ISOMORPHISM AS A PARADIGM FOR EXAMINING SELF-
MANAGED WORK TEAMS AND WORK SPILLOVER

THESIS

Presented to the Graduate Council of the
University of North Texas in Partial
Fulfillment of the Requirements

For the Degree of

MASTER OF SCIENCE

By

Amy E. Cyphers, B.S.
Denton, Texas
December, 1993
This study investigates the effects of a participative-type management approach termed self-managed work teams (SMWTs) and work spillover into the family environment. The perspective of isomorphism by Aldous (1969), and Rapoport and Rapoport (1965), was used as a paradigm to examine both positive and negative effects of the work-family relationship. A total of 76 employees from the Department of Defense’s Quality Division was used in the regression analysis, due to recent transitions into SMWTs. Results reported overwhelming support for the perspective of isomorphism: over 40% of the variation in positive work spillover was explained by SWMT characteristics. Communication with other teams was the single most important factor found to have a significant effect on positive work spillover.
# TABLE OF CONTENTS

Chapter

I. INTRODUCTION ............................................. 1
   The research problem and hypotheses

II. CHAPTER TWO ............................................. 4
   Literature review:
   Three perspectives used in examining work and the family

III. CHAPTER THREE ......................................... 36
   Methodology:
   Methods of Procedure

IV. CHAPTER FOUR ........................................... 43
   Results and Implications

V. CHAPTER FIVE ............................................ 54
   Conclusions

TABLE I ...................................................... 57

REGRESSION MODEL .......................................... 58

APPENDIX A ................................................ 59

APPENDIX B ................................................ 63

REFERENCES ............................................... 67
CHAPTER I

INTRODUCTION

The family has been described as one of the most important institutions making up the social fabric of U.S. society. Its importance stems from the family’s direct influence on the social norms, values, and beliefs of its members (Vander Zanden, 1990). An individual, and therefore the family, is greatly affected by one’s work environment (see Sussman, 1990; Googins and Burden, 1987; Kanter, 1977; Dyer, 1964). Currently, major changes occurring in the workplace are requiring employees to work in groups or teams, and to participate in management decisions related to their teams. This thesis examines what impact, if any, this new work environment is having on family relationships.

The relationship between work and the family has been researched for at least 60 years with contrasting and conflicting results (Barling, 1990). Initial research tended to ignore any relationship between work and the family, while additional research asserted that work had primarily negative effects on the family. Most recently, research has recognized that work has significant positive, as well as negative effects on the family (Yeatts, Beyerlein and Thibodeaux, 1991; Stanley-Stevens, Yeatts and
The Changing Work Environment

American businesses are no longer dominating world markets. Numerous corporations are finding it necessary to implement change in order to remain competitive internationally. The U.S. was once a dominant force in the world market, and its examples were followed by many other countries (Lawler, 1986). Management approaches must fit the changing conditions of society and the work force in order to remain effective and competitive.

Increasing competition between organizations has prompted the implementation of a new management paradigm of employee empowerment (Lawler, 1986). This model emphasizes individual job enrichment and decision making authority through a type of participative management, termed self-managed work teams (SMWTS). These self-managed work teams train employees in communication, technical, and decision-making skills, and require greater individual responsibility for projects than traditional management models (Lawler, 1986; Yeatts, 1991). This type of management strategy has produced positive results for several large corporations such as AT&T, Boeing Electronics, and American Airlines (see Lawler, 1986).

Due to the relative newness of self-managed work teams, there has been minimal scientific research examining their impacts on the family. This thesis examines the
relationship between the new management strategy (SMWTS), and the family.

Provided below is first a review of the relevant literature regarding the work-family relationship. This is followed by a discussion of the methodology used to examine the relationship between self-managed work teams and the family. The thesis concludes with a review of the findings and the implications that can be drawn.
CHAPTER II

LITERATURE REVIEW

Provided below is an historical overview of work and the family. This is followed by a discussion of three general perspectives of the work and family relationship. While the majority of literature predominately focuses on the negative factors associated between work and family, the perspective of isomorphism, which addresses positive as well as negative impacts, is also emphasized. A discussion of structural changes occurring in the work force is provided and includes an overview of traditional, behavioral and new management approaches, with focus on a specific participative management strategy termed self-managed work teams (Lawler, 1986). A review of the discussion on how this new management strategy may possibly impact the family is also provided. The chapter concludes with hypotheses of the relationship between self-managed work teams (SMWTS) and the family.

Historical Overview of Work and the Family Relationship

A review of the literature reveals that in preindustrial times, work and the family were intertwined. The preindustrial family was the economic producer within the household; family members worked together to produce
goods (Hareven, 1989). There was no apparent division between work and the family because the family was inherent to economic growth. (Hareven, 1989).

With the onset of industrialization came the separation of work and the family. Mass production no longer required the family in the work place. The larger factories hired outside managers to oversee labor production. Family members were no longer viewed as beneficial employees in the larger work organization; they were viewed as an obstruction to authority in the work place. Kanter (1977) asserts that loyalties within the family were recognized as counterproductive as is evidenced by the negative attitudes towards nepotism in the work place.

Post industrial society (1950's) formed new opinions and theories concerning the relationship between work and family. Some researchers asserted that the relationship between work and family was independent (Parsons, 1959), while others contended it was interdependent (Barling, 1990). Kanter's (1977) research was one of the first to point out the "myth of the two separate worlds," the viewpoint that work and family were entirely independent. In fact, this research showed an interdependence between work and the family. The results are reported in Work and Family in the United States: A Critical Review and Agenda for Research and Policy (1977) which provides an in-depth history of the relationship between work and family.
Three General Perspectives of the Work-Family Relationship

Three general perspectives become evident when reviewing the literature between work and the family. The first perspective contends that there is no relationship between work and the family; work and the family are viewed as independent and are treated as two separate institutions (Barling, 1990). The second perspective primarily views the negative factors associated between work and the family. The final perspective involves the model of isomorphism described by Aldous (1969; see also Rapoport and Rapoport, 1965). This model emphasizes that there are similar behavior patterns found at work and in the home. Even though minimal research exists in this area, there is reason to believe isomorphism may provide the best explanation for the relationship between work and the family.

No Relationship

Two different types of research under the "no relationship" perspective exist. Some researchers consider a relationship between work and the family, but are unable to substantiate the relationship for various reasons. According to Voyandoff (1988) the reason some researchers can not support a relationship between work and family is due in part to the belief of their subjects: men simply do not think work has any connection to their family life. Other researchers simply have performed their research inaccurately. For example, Barling cites a study conducted
by Gurin, Veroff and Feld (1960) on factors influencing mental health. In this study, males and females were asked entirely different questions: men were asked to comment about work life and females were asked to comment about home or family life. In this example, the researchers assumed females were only affected by duties as a homemaker, while males were only affected by duties in their occupation. The researchers neglected to examine whether or not males were affected by family situations and whether or not females were affected by either their husband's job or their own jobs (Barling, 1990). The second category of research under the "no relationship" perspective is best elaborated by Parsons (1959), who contends that work and family are completely separate and treats them as autonomous institutions. In fact, Parsons not only views the two institutions as existing without relationship to one another, he also contends that the nexus of the two is impossible. For example, Parsons's (1959) research clearly exemplifies an independent relationship between work and family by stating, "broadly speaking, there is no sector of our society where the dominant patterns stand in sharper contrast to those of the occupational world than in the family" (Barling, 1990:3).

Parsons's reasoning behind this separation of work and the family stems in part, from occupational agendas. He contends that the agendas set for the occupational sector
are unrelated to and run contrary to human nature (Parsons, 1959). Characteristics and behaviors developed for the occupational sector are not only unrelated to human nature, but are completely the opposite of inherently human needs and motivations (Parsons, 1959). In addition, Parsons (1959) argues that while people are loyal and resist competition, work sectors demand high performance levels which produce high levels of competition. This "no relationship" perspective between work and the family is referred to by Kanter, a prominent researcher in family research, as the "the myth of separate worlds" (1977).

