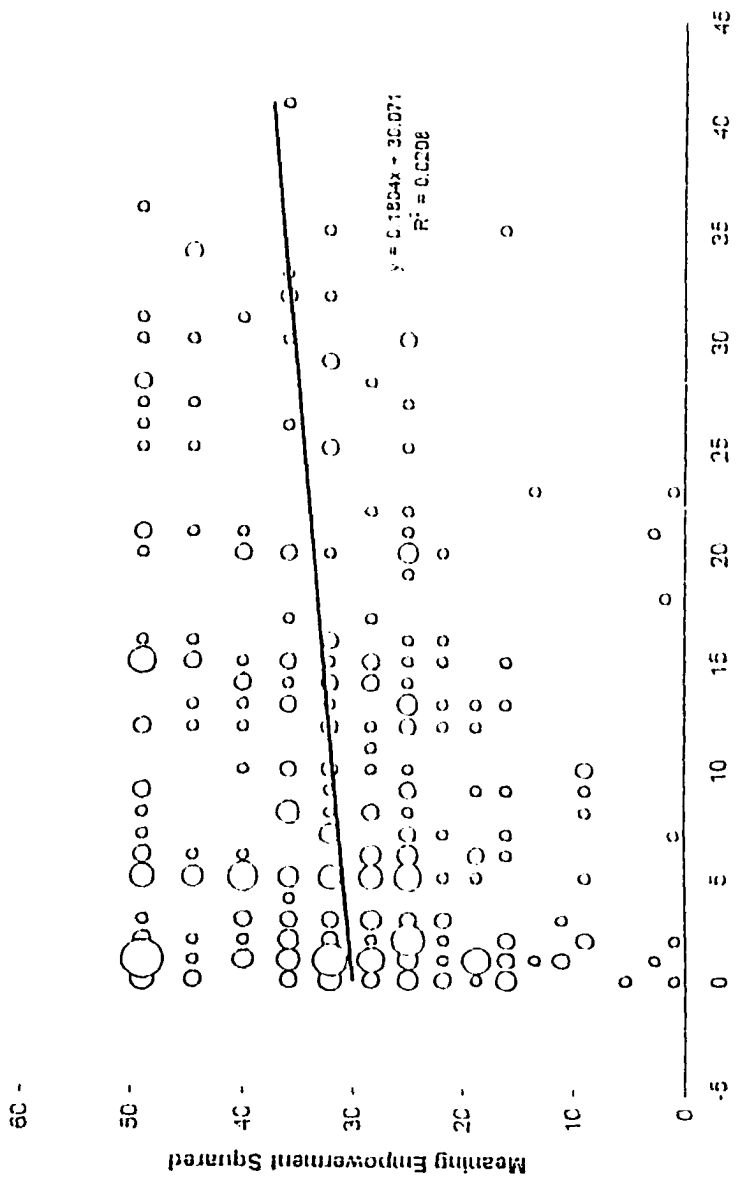

Figure 33. Meaning Empowerment Squared by Tenure

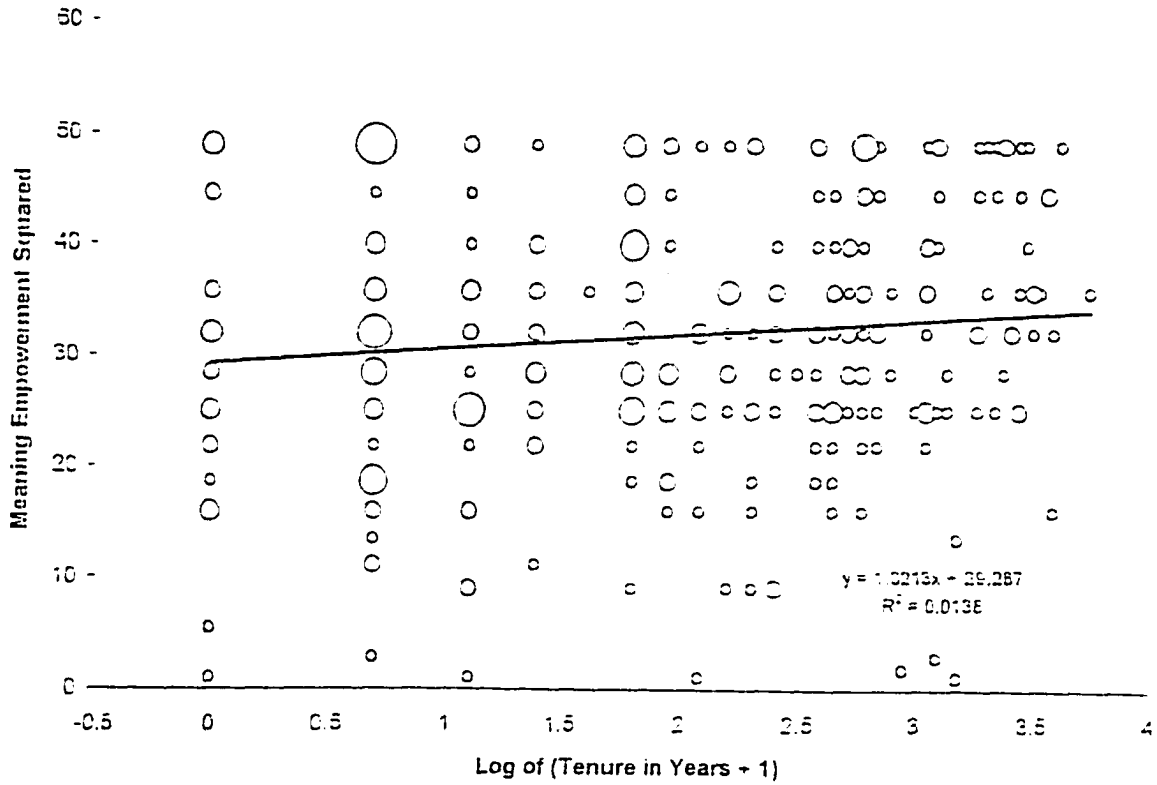

Figure 34. Meaning Empowerment Squared by Log of Tenure (Tenure in Years +1)

