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**Time management strategy, job satisfaction, research  
productivity, and life satisfaction of university faculty**

**Chung, Yonsuk Lee, Ph.D.**

**Iowa State University, 1988**

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**Time management strategy, job satisfaction,  
research productivity, and life satisfaction  
of university faculty**

by

**Yonsuk Lee Chung**

**A Dissertation Submitted to the  
Graduate Faculty in Partial Fulfillment of the  
Requirements for the Degree of  
DOCTOR OF PHILOSOPHY**

**Department: Family and Consumer Sciences Education**

**Major: Home Economics Education**

**Approved:**

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## INTRODUCTION

In over one half of all American marriages today, both husband and wife work outside the home. It is predicted that only one-fourth of two-parent families will have a nonemployed parent by 1990. The increasing number of dual-income families combined with the rise in the number of single-parent families indicates that more and more individuals are confronted by both work demands and family responsibilities. As a result, more individuals are required to perform the roles of worker, parent, and, in most cases, spouse simultaneously. Each of these roles carries demands requiring time, energy, and commitment to perform the role adequately. When these demands are incompatible, role conflicts result. Kahn, Wolfe, Quinn, Snoek, and Rosenthal (1964: 19) define role conflicts as the "simultaneous occurrence of two (or more) sets of pressure such that compliance with one would make more difficult compliance with other".

Role conflicts exist within the domain of work (e.g, Abdel-Halim, 1982; Cooke & Rousseau, 1984; Parasuraman & Clerk, 1984) as well as within the domain of family (e.g., Katz & Piotrkowski, 1983). Furthermore, role conflicts also exist between the work domain and the family or personal domain. In the case of work and family interrole conflicts, opposing requirements arise from participation in multiple roles. Requirements that cut across different roles can compete for a person's limited time resources in two ways. First, role overload resulting from the performance of multiple roles can lead to a feeling of

time constraint or time shortage (Cooke & Rousseau, 1984; Heckman & Bryson, 1977; Kelly & Voydanoff, 1985; Skinner, 1980; Voydanoff & Kelly, 1984). That is, total demands on time are too great to perform multiple role requirements. Second, time conflicts arise because of incompatible time requirements between work and family roles (Greenhaus & Beutell, 1985; Keith & Schafer, 1980; Herman & Gyllstrom, 1977; Pleck, Staines, & Lang, 1980; Pleck & Staines, 1985). As Greenhaus and Beutell (1985) noted, time spent on one role cannot be devoted to performance of another role because of conflicts in the scheduling of demands.

Role conflicts in the form of time pressure have been found as factors negatively affecting job performance or commitment (Schultz & Henderson, 1985), job satisfaction (Cooke & Rousseau, 1984; Jones & Butler, 1980; Kopelman, Greenhaus, & Connolly, 1983; Pleck, Staines, & Lang, 1980). Thus, several studies suggest that individuals who perform multiple roles need assistance in developing time management skills so that role conflicts can be reduced (Grasha, 1987; Gmelch, 1987; Noel, 1987; Schultz & Henderson, 1985; Seiden, 1980).

Although the need for developing time management skills has been addressed, strategies used to cope with time constraints and conflicts have limited attention in the empirical research literature. However, a number of studies have examined role conflict coping behaviors that individuals could use to alleviate the time constraints associated with the performance of multiple roles (Bird, Bird, & Scruggs, 1983; Beutell & Greenhaus, 1982; Elman & Gilbert, 1984; Gilbert, Holahan, & Manning, 1981; Gordon & Hall, 1974; Gray, 1983; Hall, 1972; Gupta & Jenkins, 1985;

Voydanoff, 1987). These approaches have emphasized not only increasing efficiency to meet all of the role demands, but also restructuring role relationships and environments and changing personal perceptions of role demands. Other approaches used to deal with time pressure have been identified in the literature investigating managerial behavior and time management (Deacon & Firebaugh, 1981; Garrison & Winter, 1986; Gross, Crandall, & Knoll, 1980; Lakin, 1973; McConalogue, 1984; Newton, 1979; Schuler & Sethi, 1984; Seiden, 1980). The emphasis in these approaches is on increasing efficiency or facilitating role performance in order to accomplish more roles in a given time.