Negative Factors Associated with the Work-Family

The vast majority of research examining the work-family relationship focuses on the negative effects. Much of this research is limited because of the assumption that job characteristics primarily affect only males, while work-family conflict, or work overload, affect only females. There is insufficient comparable information regarding both males and females in the work force and its effect on the family. The most prevalent negative factors that are associated with work and the family are inflexible work schedules, role conflicts, stress factors, and hours spent at work.

Inflexible Work Schedules

Greenhaus and Beutell (1985) found inflexible work schedules to contribute to work and family conflicts. In
fact, an inflexible work schedule was consistently associated with having a negative impact on the family. In an article by Brett & Yogev (1988), dual career couples were surveyed in order to examine work scheduling and its effect on the family. The authors found that when both partners are employed, little time is left for marriage and the family. Kingston and Nock (1987) discovered similar results: dual income couples cannot adjust to home life as well as single income families. Dual career families experience a strain that is not normally prevalent in single income couples. Research has shown that the traditional management styles of most companies cause much of the stress associated with inflexible work schedules. A study conducted by Hertz (1986) discovered the following:

Corporate (and professional) career trajectories are still based on the assumption that there is one type of family—the traditional nuclear family. Even though the gender composition of corporate work force has changed, the demands and structure of careers within these firms have remained relatively static (296: 1986).

Traditional management policies burden those families with dual career partners.

Traditional management approaches and policies typically assume that the nuclear family structure is still intact: the wife supervises the care of the house and
children (whether she is employed or not), leaving the husband/employee to concentrate on his work. This inaccurate assumption creates many conflicts in both the work place and in the family when each partner tries to coordinate work and family schedules together symbiotically. The cause of these conflicts is not limited to traditional management approaches: certain job characteristics contribute to work-family conflicts as well. Recently, Hughes, Galinsky, and Morris (1992) studied factors (particularly job characteristics) which negatively affect marital quality. Whether one or both spouses are employed, the underlying assumption remains that work (specifically job characteristics) negatively impacts family life.

Role Conflict

Role conflict, according to Vander Zanden (1990), refers to a "situation in which individuals are confronted with incompatible role requirements" affecting both males and females (105; 1990). The majority of research in this area primarily concentrates on the negative effects which women and dual career couples typically suffer from role conflict. For example, role conflict has been shown to effect both men and women in the work force, however, women predominately suffer more stress than men from role conflicts. This is attributed to women's efforts in appeasing their multiple roles and responsibilities as wives, mothers, and paid workers (Emmons, Biernat, Tiedje,
Lang, and Wortman, 1990). Kanter (1977) contends that, "jobs in the paid labor force outside the home were assumed to generate role conflict or induce strain that must be managed for women, although not usually for working men" (60: 1977).

A study conducted by Benin and Nienstedt (1985) found that when both the husband and wife are employed, they have "parallel", as opposed to complementary, roles. Both partners are responsible for work and the family. This generates role conflict for both wife and husband because each spouse acquires the responsibilities of a spouse and a paid worker. However, when only the husband is employed, couples have "complementary" roles, i.e., the husband is the breadwinner and the wife gives unconditional support (Benin et al., 1985). In this situation, husbands are able to escape role conflict because their wives are expected to give them unconditional support. The home becomes a "safe-haven" for men. The reverse is not true for women because most men are not the primary care-givers to their children (Shelton and Firestone, 1988).

In a study conducted by Emmons, et al., (1990), professional women with preschool children were studied to determine levels of stress, support, and coping skills. Not surprisingly, based on the assumptions of role conflict, this study found that women perceive their careers as having harmful effects on their family life and their children.
This negative perception pressures women when they are choosing between starting a family or advancing up the corporate ladder. The two are viewed as being incompatible in the work force. For example, recent trends revealed that women are choosing to have fewer children and to have them later in life. Hertz (1986) contends that, the heavy career investment these women must make early in their work lives leads to the postponement of children, and thus they do not combine working with childbearing in the early stages of their careers. (296:1986).

Dual career couples with children are forced to balance family life in some way as to not interfere with work. Research has shown that the "balance" is not divided equally among the spouses in dual career situations. For example, a study performed by Nock and Kingston (1989) found that most people prioritized their career life before their domestic life (see also Berk and Berk, 1979). However, Bielby and Bielby's (1989) study observing dual earners and how they balance work and family shows that women balancing work and family, typically give priority to family over work. On the other hand, men typically balance work and family commitments without having to "trade one for the other". Females who have the responsibility of a career are pressured to assume the responsibility of the family as well therefore placing themselves in the dual role of
worker/mother. Role conflict suffered by many women in dual income families has been supported by research which shows the division of "family work" between husband and wife is unequal (Pleck, 1985). Women still have the responsibilities of housework and child care while maintaining a career (Shelton and Firestone, 1988). The dual role of provider and caretaker is quite demanding when establishing a career, especially when sex segregation in the workplace and the division of household labor still exists (Bielby and Bielby, 1989).

Stress Factors Associated With Work

Many families, at some time or another, have problems stemming from stress that is brought home from work. Eckenrode and Gore (1990) term this type of stress the "contagion process". They have produced a model that displays stress as bi-directional, that is, it moves from work into the family and vice versa.

There is a plethora of research conducted with the underlying assumption that work stress both negatively impacts the family (and vice versa), and in some instances is dysfunctional. Weiss (1990) presented results from a study of 75 men who reported that stress is routinely brought home from work. This study found that the majority of the subjects feel they should only tell their wives about the positive aspects of their job (what they did well), and should not talk about the problems they encountered; men
feel they should shelter their wives and family from work related stress.

Stress from work can cause a breakdown in communication between marriage partners. Weiss (1990) found that when husbands try to "protect" their wives from stress, communication suffers. Weiss's (1990) research found that husbands wanted their wives to accept their detachment from family life and their preoccupation with work as a coping mechanism for stress, and to be supportive of this temporary withdrawal from the relationship. However, Eckenrode et al.'s research documented one wife who felt "as though she were a subordinate rather than a partner" (Eckenrode et al., 25: 1990). In a study conducted by Burke, Weir, and DuWors (1980), findings supported the contention that stress negatively impacts the spousal relationship at home. Again, it is the assumption here that work only negatively affects the marriage and/or family.

Hours Spent at Work

The amount of time spent at work is an important factor in how a family functions and its environment. Barling (1990) observed hours spent at work, hours spent commuting, and time involved with short and long term business trips; his research supports the assumption that time spent at work detracts from family life which negatively impacts the family (Barling, 1990). Hughes et al. (1992) examined time demands and its impact on marital quality by measuring
weekend work, overtime, and travel. Results show a significant relationship between time spent at work and tension experienced in the family. Similarly, Pleck (1985) contended that hours spent at work and time spent traveling were factors that negatively impacted the family. And finally, a study conducted by Burke et al., (1980) found that hours spent at work per week had negative effects on spouse "well being".

After reviewing the literature, it becomes apparent that the majority of research has been conducted with the assumption that only negative factors are associated between work and the family. Little research has been conducted to identify positive impacts of work on the family environment. Isomorphism

The third perspective involving the work-family relationship is isomorphism. Isomorphism originated as a logical and mathematical theory in order to examine similar relationships. Feibleman defines isomorphism as, a relationship between two systems such that there exists a one to one correspondence between their elements and an identity of some relation that holds between any of the elements in one system and the corresponding elements in the other system (166;1983). The perspective has further moved into other scientific areas such as the social sciences. It has been used as a
model for both psychology and sociology. For example, in Gestalt psychology, isomorphism was used to compare structural elements in the brain and the consciousness (Feibleman, 1983). Sociology has also adopted and modified the isomorphic perspective, defined by Rapoport and Rapoport as: "a similarity of behavior patterning existing between major life spheres" (385: 1965).

Isomorphism has rarely been employed as a perspective when examining how work impacts the family. One of the first studies to do so was Rapoport et al., (1965) and was followed directly by Aldous (1969). According to Rapoport et al., the isomorphic perspective examines the positives and negatives of the work family relationship. The researchers state that, "at critical transition points in work and family role systems, patterns of task accomplishment in one sphere affect those in another" (Rapoport et al., 393:1965). In other words, an individual’s performance at work has an impact both on the office and the family environment (Aldous, 1969; Rapoport et al., 1965).