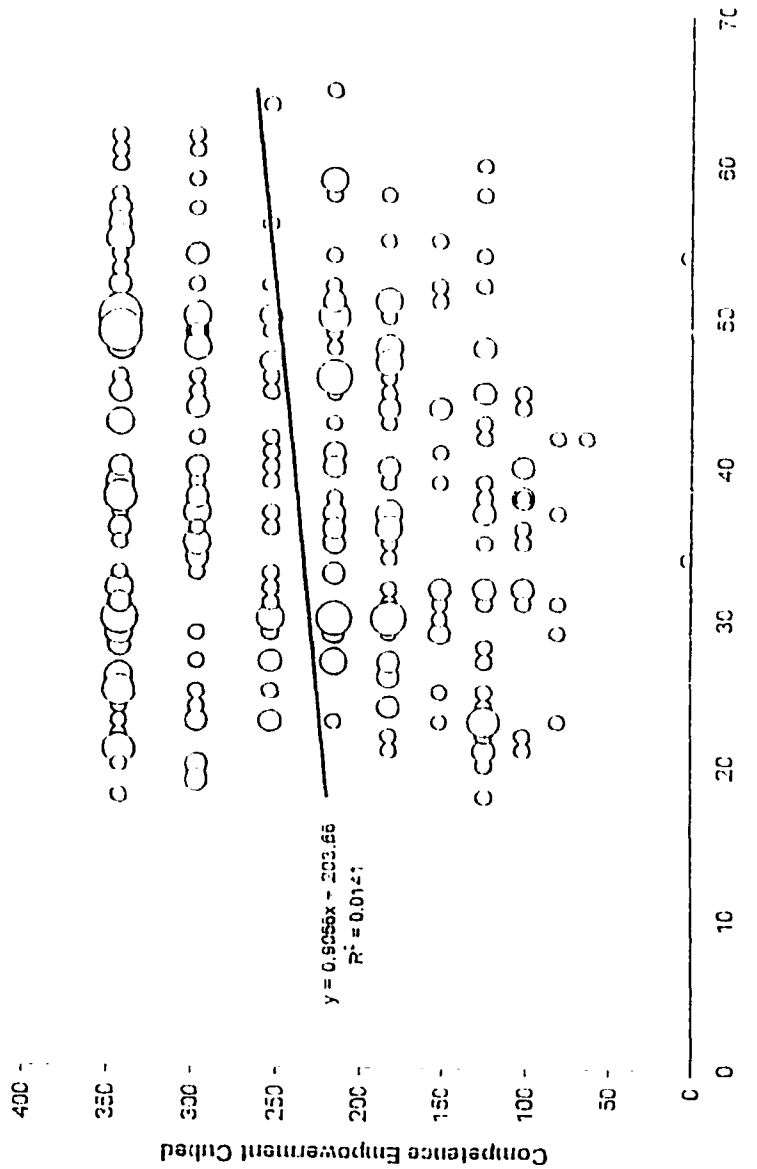

Figure 35. Competence Empowerment Cubed by Age

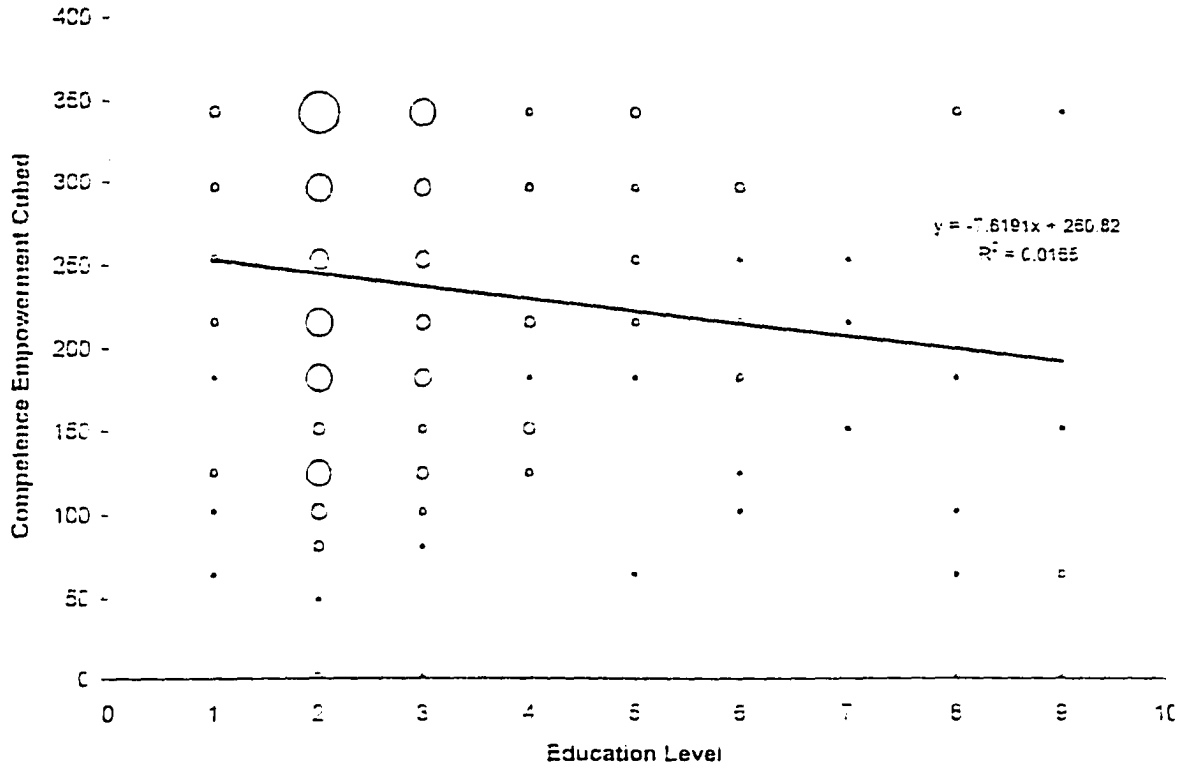

Figure 36. Competence Empowerment Cubed by Education Level

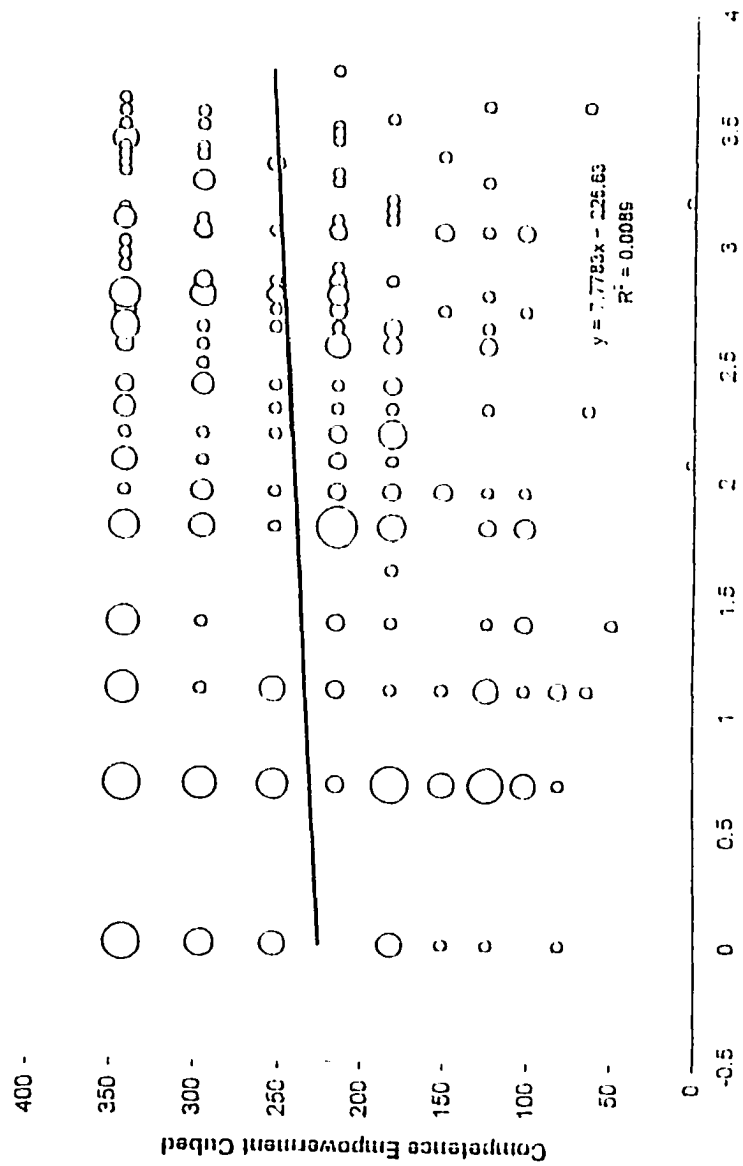

Figure 37. Competence Empowerment Cubed by Log of (Tenure in Years +1)