Research has been found that the use of coping strategies and managerial behavior are influenced by several factors. These include the perceived level of conflicts (Beutell & Grennhaus, 1983; Elman & Gilbert, 1984; Howard, Rechnitzer, & Cunningham, 1975); demographic and socioeconomic variables including sex (Bird, Bird, & Scruggs, 1983; Parasuraman & Clerk, 1984; Pearlin & Schooler, 1978), age (Garrison & Winter, 1986; Gilbert, Holahan, & Manning, 1981; Howard, Rechnitzer, & Cunningham, 1975; Newton, 1979; Osipow, Doty, & Spokane, 1978; Pearlin & Schooler, 1978), educational level (Garrison & Winter, 1986), and income (Pearlin & Schooler, 1978); family-related variables including household size, age of children (Newton, 1979), wife's employment pattern (Bird, Bird, & Scruggs, 1983), and level of family and social support (Elman & Gilbert, 1984; Gilbert, Holahan, & Manning, 1981); personality characteristics including self-image (Gordon & Hall, 1974), self-esteem (Elman & Gilbert, 1984), and sex role attitudes (Beutell & Greenhaus,

1983); and work-related variables including organizational tenure (Parasurman & Clerk, 1984).

The coping strategies used to reduce role conflicts or managerial behaviors have been found to be related to satisfaction with the way of dealing with conflicts (Beutell & Greenhaus, 1982; Gray, 1983; Hall, 1972), overall life satisfaction (Gilbert, Holahan, & Manning, 1981; Newton, 1979), and job satisfaction (Hall, 1972; Parasuraman & Clerk, 1984). Job performance such as level of career commitment also is related to the types of coping strategies employed (Elman & Gilbert, 1984).

Although a number of studies examining role conflict coping strategies and managerial behaviors have been found, few empirical attempts have been made to identify the management strategies used in dealing with time-induced role conflicts. Limited empirical literature investigating the factors affecting these strategies as well as the impact of these strategies on job satisfaction, job performance, and life satisfaction also was found. Furthermore, recently the importance of developing time management skills to assist faculty in dealing with stress resulting from time pressure has been suggested (Grasha, 1987; Gmelch, 1987; Noel, 1987); however, no empirical research was found examining the time management strategies used by university faculty and the effect of these strategies on faculty productivity. Therefore, this research was designed to identify the time management strategies used by university faculty, to examine factors affecting the use of time management strategies, and to investigate the influence of the use of

these time management strategies on faculty life satisfaction, job satisfaction, and research productivity.

Specific objectives were to:

1. Describe faculty on selected demographic, family, work-related, and research productivity variables, level of time conflicts experienced, job satisfaction, and life satisfaction.
2. Identify the time management strategies used both at work and at home by faculty members.
3. Determine the degree to which selected demographic, family, and work-related variables and perceived level of time conflicts affect the use of time management strategies.
4. Investigate relationships between the use of time management strategies, job satisfaction, research productivity, and life satisfaction.
5. Suggest educational applications of findings and directions for future research in the area.

#### Definitions

1. Time management strategy: purposeful behaviors that are directed towards resolving time-induced role conflicts.
2. Time-induced role conflicts: a form of role conflict resulting from time constraints or time shortages and incompatible time demands.
3. Role conflicts: simultaneous occurrence of two (or more) sets of pressure such that compliance with one would make more difficult compliance with other (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964:19).

4. **Work/family interrole conflicts:** a form of conflict in which the role pressures from the work and family domains are mutually incompatible in some respects (Greenhaus & Beutell, 1985: 77).

#### **Assumptions**

1. The instrument measuring time management strategies, research productivity, and level of life and job satisfaction will be interpreted consistently by all respondents and they will answer honestly.

2. Individuals can identify their current use of time management strategies, level of life and job satisfaction, and time conflicts experienced.

#### **Limitations**

1. Respondents of this study represent the faculty at Iowa State University to the extent that equal-sized samples from each of eight academic colleges reflect the total faculty of the institution.

2. This study is limited to faculty at Iowa State University and cannot be generalized to faculty members at other institutions.

### EXPLANATION OF THE ALTERNATE DISSERTATION FORMAT

This dissertation will be presented in the alternate dissertation format approved by the Graduate School at Iowa State University. The alternate dissertation format allows for the inclusion of papers that have or will be submitted to refereed scholarly journals for possible publication.

Two such papers are included in this dissertation. The first, "Impact of Time Management on Job Satisfaction and Productivity of Faculty", will be submitted to Research in Higher Education. This paper analyzes how demographic and work-related variables and level of time conflicts perceived affect the use of time management strategies at work and how these time management strategies at work were related to the job satisfaction and research productivity.