Research which examines the isomorphic perspective (both positive and negative impacts of work on the family) indicates that certain types of jobs held, and specific job characteristics are related to specific impacts on the family (see Aldous, 1969; Dyer, 1969; Rapoport et al., 1965). For example, Aldous (1969) contends that the manner
in which a man reacts and participates in the family environment depends, in part, on his type of job. Individuals with "equalitarian" type jobs that require more communication and interpersonal skills often have more "equalitarian" households (Aldous, 1969). Specifically, "individuals who are treated with dignity at work will tend to treat their families with dignity" (Aldous, 385: 1969). Conversely, individuals who are treated like machines instead of respected workers feel alienated at work, and will bring that alienation home to the family.

Dyer (1964) conducted research with a similar perspective to isomorphism when he examined both positive and negative effects of work on family life. His (1964) research examined several blue-collar family's reactions (wife and children) to the father's job and found a correlation between the family members' feelings about the father's occupation and his specific job characteristics (Dyer, 1964). This research revealed that specific job characteristics of the father's occupation are directly related to both his work and family environments. When specific job conditions are favorable, work does not negatively affect the family. In fact, Dyer (1964) found that the lower prestige of blue-collar occupations is not viewed negatively by family members and is minimized when job conditions of the blue-collar job are favorable. Dyer notes: "despite the recognized lower prestige level of the
blue-collar job, the blue-collar family is generally satisfied with the father’s work if the specific job conditions are satisfactory to him, leaving him pleasant and happy when he comes home" (91: 1964). When job conditions are unfavorable, work negatively impacts the family atmosphere. Complaints about the job are related to specific job conditions, which in turn, affects the family (Dyer, 1964). Dyer (1964) found that the family tends to "nurse the grievances" of the father’s job. For example, when job conditions are unfavorable, the family becomes an outlet to relieve tension from work, thus creating work spillover.

Similar research surveying work and its impact on the family was conducted by Kohn (1969) who examined self-direction in occupations and its relation to the values of parenting. Kohn (1969) contends that white-collar or higher social status occupations tend to have more self-direction than blue-collar or lower social status occupations who have less, if any, self-direction. Kohn (1969) found that men who are self-directed at work are more likely to value self-direction as a parenting method in rearing children. Conversely, men who have little or no self-direction in their occupations are likely to give their own children less responsibility. (Kohn, 1969).

Recently, research conducted by Stanley-Stevens Yeatts, and Thibodeaux (1993) examines job enrichment and
participation in decision-making in relation to their
effects on family life. Results reveal that employees with
these job characteristics are more likely to view work as
having positive effects on family life.

Factors Creating Change in the Work Force

Demographic Trends

There are several factors creating change in the work
force and concurrently, in the family. Demographic trends
have caused an influx of females and dual career couples in
the work place. Nock and Kingston (1984) report that over
50% of all women were employed outside of the home in 1980.
According to Ward, Orazem, and Schmidt (1992) women now
represent over 44% of the labor force; the majority of
these women are married.

A study by Norton and Moorman (1989) reveals several
marriage related trends: marriages are taking place later
in life, more women will never marry, and divorce rates have
apexed, thereby indicating that rates are likely to fall.
The number of women having children has been on the decline
since fertility rates reached peak levels following World
War II (Cherlin, 1981). Women are now having fewer children
than just one generation ago and more women are having
children later in life. These changes have allowed women
the opportunity to give first priority to their careers,
leaving marriage and the family as a second priority.

Dual Career Couples
There also has been a tremendous increase in the number of dual career couples entering the work force. Research (is still in the beginning stages) on dual career couples and their attempts to combine work and family. Studies conducted by Kingston and Nock (1987, 1985) have made ground-breaking progress in acquiring research on work and its effect on dual income families. According to Kingston et al., (1985) dual career couples now are much more prominent than single career couples in the work place. In fact, in 1980, 52% of all marriages were comprised of dual income couples (Kingston et al., 1985). These changes occurring in the work force are creating change in the family. When both parents are employed, the responsibility for rearing children is placed on both partners. This differs from earlier trends of single income families where woman typically stayed at home to rear children.

Recent Structural Changes in Management Strategy

As noted earlier, the demographic composition of the work place has shifted significantly in recent years and has changed both the composition and the culture of today's work force (Googin et al., 1987). The three main demographic changes include an increase in the number of females, dual career couples, and single parent families entering the work force. Sussman (1990) argues that in order for companies to remain competitive, many will be forced to change corporate policy to adjust to these shifts in the current work force.
According to Lawler (1986), "American organizations find themselves competing with organizations in other countries that practice quite different, and in some cases highly effective, approaches to management" (13; 1986). Many companies in Europe have accounted for shifts in the demographic structure of their work force and have remained quite competitive. According to Sussman (1990), "U.S. companies’ practices will be increasingly compared with Europe’s and found wanting in their ability to recognize family needs and the conditions under which individuals’ productivity flourishes best" (25; 1990).

Googins et al. (1987) found that companies were affected by work and family demands placed on employees. Not surprisingly, the authors report that employee attitudes are related directly to corporate policy matters involving work and the family. In order to satisfy employees’ demands while remaining competitive, many companies are implementing day care, flexible benefits, flexitime, and job sharing (Googins, et al., 1987). Companies using traditional management approaches are viewed as less attractive in comparison to those companies that offer flexible benefits which fulfill both work and family needs.

International Competition

Intense international competition occurring in the work force has led to structural changes in management approaches
Companies, in order to remain competitive and attractive to employees, have been pressured to change traditional management strategies (Sussman, 1990). In fact, there is a specific move away from the traditional, top-down management styles towards participative management policies (Yeatts et al., 1993). Forms of participative management range from quality circles to self-managed work teams (Lawler, 1986). Levels of supervision are the main differences between these management forms. While employees involved in quality circles typically meet with supervisors in order to solve problems, those employees involved in SWMTS, have no supervisors: SWMT employees hold participatory and decision-making authority regarding their particular teams. (Yeatts, et al., 1993; Lawler, 1986).

Companies that adopt participative management strategies attract employees by increasing autonomy, communication, decision-making, authority, and participation within work teams. This approach enables companies to cut costs while increasing efficiency and product quality (Lawler, 1986). After analyzing successful U.S. companies, Matejko (1986) concluded that several effective companies placed their "focus on entrepreneurship,...the establishment of small, independent, venture teams...and the establishment of an intensive communication mostly of an informal nature" (230; 1986).
Corporations are also implementing job redesign through "enrichment" programs in order to attract workers (Lawler, 1986). At the most basic level, job "enrichment" means that an employee is held accountable for an entire job versus a single step, as in an assembly line process (Lawler, 1986). According to Lawler (1986), job enrichment contains two major components: horizontal and vertical expansion. Horizontal expansion assigns additional steps in the work process thereby increasing an individual's responsibility for the entire product. Vertical expansion gives an individual more responsibility in the decision-making process (Lawler, 1986). Gardell (1976) believes that the job enrichment of participative management is more effective than traditional management. Gardell (1976) also contends that traditional management approaches have adverse effects on family life. Jobs redesigned through enrichment, produce several results: improvement in quality of product, reduction in errors, lower rates of absenteeism and turnover, and improved job satisfaction (Lawler, 1986).

Decision-Making Responsibility/Participation

Another method, used by many corporations addressing issues of increasing international competition, work-family conflicts, and changing demographics, increases employee decision-making and participation responsibility. Participative management approaches allow more decision-making responsibility, to middle and lower levels of
management, thereby bringing more innovative ideas to the "drawing board" (Brady, 1989). In fact, Brady (1989) contends that,

another driving force toward greater involvement of lower-level employees in organizational decision making is the increasing recognition that entrepreneurship and innovation are essential elements for corporate survival, even in the largest and most mature businesses (24; 1989).

The degree of decision-making responsibility differs among different types of participative management. Individuals in quality circles typically answer to supervisors, hold less decision-making authority, and meet regularly to identify and solve problems. Individuals in self-managed work teams typically do not have immediate supervisors (as the name suggests) and are responsible for their team's division (Lawler, 1986).