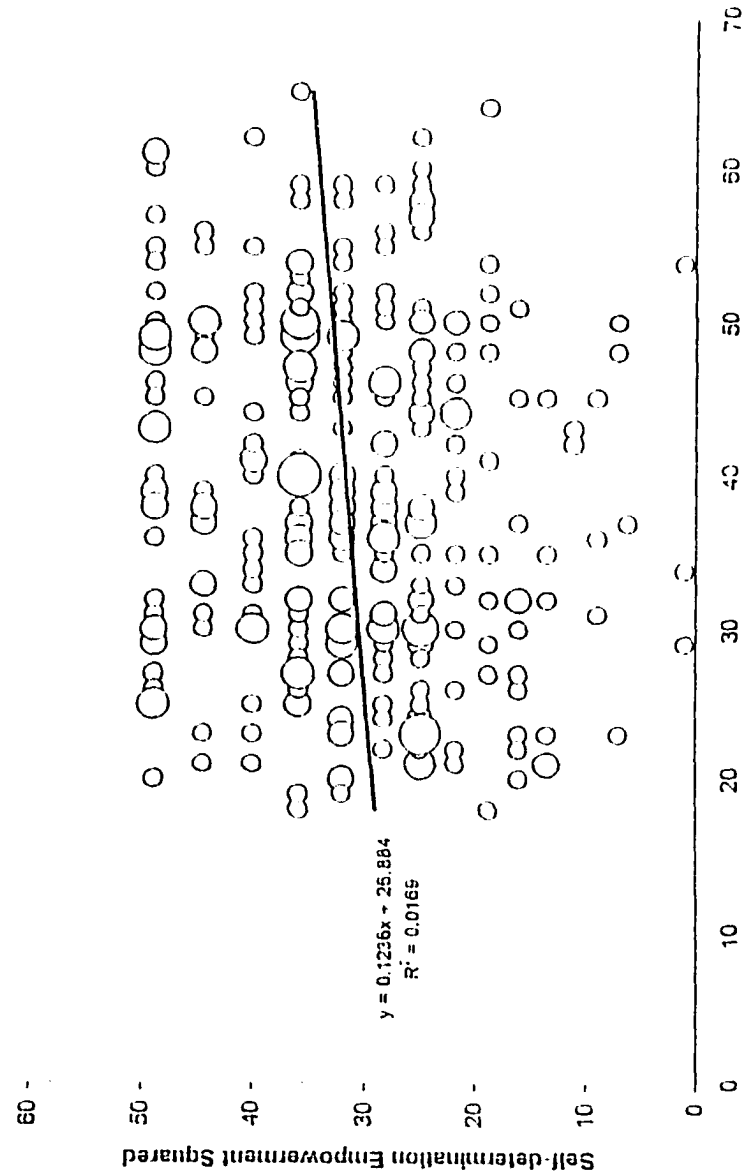

Figure 38. Self-determination Empowerment Squared by Age

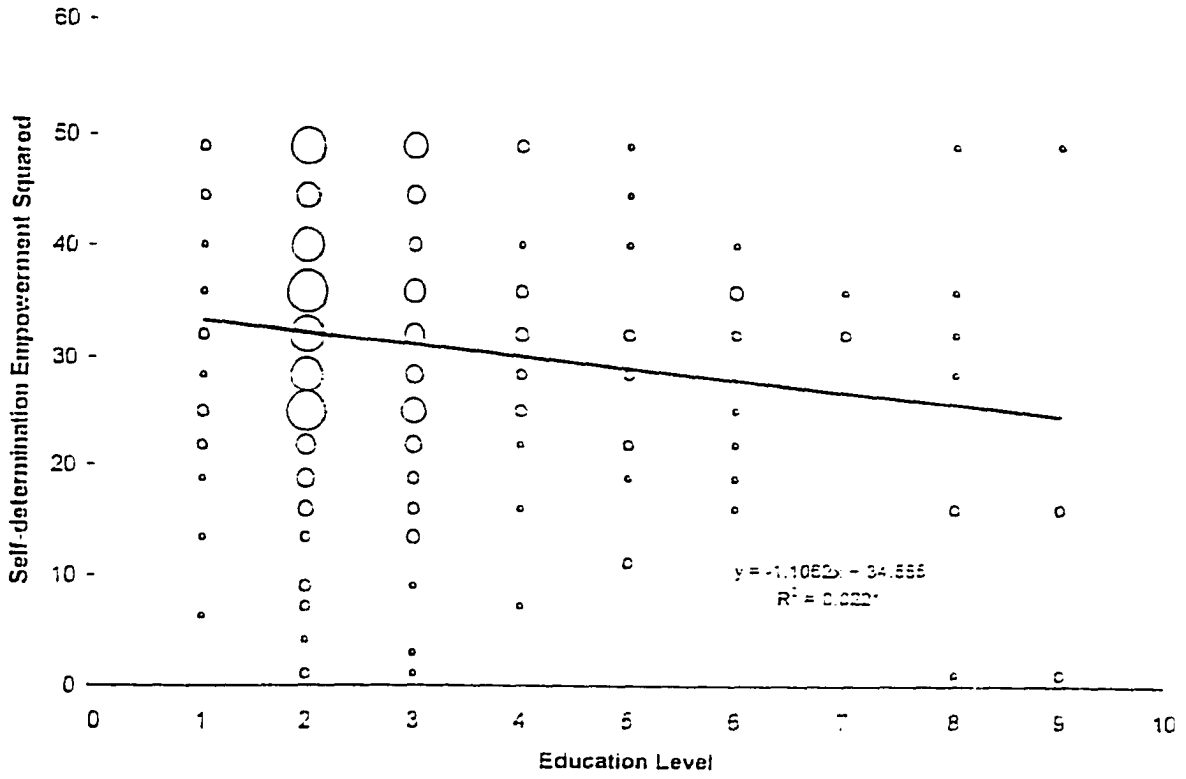

Figure 39. Self-determination