The second paper, "Family Time Management Strategies: Relationships to Perceived Time Conflicts and Life Satisfaction", will be submitted to the Home Economics Research Journal. This paper examines how demographic and family variables and level of time conflicts perceived influence the time management strategies used at home and how these time management strategies employed affect the life satisfaction.

The first authorship for both papers is held by the doctoral candidate. Both paper's second authorship is held by Jerelyn B. Schultz, who was major advisor for the dissertation.

## REVIEW OF LITERATURE

## Time Pressures as Related to Sources of Role Conflict

Theory of role conflict

Most individuals who are full-time members of the labor force also perform the roles of worker, parent, and, in most cases, spouse simultaneously. Each of these roles carries demands requiring time, energy, and commitment to perform the role adequately. When these demands are incompatible, role conflicts result. Kahn, Wolfe, Quinn, Snoek, and Rosenthal (1964:19) defined role conflicts as the "simultaneous occurrence of two (or more) sets of pressure such that compliance with one would make more difficult compliance with other". A number of studies examining role strain have identified three major forms of role conflict: role overload, role interference, and role ambiguity.

Role overload exists when the total demands on time and energy associated with the tasks of multiple roles are too great to handle adequately or comfortably. Role overload has been found as the most prevalent form of role conflict in the literature (Cooke & Rousseau, 1984; Goode, 1960; Kelly & Voydanoff, 1985; Osipow, Doty, & Spokane, 1978; Parasuraman & Clerk, 1984; Voydanoff & Kelly, 1984; Voydanoff, 1987).

Role interference occurs when conflicting demands make it difficult to fulfill the requirements of multiple roles. Role expectations and role incompatibility are the two major sources of role interference (Voydanoff, 1987). Individuals take part in many different role

relationships, for each there may be contradictory behavioral expectations or a lack of consensus regarding expectations. These different behavioral expectations result in role conflicts (Goode, 1960; Holahan & Gilbert, 1979a, 1979b; Parasuraman & Clerk, 1984; Toby, 1952; Voydanoff, 1987). Role incompatibility refers to the inability to perform multiple tasks because of conflicting demands on time, place, or resources. Because many activities must be performed in specific locations at specific times, conflict also can result from these incompatible allocations (Greenhaus & Beutell, 1985; Kopelman, Greenhaus, & Connolly, 1983; Herman & Gyllstrom, 1977; Jones & Butler, 1980). When the criteria for successful performance of a task are not clear (Osipow, Doty, & Spokane, 1978) or information available to a given role set position is inadequate or vague (Abdel-Halim, 1982), role ambiguity exists. This form of role conflict generally has been the subject of organizational behavior research.

#### Work and family interrole conflict and time pressure

Role conflicts exist within the work domain (i.e., Abdel-Halim, 1982; Cooke & Rousseau, 1984; Parasuraman & Clerk, 1984) as well as within the family domain (i.e., Katz & Piotrkowski, 1983). In addition, role conflicts also exist between the two domains. This section will focus on the interrole conflict between the work and family domains. These interrole conflicts domain can be classified as (a) role overload and (b) role interference in the form of contradicting role expectations and role incompatibility.

When an individual is engaged in active work and family roles, these dual role expectations can lead to an increase in overall workload and to feelings of overload. Role overload has been found to be one of the common sources of interrole conflict between work and family life (Cooke & Rousseau, 1984; Heckman & Bryson, 1977; Kelly & Voydanoff, 1985; Skinner, 1980; Rapoport & Rapoport, 1969; Voydanoff & Kelly, 1984). These studies generally have conceptualized role overload within the framework of time constraints or time demands. Cooke and Rousseau (1984) used time constraint as a measure of perceived work overload by teachers (n=200). Demands on an individual's time and energy resulting from overlapping family and career roles were identified as one source of career and family conflicts among couple members of the American Psychological Association (n=200) by Heckman and Bryson (1977). Kelly and Voydanoff (1985) and Voydanoff and Kelly (1984) identified time shortages from role overload as an important type of work and family role strain among employed working parents (n=468). In Skinner's (1980) review of literature on dual-career family stress, an increase in the total volume of activities from participating in both work and family roles resulted in overload in dual-career families, with household tasks generally handled as overtime.