Matejko (1986) contends that efficient management strategies encourage managers to give employees decision-making responsibility. Wynn and Guditus (1984) found that productivity is improved when employees are allowed to participate in decision-making responsibilities. When decision-making responsibility and authority are increased at lower levels of management, production, quality, and efficiency levels rise (Lawler, 1986). At the same time, employees typically find their jobs to be more rewarding.
Matejko (1986) claims that if management would provide a reasonably demanding job content, "there would be some opportunity for learning and decision-making, people would feel that they were needed and recognized as producers and as human beings, and the social importance of the work results would be evidenced" (192; 1986).

Research supports the notion that traditional management policies suffer negative effects due to the lack of decision-making responsibility given to non-management workers. Kanter (1989) contends that the traditional management policy of delegating decision-making responsibility and autonomy to managers alone typically has negative impacts on non-management employees; these negative results include union strikes and failed partnerships (Kanter, 1989).

**History and Emergence of Self-Managed Work Teams**

**Traditional Approaches**

Traditional approaches to work design were derived from the classical organization theory and applied to the discipline of industrial engineering. Early organizational theorists strived to produce a concept of organizational management which gave organizations the ability to function as efficiently and rationally as possible (Hackman and Oldham, 1980; Gulick and Urwick, 1937). According to Hackman et al., (1980) early theorists asserted that maximum efficiency would be achieved when an organization developed
rational administrative procedures which then would be implemented by managers.

Theoretically, this would be accomplished by clarifying the channels of authority thereby establishing central command and control (Hackman et al., 1980). These theoretical steps were applied to the discipline of industrial engineering. By standardizing and simplifying work, industrial engineers were able to increase the efficiency of productivity. Industrial engineers believed that specialization and routinization increased the efficiency and practice of interchanging and replacing employees and reduced training time. (Hackman et al., 1980).

Frederick W. Taylor was a prominent industrial engineer theorist who developed the principles of "scientific management". Scientific management quantitatively analyzes work practices in order to determine the simplest and most efficient methods. For example, one scientific management principle dictates that workers must be matched to the demands of the job rather than be under or over qualified, and must perform tasks exactly as specified (Hackman, 1980). This involves the division of labor, which is an underlying principle of scientific management. According to Hackman et al., (1980) the division of labor, "specifies that maximum work efficiency will be achieved if jobs are simplified and specialized to the greatest extent practicable" (47; 1980).

Classical organization and industrial engineer
approaches share the similar goal of increasing productivity; they also share a similar weakness: they neglect to consider the worker's satisfaction or dissatisfaction with their job. Matejko (1986) calls this the "alienation of modern workers." Many companies still operate under traditional management policies and suffer from the results. Matejko (1986) notes, "companies that neglect to consider the blue-collar worker's worries and grievances" (167: 1986). Matejko asserts that the traditional approach no longer satisfies the modern, better educated employee.

Behavioral/Human Relations Approaches

The negative impacts employees suffer from work simplification and routinization due to traditional approaches have led a large number of organizational theorists and behavioral scientists to develop alternate approaches and produce a variety of behavioral/human relations approaches such as, activation theory, motivation-hygiene theory, job enrichment/characteristics theory, and participative management theory (see Lawler, 1986; Hackman and Oldham, 1980). The human relations approach focuses on producing goods and services more efficiently by stimulating employees and producing a variety of behavioral/human relations approaches.

Activation theory asserts that job format influences excitement and activity at work. Employment which is redundant, boring, and fails to stimulate workers does not attract people. This lack of activity and variety on the job results in reduced work efficiency and productivity (Hackman and Oldham, 1980).

Motivation-hygiene theory similarly argues, that the nature or format of the job influences employee satisfaction. Fredrick Herzberg, (1966; 1976) introduced this theory and argues that factors intrinsic to the work performed, called "motivators", inspired employees to work for recognition and achievement (intrinsic factors). Herzberg (1966;1976) also argues that hygiene factors, which are extrinsic to work, are causal factors of dissatisfaction among employees. For example, working conditions and management practices are considered extrinsic factors. According to Herzberg's (1966; 1976) theory, individuals are motivated only to the extent to which "motivators" are included in the work design; the work itself is a
significant motivation and satisfaction catalyst for employees. Weaknesses of this theory include lack of empirical evidence and difficulty in measuring presence or absence of motivating factors. In addition, the theory does not account for differences in individual responses to motivating factors.

A third behavioral approach is the job enrichment/characteristics theory. It is similar to the activation and motivation-hygiene theories in its assertion that the design of jobs effects employee satisfaction, performance, and motivation. However, job enrichment/characteristics theory is distinguishes itself by encouraging job "enrichment" which makes jobs more desirable to employees and increases satisfaction and performance among employees (Hackman and Oldham, 1980).

Two significant researchers, Turner and Lawrence, (1965) examined employee reactions to five specific job characteristics: variety, employee autonomy, levels of required and optional interaction, knowledge and skill levels required, and the degree of employee responsibility given to the employee (Hackman et al., 1980). Turner and Lawrence (1965) maintain that a job with increased levels of mentioned job characteristics increase the level of employees satisfaction. Additional job characteristics have been included in order to expand this approach and are included in Appendix I (Hackman et al., 1980). Recent
studies support a causal relationship between job enrichment and its effects on employee attitudes; but, results linking job enrichment and levels of performance have been inconclusive (Hackman et al., 1980). Limitations of the job enrichment/ characteristics theory are due to its inability to account for problems of repetitive job tasks and management programs that are not individually based; the theory is not specifically designed for individuals working as team members (Hackman et al., 1980).

The participative management approach is similar to other behavioral approaches in its emphasis on the relationship between job design and employee satisfaction and performance. The participative management approach distinguishes itself from other behavioral approaches in its application of decision-making policies to job requirements and job designs. Redesigning job to include more decision-making responsibilities results in positive effects on employee attitudes and performance. Lawler (1986) contends that the participative management approach improves organizational effectiveness, employee well-being, and product quality while reducing labor costs.

**Sociotechnical Systems Approach**

The sociotechnical systems theory was developed and expanded upon by [Davis and Cherns (1975); Trist, Higgin, Murray, and Pollock (1963)]. This theory is particularly important when examining self-managed work teams because it
combines both social and technical aspects of the work/organization environment (see Hackman et al., 1980). The theory encourages innovation and work redesign by providing the theoretical basis for self-managed work teams (Cummings, 1978).

The sociotechnical systems theory recognizes that organizations are a part of and effected by the outside environment (Hackman et al., 1980). This approach accounts for external factors, such as the culture of an organization. Hackman et al., (1980) assert, "especially important are cultural values that specify how organizations ‘should’ function, and generally accepted roles that individuals, groups, and organizations are supposed to play in society" (62: 1980). The work organization and the environment are closely connected and incorporated; therefore it is essential to understand this relationship when work undergoes redesign or change (Hackman et al., 1980).

The general nature of the sociotechnical approach makes it adaptive to most work/organization situations. Unlike other approaches, it accounts for personal needs and group relations. The sociotechnical approach is unique in that it combines social technical aspects of work; it does not simply improve the technical aspects of the work environment at the expense of the social (Hackman et al., 1980).

Self-managed work teams function on both the social
level and the technical level (Hackman et al., 1980). In order for self-managed work teams to operate at maximum efficiency, functions occurring within the organization, relationships among individuals and coworkers, and necessary skills must be coordinated. The sociotechnical systems approach emphasizes these vital aspects of the organization. In order to study self-managed work teams, relationships between and within an organization and technical aspects of work methods must be evaluated. The sociotechnical systems approach provides the theoretical background to accomplish this type of evaluation. Traditional approaches are insufficient in that they ignore individuals’ needs while behavioral approaches neglect to consider technical work methods and the importance of where the organization is within the environment (Hackman et al., 1980).

Limitations of the sociotechnical systems approach include methodological difficulties including obtaining definitions of specific criteria and an unclear theoretical basis for determining a work group that is "designed well" (Hackman et al., 1980). This approach also neglects to account for differences in discussing how individuals respond to work that is designed under this approach.