Empowerment Squared by Education Level

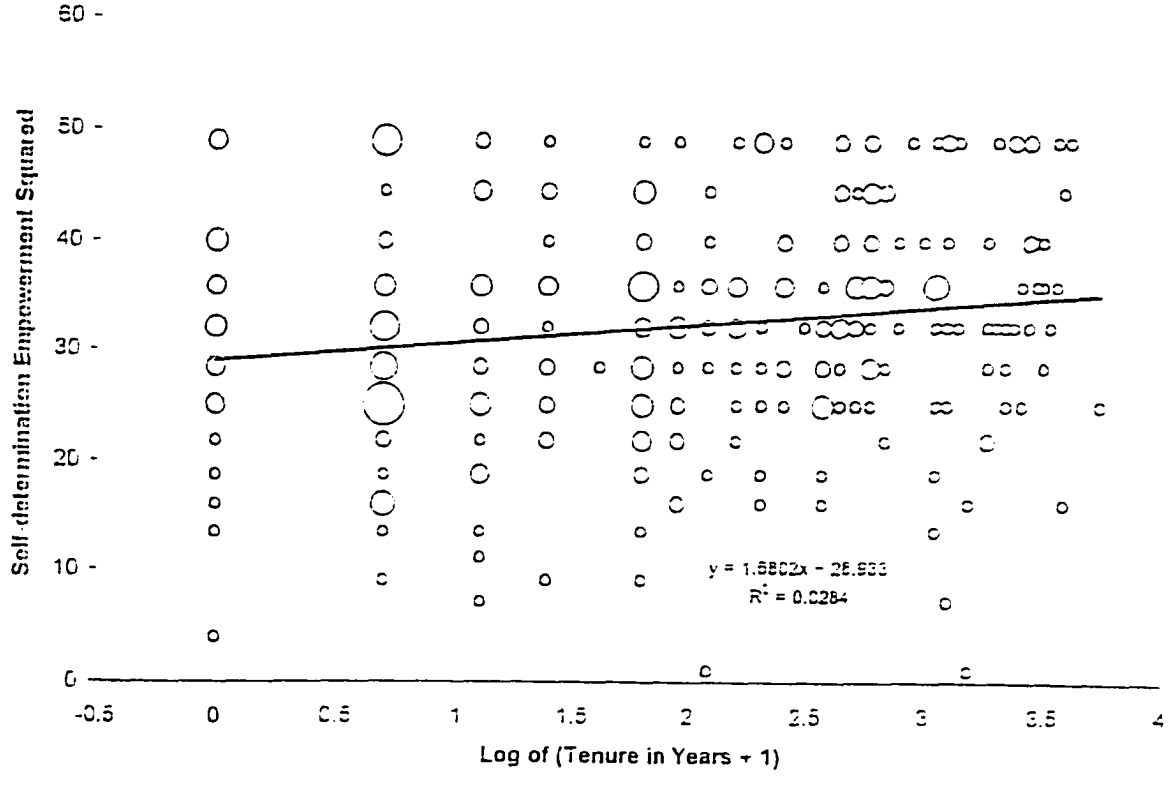

Figure 40. Self-determination Empowerment Squared by Log of (Tenure in Years +1).