Role interference in the form of conflicting role expectations and role incompatibility has been found as another form of interrole conflict between work and family. Holahan and Gilbert (1979a, 1979b) conceptualized that interrole strain or conflict occurs when conflicting and competing expectancies are perceived from two or more roles enacted

by an individual. Based on this framework, they constructed six pairs of scales to measure the potential conflicts of role expectations from four major life areas- professional, spouse, parent, and self as a self-actualized person.

Role incompatibility also has been found to be related to interrole conflict between work and family. Greenhaus and Beutell (1985) and Kopelman, Greenhaus, and Connolly (1983) indicated that interrole conflicts occur when role pressures from the work and family domains are mutually incompatible. That is, participation in the work(family) role is made more difficult by virtue of participation in the family (work) role.

Several studies examining work and family conflicts have focused on role incompatibility in terms of time conflicts. As Kingston and Nock (1985:619) mentioned "... while certainly not a zero-sum proposition, work and family roles are in competition for a finite resources- time". Time spent on activities within the work (family) role generally cannot be devoted to activities within the family (work) role. Cooke and Rousseau (1984) indicated that interrole conflict is generated when the requirements associated with work and family roles involve pressures to dominate the time of the focal person and interfere with fulfilling requirements related to the other role.

Greenhaus and Beutell (1985) identified time incompatibility as one of source of work and family interrole conflicts. According to them, time-based conflicts occur when time devoted to one role makes it difficult to fulfill requirements of another role and take two forms.

One form occurs when the time pressure associated with membership in one role makes it physically impossible to comply with requirements arising from another role. The other form results from preoccupation with one role even when one is physically attempting to meet the demands of another role.

Simultaneous demands on individual's time among different roles such as between job and household tasks, between job and personal activities, or between job and family responsibilities were used as a measure of interrole conflict by Herman and Gyllstrom (1977). Keith and Schafer (1980) found that factors in the two-job family that fostered role strain were tied to time demands, both in the workplace and at home. Excessive work hours that interfere with family life and incompatibility between work and family schedules were found to be to the major sources of conflicts between work and family life for a national sample (n=1,515) of American workers (Pleck, Staines, & Lang, 1980; Pleck & Staines, 1985).

In the case of work and family interrole conflicts, opposing requirements arise from participation in multiple roles. In the literature, requirements that cut across different roles can compete for a person's limited time resources in two ways. First, role overload resulting from the performance of multiple roles leads to a feeling of time constraint or time shortage. That is, total demands on time are too great to perform multiple role requirements. Second, time conflicts arise because of incompatible time requirements between work and family roles. As Greenhaus and Beutell (1985) noted, time spent on one role cannot be

devoted to performance of another role because of scheduling conflicts. Hence, work and family conflicts resulting from time constraint or time shortage and incompatible time demands are referred to as time-induced work/family conflicts.

Factors associated with time-induced work/family conflicts

The studies examining work and family conflicts resulting from time constraints and time incompatibility will be reviewed. Other studies not directly related to time pressure are occasionally included to highlight convergence with the more directly relevant research on time-induced work/family conflicts. Because work and family roles have distinct norms and time requirements that may be incompatible with one another, factors related to the work domain and family domain are examined separately.

Work-related factors. Several aspects of the work domain have been identified as factors associated with generating time shortages or time conflicts for the adequate performance of work and family roles. Thus, these aspects induce interrole conflicts. The number of hours worked per week was found to be positively related to work/family interrole conflicts. In a study of two-income families' role strain and depression, Keith and Schafer (1980) found that the number of hours per week spent at work as the most important factor explaining work/family conflicts. Using data from the Quality of Employment Survey conducted by the University of Michigan, Pleck, Staines, and Lang (1980) found that the number of hours on the job was the major source of work/family

interference. Voydanoff and Kelly (1984) also identified working long hours as one of the factors related to the time shortage problems of working parents (n=468). Full-time workers reported greater time pressure than part-time workers or full-time homemakers in Hall and Gordon's study (1973).

Kingston and Nock (1985) found that the amount of time devoted to work was negatively related to family life. In their study, both married working men and women (n=668) reported that as the couple's total time commitment to work increased, less time was spent with their children. They also were less satisfied with their family life. The number of hours employed was found to be a significant predictor of difficulty in completing household chores by Katz and Piotrkowski (1983). The result of Clark, Nye, and Gecas's study (1978) was not consistent with research by Katz and Piotrkowski (1983), Kingston and Nock (1985). These researches found that the number of hours worked did not affect the performance of family roles except for recreation.