Characteristic of SMWTS

Changes in society and the work force have prompted changes in management styles (Lawler, 1986). Increasing
competition as well as the change from manufacturing industries to service industries has prompted the implementation of a new management paradigm which emphasizes empowering employees (Lawler, 1986). This model, emphasizes individual job enrichment and increased decision-making authority through a type of participative management termed self-managed work teams (SMWTS). SMWTS are valuable because they combine the advantages of the job enrichment, participative management, and the sociotechnical approaches. Recent changes superseded the once sufficient traditional approaches, as designs for work.

Ideally, self-managed work teams ideally consist of six to fifteen employees (Lawler, 1986). Employees in SMWTS are given more job enrichment and decision-making/participation authority than those employees in traditional work settings. According to Hackman et al., (1980), job enrichment gives people more responsibility, and the ability to view and enables them to view and understand a project from start to finish; this comprehensive approach is termed "task identity". SMWTS also provide enrichment by offering skill variety and task significance (Stanley-Stevens and Yeatts, 1992).

As mentioned earlier, every team member in SMWTS has decision-making responsibilities and works without an immediate supervisor. According to Stanley-Stevens and Yeatts (1992), this approach enables employees to make the
majority of management decisions directly related to the team. Typical decisions made by SMWTS include: performance and execution of work, organization of materials and equipment, and in certain situations, the hiring and evaluation of team members (Yeatts, Beyerlein, and Thibodeaux, 1991). Self-managed work teams are highly autonomous, however, most teams do have a facilitator who is analogous to a coach (Hackman et al., 1980).

Individuals involved in SMWTS are "cross trained" (Lawler, 1986) so that members are able to perform all tasks within their team. According to Lawler (1986), "cross training" provides more flexibility and encourages a group sense of responsibility. In addition, members receive task and interpersonal training which enables members to learn different tasks associated with the team and facilitates essential interpersonal communication.

Minimal research has been conducted on SMWTS, however interest is rising. Corporate networks, international conferences, and corporate and employee surveys have recently been conducted on self-managed work teams (see Lawler, Ledford, and Mohrman, 1989; Yeatts, Stanley-Stevens, Ruggiere, 1992; respectively). According to Lawler (1986), the typical advantages of SMWTS include, improved work methods and procedures, staff flexibility, and product quality. Other researchers have reported positive effects from SMWTS as well (Orsburn, et al., 1990; Boyett and Conn,
1988). Results from these studies typically report leaner staffs due to the absence of a supervisor and cross-training which enables employees to replace absent workers. Yeatts et al., (1991), reported positive results from a study conducted at Texas Instruments Incorporated which recognized greater flexibility, and improvements in communication and cooperation.

Purpose of the Research

The purpose of this thesis is to examine the effects of three work related factors "decision-making/participation skills, sociotechnical factors, and job characteristics on family life. Hypotheses to be tested include:

H₁: Individuals involved in self-managed work teams will experience positive work spillover into family life.

H₂: The more enriched the job, the more the employee will experience positive spillover.

H₃: The more decision-making opportunities an employee has within a self-managed work team, the more the employee will experience positive spillover.

H₄: The more communication and interpersonal training an employee receives at work, the more the employee will experience positive work spillover.
CHAPTER III

METHODOLOGY

This chapter begins with descriptions of the corporation included in the analysis, the survey instrument, and the data collection procedures. A discussion of independent and dependent variables, methods of analysis and limitations follows.

Yeatts et al., received a $100,000 grant from the state supported Texas Advanced Research Program, to study the impacts of SMWTS. The researchers developed a survey instrument and collected data in order to examine a variety of work-related relationships, including the effects of SMWT characteristics on work spillover into the family environment. A total of 158 employees from the Department of Defense’s (DOD) Quality Assurance and Contracts Divisions were surveyed. Only those individuals in the Quality Assurance Division, are included in this study since only these 76 Department of Defense employees are currently transitioning into teams. The Quality Division is responsible for assisting and monitoring contractors to ensure the quality of the products produced for DOD. Those individuals employed in the Contracts Division, who are not transitioning into teams, also work with contractors but are
only concerned with contractual requirements.

The questionnaire was designed to allow the researchers to determine whether some employees were experiencing a positive effect in their family life from work and if so, whether these individuals had any common job characteristics and work experiences which might contribute to the effect. Most questions in the survey were based on a 7-point Likert scale with response possibilities ranging from "strongly disagree" to "strongly agree". A complete list of the questions used, concepts measured, and the reliability of each concept is provided in Appendix I.

Data Collection Procedures

The survey was conducted in the Dallas-Fort Worth Metropolitan area in October 1991. The questionnaire was distributed by management personnel to the employees. The survey instruments were completed by the employees and then returned by mail directly to the Principal Investigator. Each survey instrument was introduced by a cover letter which briefly stated the purpose of the survey and guaranteed confidentiality (the cover letter and survey instrument are provided in Appendix II). Survey results were ultimately provided in aggregate form in order to insure anonymity and confidentiality. It was stressed that employee participation was completely voluntary. The response rate was 72%.

Dependent and Independent Variables
The dependent variable considered was perceived "positive work spillover" into the family environment. Survey questions used to measure this variable were developed by the researchers. Positive work spillover was measured by using three questions directly addressing decision-making, listening, and conflict resolution skills. Each question asked whether these had a positive impact on family life. The specific questions used were: one, "the decision-making skills I have learned at work have had a positive effect on my family life"; two, "the listening skills I have learned at work have had a positive effect on my family life"; and three, "the conflict resolution skills I have learned at work have had a positive effect on my family life".

Individual responses ranged from one to seven. A response of "one" indicated no perception of positive work spillover into the family environment while a response of "seven", indicated a strong perception of positive work spillover. In order to conduct regression analysis, individual scores were then recoded as follows: a score of a "five" or greater was recoded and given a value of "1"; while a score of "four" or lower was recoded and assigned a value of "0". Recoding was initiated to further differentiate those individuals who perceived positive spillover from those who did not perceive positive spillover. A work spillover index was then created by
combining employees' responses from the three questions which measured decision-making, listening and conflict resolution skills, in order to produce an overall measure of positive work spillover (Appendix I provides the specific questions used to measure work spillover). Thus, the index ranged from Zero to 3, with 3 indicating a positive response to all three questions.

The independent variables considered included three major SMWT characteristics: participation in decision-making, sociotechnical factors, and job design characteristics. Several different concepts (presented below) were used to measure each SMWT characteristic. In addition, each different concept was measured according to an index, which was created from a variety of questions, in order to promote reliability (Appendix I provides a complete list of the concepts measured, and specific questions used to measure the concepts).

**Decision-Making**

Decision-making responsibility was measured by using two different concepts including, "variety of decisions made" and "extent of participation in the decisions made". Questions used to measure "variety of decisions made" were developed by the researchers and were constructed by using ten questions related to ten various decisions the team was or was not empowered to make. Thus, for this concept, individual responses ranged from 0 to 10.
To measure "extent of decision-making" responsibility, two questions were developed and tested by the researchers (see Appendix I). Each question addressed the extent to which all team members participated in making decisions. The responses were then added together to create an index.

**Sociotechnical Factors**

Two concepts, "communication with other teams" and "open information systems" were used in order to measure sociotechnical factors. While "communication with other teams" was developed and tested by researchers for this study, "open information systems" was developed by researchers for the Department of Defense (1990). Three questions measured the existence of "open information systems" and two questions measured the existence of "communication with other teams". After indexing the questions, individual responses for "communication with other teams" ranged from "3" to "21", while scores for "open information systems" ranged from "2" to "14".

**Job Characteristics**

Job characteristics were measured by Hackman and Oldham’s (1980) core job dimensions: skill variety, task identity, task significance, autonomy, feedback from the job, and feedback from others. Three questions covered each characteristic in order to increase reliability. Individual responses ranged from "3" to "21", and were then added together to create an index.
Methods of Analysis

Multiple regression was conducted in order to determine the extent to which the SMWT characteristics (participation in decision-making, sociotechnical factors and job characteristics) contributed to perceived worked spillover in the family environment. Correlations between the independent variables were examined to identify multicollinearity problems; however, none were found. It is important to note that ordinal level data was used in analysis; however, due to the use of a Likert-Scale format and recoding, the data are found to be quite "robust". Previous research which used similar scales reported no problems in treating this type of data as interval level data (Yeatts, Pillai, and Thibodeaux, 1993).