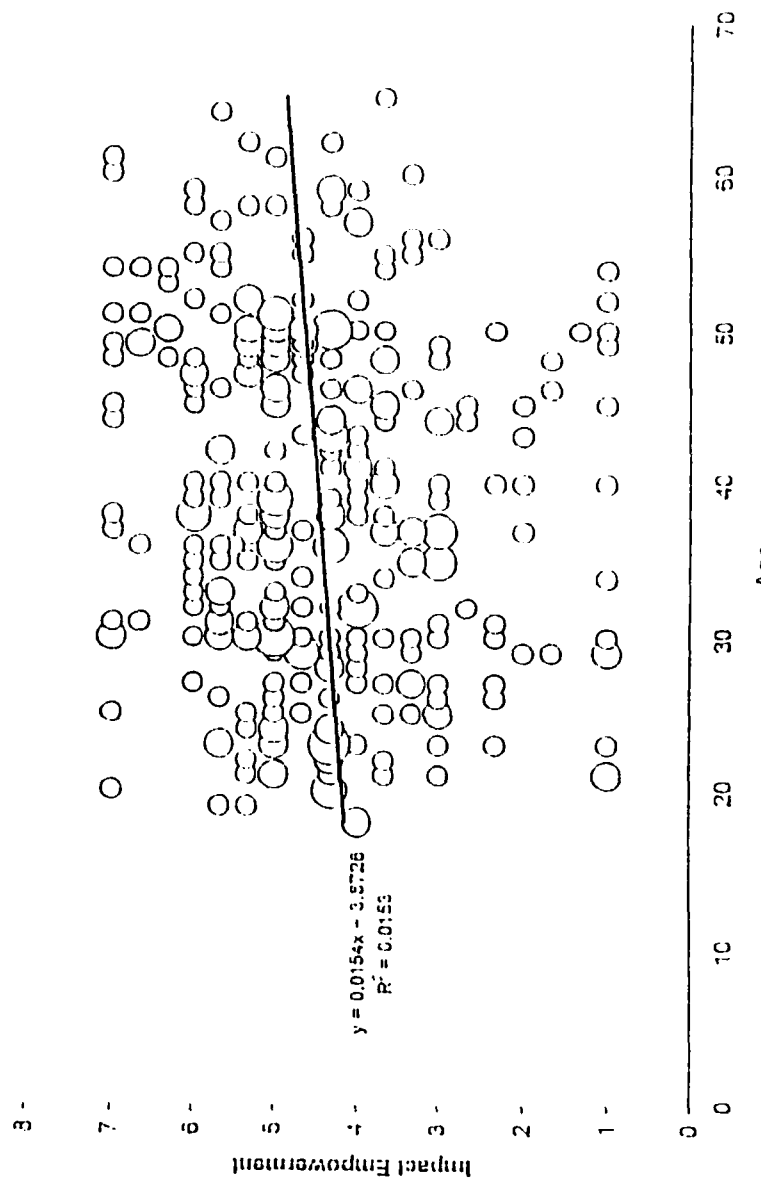

Figure 41. Impact Empowerment by Age

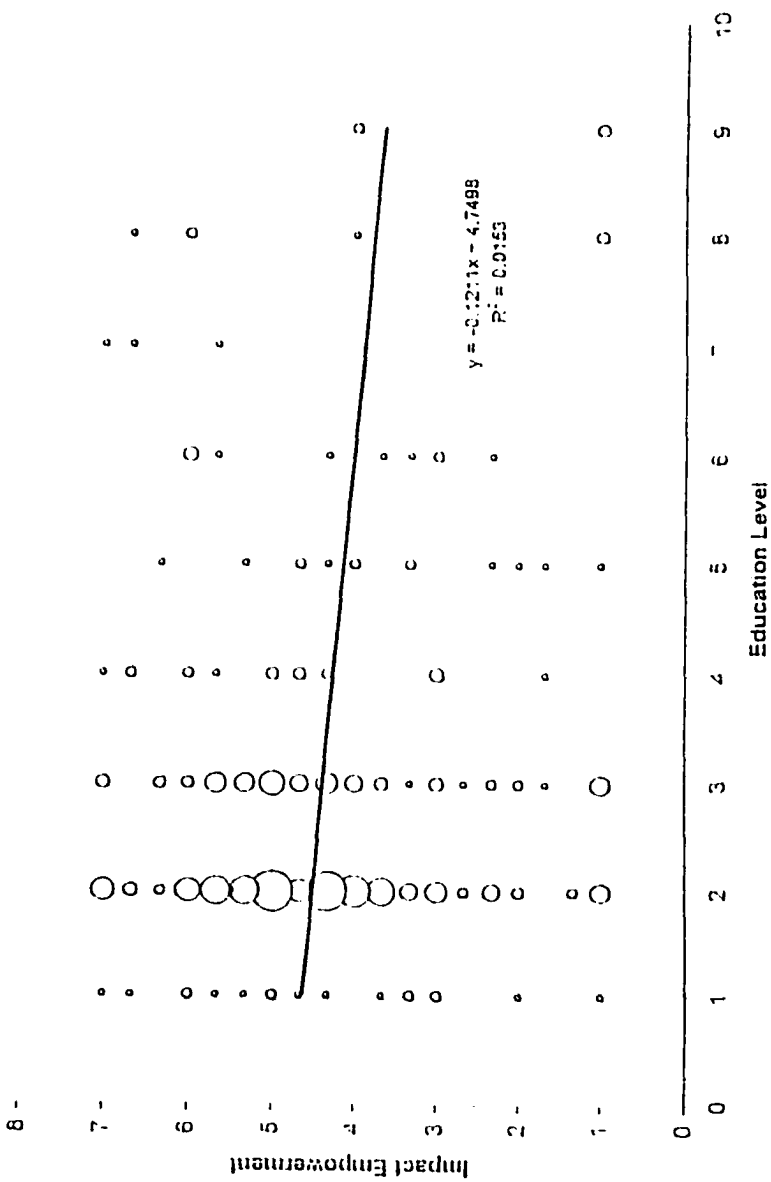