In addition to the sheer number of hours worked per week, the amount and frequency of overtime, the presence and irregularity of shiftwork, and the inflexibility of the work schedule were found to be factors interfering with one's work and family life by Pleck, Staines, and Lang (1980). Schedule incompatibility also was found to be positively related to job tension (Kelly & Voydanoff, 1985) and time shortages experienced by working parents (Voydanoff & Kelly, 1984).

Voydanoff (1980a, 1980b), in her review of literature, identified the timing and scheduling as more important to the family than the number

of hours worked. Both studies indicated that those who traveled extensively or worked evenings and weekends had difficulty fulfilling some aspects of family roles such as companionship with spouse and children, attending family and school functions, and participating in household responsibilities. In St. Pierre's (1984) in-depth personal interview study of 38 extension agents, timing of work and night meetings were aspects of the job negatively affecting family lives.

Work schedule control was used by Herman and Gyllstrom (1977) to explain why more severe work/family tension was experienced by university staff members than by faculty members. The faculty members worked more hours than the staff members but presumably had more control over their schedules.

Several studies have revealed positive relationships between an individual's Type A behavior and work/family conflicts by virtue of its influence on the time commitment given to the work role. Burke, Weir, and DuWors (1980a, 1980b), from questionnaire survey data on 85 Canadian top level administrators and their wives, found that higher levels of Type A behavior in husbands were associated with wives reporting greater negative impact of the husband's work on home and family life.

Ivancevich, Matteson, and Preston (1982) also found that Type A nurses (n=57 female registered nurses) reported higher levels of stress caused by quantitative work overload, time pressures, and role incompatibility.

Family-related factors. Family role characteristics that require a person to spend large amounts of time can produce work/family conflicts.

Consistent with this proposition, Herman and Gyllstrom (1977) found that married persons experienced more work/family conflicts than unmarried persons. In a similar vein, it might be expected that females or parents would experience more work/family conflicts than males or nonparents. Cooke and Rousseau (1984) suggested that as individuals marry and have children, they are subject to increased interrole conflicts because their family roles become increasingly demanding. Consistent with this suggestion, Fleck, Staines, and Lang (1980) found that working parents of preschool children experienced work/family conflicts more often than other workers. Johnson and Johnson (1977), from interviews with 28 dual-career families, concluded that women in these families, particularly women with younger children, experienced severe problems due to the proliferation of role demands.

Crouter (1984) conducted semistructured interviews with 55 employees to explore the family's influence upon the workplace. She found that women with young children at home were most likely to report negative aspects of family life making work life difficult, problematic, or unsatisfactory. Being a female working parent having preschool and/or school-age children in the household were variables associated with time shortages and/or the job tension working parents (Voydanoff & Kelly, 1984; Kelly & Voydanoff, 1985). St. Pierre (1984) found that extension agents with children under 12 perceived the emotional climate of their jobs to be poorer than did agents with children 12-17, agents with children 18 or older, or agents with no children.

Keith and Schafer (1980) found that women in two-job families

experienced significantly more work/family role strain than men. In addition to sex, respondents' age and number of children were related to work/family conflicts. Men and women who were younger and had more children at home experienced greater work/family role strain than older persons with fewer or no children at home.

A large number of children, likely more time demanding than a small family, also was found to be related to high levels of work/family conflicts among young women physicians (n=49) by Cartwright (1978). Beutell and Greenhaus (1982) reported that a large number of children produced conflicts primarily for women whose husbands were highly career-oriented. It is plausible that a highly career-oriented man devotes little time to his family, thereby increasing the already heavy time demands placed on his wife by a large family.

Sex role attitudes also have been found to be related to work/family conflicts (Beutell & Greenhaus, 1983). Based on responses from 115 married female college students with children, Beutell and Greenhaus reported that the time demands of the nonhome role were more strongly associated with conflict for women whose husbands held relatively traditional sex-role attitudes than for women whose husbands held relatively nontraditional attitudes. In addition, women who held nontraditional sex role attitudes experienced more home/nonhome conflicts.

This review indicates supports of time-related variables as a major source of work/family conflict. The number of hours worked, work schedules, work orientation, being married, having children, being a

female worker, and spouse's attitudes may all produce time pressures. Conflict is experienced when role proliferations induce time shortage or when time pressures are incompatible between work and family domains.