The questions which measured the dependent variable, perceived work spillover, were slightly biased. The questions asked if the skills learned at work had a "positive" effect on family life, therefore, this format might have led the employee to respond in a more positive manner than had the questions been neutral; analyses utilizing neutral questions or open-ended questions are preferable. There was an attempt to analyze an open-ended question, however, the number of responses was too small for meaningful analysis.

Unfortunately, the sociotechnical dimension was not fully tapped, leaving no measures for "extent of cross-
training", and "internal and external customer and supplier communication". There were indexed measures for "communication with other teams" and "open information systems" which were included in the analysis.

Need For Future Research

Another factor to be considered when analyzing positive work spillover reported by the DOD employees is the possibility that results evidenced were similar to "the Hawthorne Effect". It is conceivable that employees reported positive work spillover simply due to the extra attention from the researchers and the employee surveys and not from SMWT characteristics. An attempt was made to reduce the Hawthorne effect by limiting the researchers' contact with employees. Additional research is needed (and suggested) in order to investigate results possibly stemming from the Hawthorne Effect; a longitudinal study would be preferable in order to ensure maximizing validity and reliability.
CHAPTER IV

RESULTS AND IMPLICATIONS

The results of the effects of decision-making, sociotechnical factors, and job characteristics on work spillover are provided below. These are followed by a more in-depth discussion of the implications.

Results

Over 40% of the variation in employees’ perceived positive work spillover was explained by "participation in decision-making", "sociotechnical factors", and "job characteristics" (Table 1, Adjusted R² = .41). Each is discussed below.

The Effects of Sociotechnical Characteristics on Positive Work Spillover

The first sociotechnical characteristic, "communication with other teams" was found to have the greatest effect on employee perceived work spillover (beta = .39, significant at the .01 level). This supports similar research findings on the isomorphic theory of Aldous (1969) and Rapoport et al., (1965): work can both positively and negatively impact the family. The second sociotechnical factor, "open information system", was not found to significantly impact work spillover.
The Effects of Job Characteristics on Positive Work Spillover

One job characteristic, "feedback from the job itself", was ranked second among the ten factors considered to affect positive work spillover (beta = .27). Two other job characteristics also had a significant impact on work spillover: "task identity", which ranked fourth in the ten factors considered (beta = -.24), and "skill variety", which ranked fifth (beta = .23). The three remaining job characteristics, "task significance", "autonomy", and "feedback from others", were not found to significantly impact work spillover.

The Effects of Participation in Decision-Making on Positive Work Spillover

"Participation in a variety of decisions made", was ranked third among the 10 factors affecting perceived positive work spillover (beta = .24). "Extent of participation", a second decision-making factor, was not found to significantly impact work spillover. The implications of these findings are discussed below.

Implications

The most important factor found to affect positive work spillover was the sociotechnical factor, "communication with other teams". Two other factors, participation in decision-making, and job characteristics, were also found to significantly affect positive work spillover; however, the
effect was slightly less than the sociotechnical factor. Each is discussed in more depth below.

**Sociotechnical Factors and Positive Work Spillover**

**Communication With Other Teams**

The sociotechnical factor, "communication with other teams", appeared to have the most significant impact on positive work spillover. Employees who reported having effective communication channels with other teams were most likely to report positive work spillover (beta = .39). High scores on positive work spillover indicated that certain skills learned at work, conflict resolution skills, listening skills, and decision-making skills, positively affected family life.

Those employees reporting effective communication with other teams required that they respond positively questions pertaining to good relationships with other teams and divisions, as well as effective communication channels between teams, throughout the Department of Defense. Those individuals who communicated effectively and reported good relationships at work, successfully transferred those communications skills to the family environment. This is not surprising since conflict resolution skills and listening skills were two of the three factors measuring positive work spillover into family life. These results support the perspective of isomorphism which contends that can successfully people apply what they learn at work to
other aspects of their lives (see Aldous, 1969; Rapoport and Rapoport, 1965).

**Open Information System**

"Open information systems" were not found to be related to positive work spillover. Persons who scored high on "open information systems" received necessary work information, easily gained access to supervisors, and did not rely on rumors for information. Those employees scoring high on this sociotechnical factor did not report positive work spillover. The results support the theory that work and family are independent institutions (see Barling, 1990; Parsons, 1959). However, it could be argued that those employees who scored high on "open information systems" were indeed receiving the information they needed, but that this information might not necessarily have developed their communication skills, whereas "communication with other teams" more directly necessitates the development and use of communication skills. "Open information systems" could indicate that employees simply received necessary information without actually communicating with coworkers (i.e., weekly reports). In contrast, "communication with other teams" was more likely to directly utilize conflict resolution and listening skills. This interpretation suggests that "open information systems" did not successfully measure skills considered for positive work spillover.
Job Characteristics and Positive Work Spillover

Feedback From the Job Itself

Job characteristics were also found to have significant effects on positive work spillover, however, the strength of the effects was slightly less than that of the sociotechnical factor. In order for an employee to score high on "feedback from the job itself", the job had to offer evaluative information; in other words, the employee gathered clues from the job which then offered them insight. Employees with high scores on "feedback from the job itself" also reported increased levels of positive work spillover. It appears that employees who were able to analyze their jobs in order to obtain feedback utilized the same skills as required in the decision-making process, which was one of the measures for positive work spillover. These results further support the perspective of isomorphism thereby indicating that feedback from work had a positive influence on the family environment (see Aldous, 1969; Rapoport et al., 1965).

Skill Variety

"Skill variety" was another job characteristic found to positively affect work spillover. Employees who utilized a variety of skills and many complex skills in their work were also likely to exercise listening and decision-making skills. Therefore, it seems reasonable that the more skill variety an employee reported, the more listening and
decision-making skills were involved. These skills accounted for two of the three direct measures for positive work spillover. A greater variety and complexity of skills indicated an increased possibility that skills would successfully be transferred to the family environment. This supports the perspective of isomorphism thereby indicating that a person can be positively influenced by the work place which can, in turn, positively impact the family environment (see Aldous, 1969; Rapoport et al., 1965).

**Task Identity**

The third job characteristic which was found to have a significant impact on positive work spillover is "task identity". In order for employees to obtain high scores on "task identity", required that they had to complete entire projects (from beginning to end). Initially, it was hypothesized that employees with this ability would report positive work spillover into their family environment. However, results indicated that those who reported a high amount of "task identity" were actually less likely to experience positive work spillover; and in fact, they reported a slightly negative impact from work on their family environment.

This finding supports the notion that work only negatively impacts the family. However, it is possible that the negative spillover was limited to the transition phase when employee responsibility was increased. Due to the
recent transition in management approaches, the benefits derived from increased responsibility might not have been perceived and therefore would not have significantly affected positive work spillover.

**Feedback From Others**

A fourth job characteristic, "feedback from others", was not found to be a factor affecting positive work spillover. Employees who scored high on "feedback from others", regularly received feedback from supervisors and coworkers regarding performance and ability. People who reported "feedback from others", did not score high on positive work spillover; therefore, "feedback from others did not significantly impact positive work spillover. This finding supports the theory that work and the family are independent institutions (see Barling 1990; Parsons, 1959). A possible explanation for this lack of impact could stem from the DOD's recent transition into SMWTs. Typically, people in traditional management structures receive feedback from their supervisors and not their coworkers, while SMWT employees are expected to engage in feedback as part of the team concept.

This difference in management approaches could explain why employees did not report positive work spillover. In order to gain the interpersonal skills necessary for effective feedback, SMWT employees must participate in interpersonal training courses or seminars. Traditional
work structures do not necessitate this type of training since typically only supervisors give feedback. Due to the recent transition to SMWTs, this type of interpersonal training will take more time to implement.