Figure 42. Impact Empowerment by Education Level

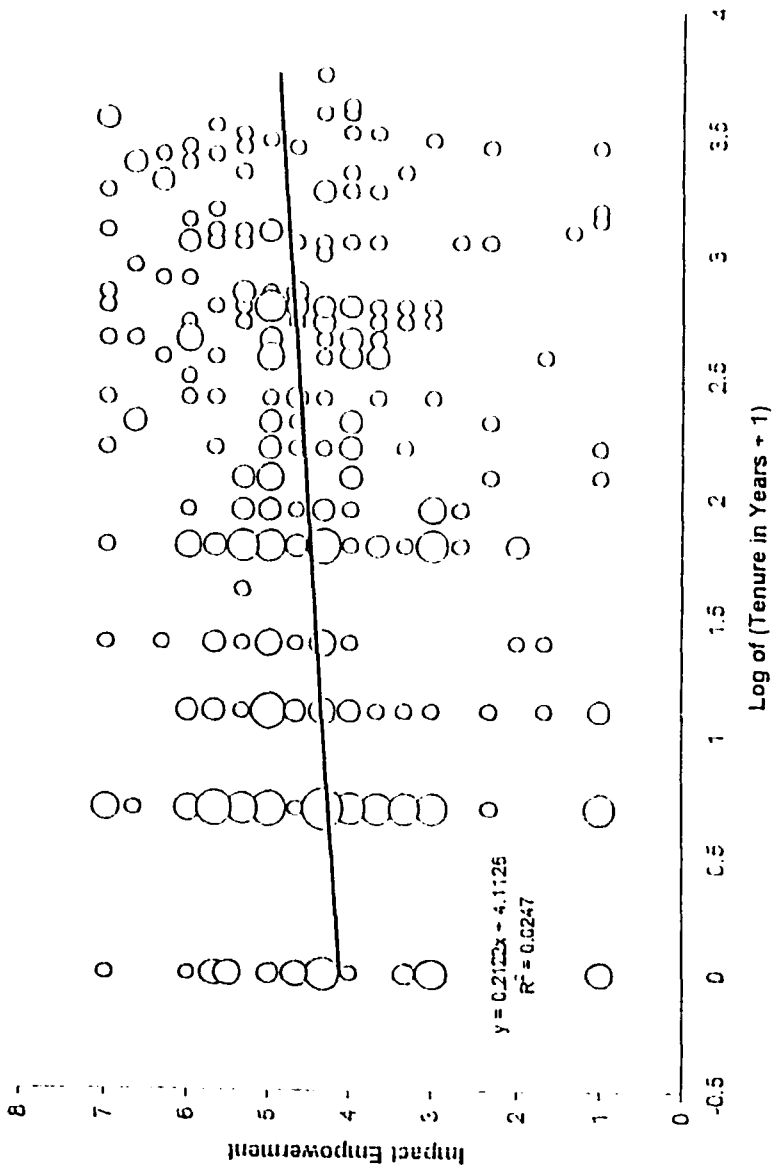

Figure 43. Impact Empowerment by Log of (Tenure in Years +1)