**Task Significance and Autonomy**

"Task significance" and "autonomy" were found to be unimportant factors in positive work spillover. Results support Parson's (1959) argument that work and the family are two completely separate institutions. However, these job characteristics do not require a person to have interpersonal skills or interaction with others: a person who scores high on "task significance" and "autonomy" is not necessarily required to develop interpersonal skills.

Persons scoring high on "task significance" and "autonomy" perceived themselves as working independently. But, it could be argued that persons scoring high on these job characteristics were not necessarily learning transferable, interpersonal skills. Positive work spillover into the family environment was measured by several interpersonal skills: participation in decision-making, conflict resolution and listening skills. Job characteristics lacking these interpersonal qualities could serve as an explanation as to why they had no significant impact on positive work spillover.

**Participation in Decision-Making and Positive Work Spillover**

**Variety of Decisions Made**
"Variety of decisions made" was an important factor affecting positive work spillover. A person who scored high on "variety of decisions made", reported a great variety in the types of decisions made while on the job. Decisions included: arrangement of work place, planning of the work within a team, amount of work, amount of work produced, work conditions, shift schedules and overtime, safety procedures, work pace, order of work to be performed, and team discipline. Those employees who scored high on these types of decisions were more likely to report positive work spillover into their family environment.

This finding supports the isomorphic paradigm which states that skills learned at work can be transferred into the family environment with positive results (Aldous, 1969; Rapoport et al., 1965). Employees who were experienced in decision-making took these experiences home to their family environment. Evidence supports the notion that those with decision-making responsibilities at work, learned how to compromise, listen to others, and tended to be more sensitive to others' feelings. This, in turn, spilled over into family life, improving employees' ability to listen to their spouses and children.

**Extent of Participation in Decisions Made**

"Extent of participation in decisions made" was found to be an unimportant factor affecting positive work spillover. An employee scoring high on "extent of
participation in decisions made”, was highly involved in the
decision-making process at work. Findings indicate that
those employees who reported a high level of participation
in decision-making did not concurrently report positive
work spillover.

This finding initially supports the perspective that
work and family are independent institutions (Barling, 1990;
Parsons, 1959). However, the extent to which an employee
was responding to this question may not have been completely
captured by how much the employee was actually responding to
the questions. For example, once “variety of decisions
made” (having many different decision making opportunities—
where a person gains most skills in decision making) was
controlled for, there could have actually been very little
decision-making that a team was allowed. This seems
plausible due to the recent transition to SMWTs where new
teams had less opportunity to make decisions than “older”
teams.

Some of the SMWTs at the DOD might not have had the
opportunities to participate in decision-making, as compared
to a team that had been established for a longer period of
time. Therefore, depending on the extent to which decision
making skills were developed, “extent of participation in
decision-making” might not have been as good a measure as
“variety of decisions-made”.

Conclusion
Overall, the sociotechnical factor, "communication with other teams", seems to be the most important factor affecting positive work spillover. Several job characteristics as well as participation in a variety of decisions-mades were also found to significantly affect positive work spillover. The single most significant factor found to affect positive work spillover was the communication/ interpersonal skills of the self-managed work teams. The findings provide more support for the perspective of isomorphism than the other perspectives considered (see Aldous, 1969; Rapoport et al., 1965).
CHAPTER V

CONCLUSIONS

This thesis has provided an examination of employees working in the "Quality Assurance" Division at the Department of Defense. The DOD was chosen for this study because of the recent transformations of management strategies due to demographic changes and international competition. These changes in the work force have prompted many companies to change management structures from a traditional management approach to a participative management approach using self-managed work teams. The purpose of this thesis was to examine the impacts of SMWTS on the family.

Much of the research that has examined the work-family relationship can be categorized into one of three perspectives: work negatively effects family life, work and family are completely independent of one another, and work positively or negatively impacts the family which is the paradigm of isomorphism (see Aldous, 1969; Rapoport et al., 1965).

The data failed to support the perspectives that work only negatively impacts on the family environment and that work and the family are autonomous institutions. Further
analysis provided substantial support for the paradigm of isomorphism when considering SMWT characteristics such as participation in decision-making, sociotechnical factors, and job characteristics. Analyses of the data indicated that "communication with other teams", a sociotechnical factor, was found to have the largest influence on positive work spillover. "Variety of participation in decision-making", was also found to significantly affect positive work spillover, however, the effect was slightly less than the sociotechnical factors. The last SMWT characteristic examined, job characteristics, was also found to have a profound influence on positive work spillover when factors such as "feedback from the job itself" and "skill variety" were examined.

The only concept found to negatively influence work spillover was the job characteristic, "task identity". Other job characteristics, "variety of decisions made", "open information system", "task significance", "autonomy" and "feedback from others" were found to have no significant impacts on work spillover.

Those employees involved in a SMWT environment who reported enriched and empowered jobs denoted by having higher levels of communication, a variety of participation in the decision-making process, feedback from the job, and skill variety, also reported positive impacts of work on family life. Thus, SMWT employees who were experienced in
listening, decision-making, and conflict resolution skills, successfully transferred some of the skills into the home environment.

Data overwhelmingly supported the perspective of isomorphism which asserts that the work environment can have positive as well as negative impacts on family life (see Aldous, 1969; and Rapoport and Rapoport, 1965). Further, the majority of employees involved in a SMWT environment reported significant positive impacts from work on family life. Thus, the data indicated that those individuals involved in a SMWT management approach recognized substantial amounts of positive work spillover. Overall, the perspective most supported by the data was the paradigm of isomorphism (see Aldous, 1969; Rapoport et al., 1965).
Table 1
Factors Affecting Work Spillover In the Family Environment

<table>
<thead>
<tr>
<th>Participation in Decision-Making, Sociotechnical Factors, and Job Characteristics</th>
<th>Work Spillover</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beta</td>
</tr>
<tr>
<td><strong>Participation In Decision-Making</strong></td>
<td></td>
</tr>
<tr>
<td>--Variety of Decisions Made</td>
<td>.24*</td>
</tr>
<tr>
<td>--Extent of Participation</td>
<td>.002</td>
</tr>
<tr>
<td><strong>Sociotechnical Factors</strong></td>
<td></td>
</tr>
<tr>
<td>Communication With Other Teams</td>
<td>.39**</td>
</tr>
<tr>
<td>Open Information System</td>
<td>-.06</td>
</tr>
<tr>
<td><strong>Job Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Skill Variety</td>
<td>.23*</td>
</tr>
<tr>
<td>Task Identity</td>
<td>-.24*</td>
</tr>
<tr>
<td>Task Significance</td>
<td>-.09</td>
</tr>
<tr>
<td>Autonomy</td>
<td>.08</td>
</tr>
<tr>
<td>Feedback From Job Itself</td>
<td>.27*</td>
</tr>
<tr>
<td>Feedback From Others</td>
<td>-.06</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.41***</td>
</tr>
</tbody>
</table>

* = Significant at the .05 level
** = Significant at the .01 level
*** = Significant at the .001 level.
REGRESSION MODEL: WORK SPILLOVER

Participation in Decision-Making
--- Variety
--- Extent

Sociotechnical Factors
--- Communication
--- Open Information Systems

Job Characteristics
--- Skill Variety
--- Task Identity
--- Task Significance
--- Feedback Job
--- Feedback Others
--- Autonomy

PERCEIVED POSITIVE WORK SPILLOVER INTO THE FAMILY ENVIRONMENT
APPENDIX I
QUESTIONS USED TO MEASURE THE SMWT CHARACTERISTICS AND WORK SPILLOVER

SMWT CHARACTERISTICS: DECISION-MAKING/PARTICIPATION
(modified from Heller et al., 1988)

Variety of Decisions Made (each respondent had a score ranging from 0 to 10)
  -- My team decides how to arrange and plan the work within our team.
  -- My team decides on the order in which to do things.
  -- My team decides how to arrange the work place (eg. desks, computer location etc.)
  -- My team makes decisions regarding work conditions (noise, temperature, etc.)
  -- My team makes decisions regarding safety procedures.
  -- My team determines how we are evaluated.
  -- My team disciplines team members if necessary.
  -- My team decides the amount of work we will produce.
  -- My team decides who works on which shift and who works overtime.
  -- My team sets the pace of work.

Extent of Participation in the Decisions Made (.54)
  -- Does everyone in your team have a say in the decisions made by your team?
  -- Does one or two people dominate when decisions are made by your team?

SMWT CHARACTERISTICS: SOCIOTEchnical FACTORS

Open Information System (modified from the Department of Defense, 1990) (.65)
  -- People in my team get the facts and the information they need to do a good job.
  -- It is easy to talk with my supervisor.
  -- When thinking about this organization's employees who have similar tasks as mine: most have to rely on "the grapevine" or rumors for information.

Communication with Other Teams (Yeatts, 1990) (.73)
  -- There are effective communication channels between teams in this organization.
  -- My team has good relationships with other teams and divisions that we work with.

Provided in parentheses for each concept is the author(s) of the question(s) and the ranges of reliabilities (alphas) based on the DOD data set, respectively. Modifications of questions, where indicated were made to fit the Likert seven-scale format.
SMWT CHARACTERISTICS:  JOB CHARACTERISTICS (Hackman and Oldham, 1980)

**Skill Variety** (.71)
-- Does your job require you to do many different things at work, using a variety of your skills and talents?
-- The job requires me to use a number of complex skills.
-- The job is quite simple and repetitive.

**Task Identity** (.72)
-- Does your job involve doing a complete piece of work that does not have to be finished by other people and/or machines.
-- The job provides me the chance to completely finish the pieces of work I begin.
-- The job is arranged so that I do not have the chance to do a whole piece of work from beginning to end.

**Task Significance** (.71)
-- Are the results of your work likely to significantly affect the lives of other people?
-- This job is one where a lot of other people can be affected by how well the work gets done.
-- The job itself is not very significant or important in the broader scheme of things.

**Autonomy** (.81)
-- Does your job permit you to decide on your own how to go about doing the work?
-- The job gives me a lot of freedom in how I do the work.
-- The job does not allow me to use my own initiative or judgement in carrying out the work.

**Feedback From the Job Itself** (.77)
-- Does doing the job itself provide clues about how well you are doing? (This does not included feedback from co-workers or supervisors.)
-- The kind of work I do provides many chances for me to figure out how well I am doing.
-- The work itself provides very few clues about whether I am performing well.

**Feedback From Others** (.85)
-- Do supervisors and co-workers let you know how well you are doing on your job?
-- Supervisors and co-workers often let me know how well they think I am performing.
-- The supervisor and co-workers on this job almost never give me any "feedback" about how well I am doing in my work.
Work Spillover (Yeatts, 1990)

-- The decision-making skills I have learned at work have had a positive effect on my family life.
-- The listening skills I have learned at work have had a positive effect on my family life.
-- The conflict resolution skills I have learned at work have had a positive effect on my family life.
As you read the questions, please think of your "TEAM" as the group of persons you work most closely with. This will be either a section, ACO team, work team, or branch.

Please use the following scale to answer the questions below.

1--------2--------3--------4--------5--------6--------7
Disagree Neutral Agree
Strongly Strongly

__1. The job requires me to use a number of complex skills.
__2. Every member of this organization is concerned with the need for quality.
__3. The job is arranged so that I do not have the chance to do a whole piece of work from beginning to end.
__4. The kind of work I do provides many chances for me to figure out how well I am doing.
__5. The job is quite simple and repetitive.
__6. My supervisor gives the team members deadlines that must be met.
__7. I prefer a job that is not constantly changing.
__8. This job is one where a lot of other people can be affected by how well the work gets done.
__9. The job does not allow me to use my own initiative or judgement in carrying out the work.
__10. Supervisors and co-workers often let me know how well they think I am performing.
__11. The job provides me the chance to completely finish the pieces of work I begin.
__12. The work itself provides very few clues about whether I am performing well.
__13. The job gives me a lot of freedom in how I do the work.
__14. The job itself is not very significant or important in the broader scheme of things.
__15. People in my team get the facts and the information they need to do a good job.
__16. The amount of work I am asked to do is fair.
__17. The quality of my work is second to none.
__18. My team has good relationships with other teams and divisions that we work with.
__19. Team members create new ways of performing tasks.
__20. Employees accept changes in the workplace, once made by the team members or supervisor.
__21. Co-workers in my team cooperate with each other to get the job done.
__22. The supervisor and co-workers on this job almost never give me any "feedback" about how well I am doing in my work.
__23. My supervisor stresses the use of standard operating procedures.
__24. I get a feeling of worthwhile accomplishment from doing my job.
Some of the next statements ask how you personally feel about your job. Please use the following:

1--------2--------3--------4--------5--------6--------7
Disagree Neutral Agree
Strongly Strongly

1. I am satisfied with the amount of personal growth and development I get in doing my job.

2. My opinion of myself goes up when I do this job well.

3. Generally speaking, I am very satisfied with this job.

4. Most of the things I have to do on this job seem useless or trivial.

5. I usually know whether my work is satisfactory on this job.

6. I feel a great sense of personal satisfaction when I do this job well.

7. The work I do on this job is very meaningful to me.

8. I feel a very high degree of personal responsibility for the work I do on this job.

9. I frequently think of quitting this job.

10. I feel bad and unhappy when I discover that I have performed poorly on this job.

11. I often have trouble figuring out whether I’m doing well or poorly on this job.

12. I am satisfied with the amount of pay and fringe benefits I receive.

13. I am generally satisfied with the kind of work I do in this job.

14. My own feelings generally are not affected by how well I do on this job.

15. Whether or not this job gets done right is clearly my responsibility.

16. There are effective communication channels between teams in this organization.

17. If I got into difficulties at work I know the people I work with would try to help me out.

18. I never seem to have enough time to get everything done.

19. I do not feel a strong sense of belonging to this organization.

20. Too many people are involved in the decision-making process.

21. This organization has a great deal of personal meaning for me.

22. My supervisor pays attention to my team’s ideas and suggestions.

23. Sometimes I am given work to do which conflicts with other work I have to do.

24. I have a need to continually learn new things in my job.

25. The persons in my team have the skills and information needed to get the job done.
Please use the following scale for the next group of questions.

1--------2--------3--------4--------5--------6--------7
Very Moderately Very
Little Much

___1. Does your job require you to work very hard?
___2. Does your job permit you to decide on your own how to go about doing the work?
___3. Does your job involve doing a complete piece of work that does not have to be finished by other people and/or machines?
___4. Does your job require you to work very fast?
___5. Does your job require you to do many different things at work, using a variety of your skills and talents?
___6. Are the results of your work likely to significantly affect the lives of other people?
___7. Do supervisors and co-workers let you know how well you are doing on your job?
___8. Does doing the job itself provide clues about how well you are doing? (This does not include feedback from co-workers or supervisors.)
___9. Does one or two people dominate when decisions are made by your team?
___10. Does everyone in your team have a say in the decisions made by your team?
___11. Does your job leave you with little time to get things done?
___12. Do team members provide new ideas which are used?
___13. Are employees open to changes in the workplace?
___14. Does decision-making require that everyone agree before a final decision is made?
___15. Does your team seem like a close-knit family?
___16. Do the people you work with go out of their way to make your work life easier?
___17. Does your team have the right materials, equipment, and tools to get the job done?
___18. In general, how often have you been upset because of something that happened unexpectedly?
___19. In general, how often have you felt that you were unable to control the important things in your life?
___20. In general, how often have you felt nervous and "stressed"?
___21. In general, how often have you felt difficulties were piling up so high that you could not overcome them?
___22. Are you currently under more stress than normal?
___23. Does your supervisor assign work without regard to the team's ability to do the work?
___24. The decision-making skills I have learned at work have had a positive effect on my family life?
REFERENCES


Sussman, Harris. 1990. "Are We Talking Revolution?" Across the Board, 27,7,8 (July/August) 24-26.


Turner, A. and P. Lawrence, 1965. Industrial Jobs and the Worker; An Investigation of Response to Task Attributes. Boston, MA: Harvard University, Division of Research, Graduate School of Business Administration.