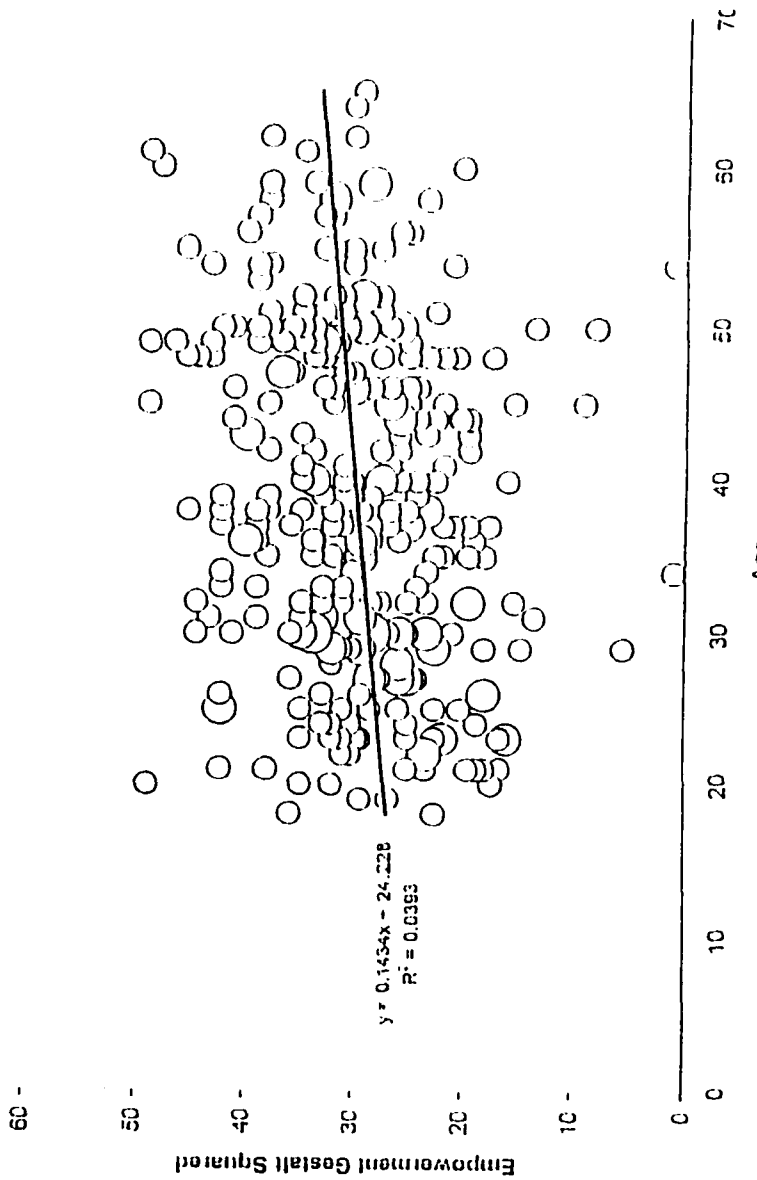

Figure 44. Empowerment Gestalt Squared by Age

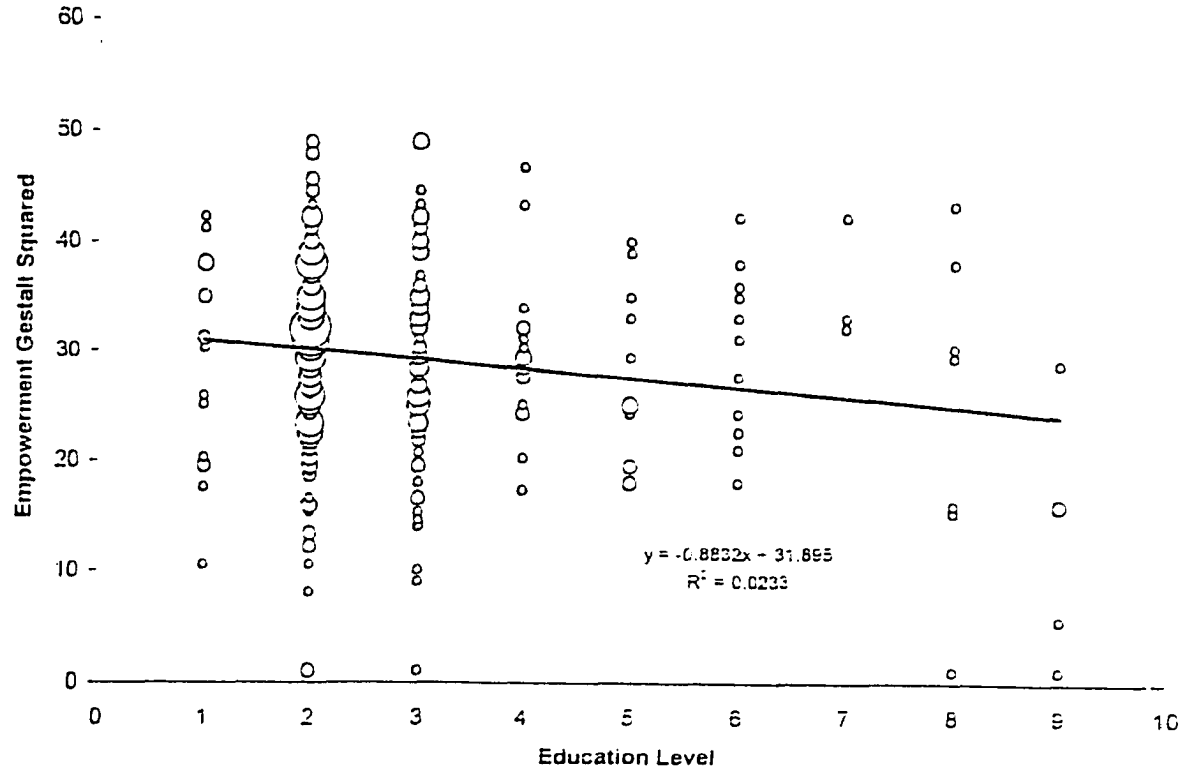

Figure 45. Empowerment Gestalt Squared by Education Level

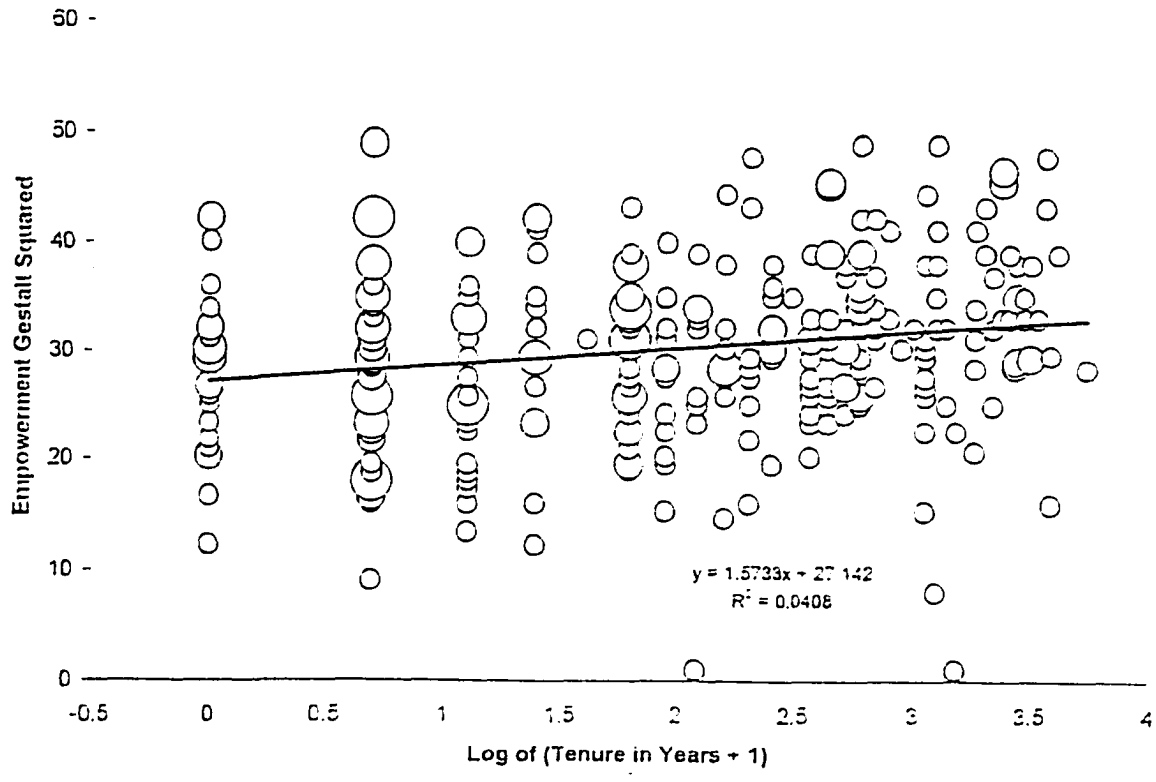

Figure 46. Empowerment Gestalt Squared by Log of (Tenure in Years +1)

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