#### The consequences of role conflict

Research studies examining role conflicts within the work domain have found that role conflicts can generally lead to role strain and other negative outcomes. Goode (1960:483) defined role strain as the "the felt difficulty in performing role obligations" and suggested that when an individual's total role obligations are overdemanding, role strain is normal. Consistent with this notion, Parasuramen and Clerk (1984) found that quantitative role overload and incompatible role expectations contributed to felt stress among first level of managers. Along with incompatible role expectations, role ambiguity was an important predictor of job satisfaction for these managers. By using a sample of 89 middle-lower managerial personnel, Abdel-Halim (1982) found that role stressors were negatively related to intrinsic job satisfaction but positively related to job anxiety.

Stumpf and Rabinowitz (1981) found that the effects of role conflicts on job performance differ with an individual's career stage. Based on the responses of 102 full-time business school faculty members at a university, they concluded that the influence of role ambiguity on job performance was negative for new professionals but positive for senior professionals. They concluded that professionals may learn to deal effectively with role ambiguity as they develop in their career.

The interrole conflicts between work and family domains also result in negative consequences for work life. Jones and Butler (1980), from the responses of 181 married sailors, found that family and work role incompatibility was negatively related to navy satisfaction, job satisfaction, job involvement, and intent to reenlist. Farmer (1984) found that higher levels of home-career interrole conflicts were significantly related to the lower levels of career motivation of college students. Schultz and Henderson (1985), in their review of literature, reported that work/family conflicts negatively affect job performance through tardiness, absenteeism, job turnover, and lower levels of career commitment or salience.

Work/family interrole conflicts also are tied to negative outcomes in both the work and personal or family domains. Pleck, Staines, and Lang (1980) found that the sources of work and family conflicts such as excessive work time, schedule conflict, and fatigue and irritability were negatively related to job satisfaction, family satisfaction, and life satisfaction. According to Kopelman, Greenhaus, and Connolly (1983), incompatible role pressures within work and family domains were negatively associated with job satisfaction and family satisfaction respectively. Incompatibility between work and family roles and work overload were found to be negatively related to job satisfaction and also were identified as factors contributing to physical strain symptoms in teachers (Cooke & Rousseau, 1984).

Work/family conflicts also result in negative outcomes in family life. Blood and Wolfe (1960) found that as men worked more, they did

less at home, and their wives reported less satisfaction with their spouse's marital role performance. Similar results, that is over involvement in one's career can lead to strain on marriage, were found in Skinner's (1980) review of the literature.

#### Time pressure as a source of faculty stressors

The issues of work/family conflicts and/or time pressures have been identified as sources of university faculty stress. Peters and Mayfield (1982) found that almost half of the faculty members in their study reported a high degree of stress in trying to balance teaching load, institutional expectations for research and service, and time for family. Sorcinelli and Gregory (1987) also reported that one central source of stress on faculty members derived from the difficulty of making compatible the multiple roles and responsibilities they face at work and at home. Furthermore, these work/family conflicts have been found to be closely related to time pressure. Seldin (1987) identified that excessive demands to perform multiple professional and personal tasks within a short time as a powerful source of a academic stress.

Gmelch, Lourich, and Wilke (1984) studied 1,221 faculty members from 40 doctoral degree granting universities to identify sources of stress in academia. The results of a factor analysis indicated that time constraints emerged a factor accounting for 12 % of the common variance. Such time-related sources of pressure as insufficient time to keep abreast of current developments, inadequate time for class preparation, interruptions from phones and drop-in visitors, writing memos and

letters, attending meetings, heavy work load, and job demands interfering with personal activities produced faculty stress.

Excessive time constraints also were reported as common stressors of university faculty by Grasha (1987). Grasha reported that university faculty commonly experienced stress in finding enough time to manage various responsibilities.

It is clear that time pressure resulting from work overload and incompatible time requirements among different roles has contributed to perceived faculty stress. Academics, as Noel mentioned (1987), seem to continually encounter stressful situations because they never have enough time. This stress adversely affects the productivity, performance, job satisfaction, life satisfaction, and health of professionals in academia (Gmelch, Lourich, & Wilke, 1984). Therefore, developing time management skills was suggested as one strategy to assist faculty in dealing with stress, especially resulting from time pressure (Grasha, 1987; Gmelch, 1987; Noel, 1987). As Noel noted, "with improved time management, one can increase his or her performance levels, thereby increasing work satisfaction and decreasing stress".

### Summary

The literature reviewed in this section addressed time pressure as a source of work/family conflicts. Role conflicts occur when demands from different roles are incompatible. There are three major forms of role conflicts: role overload, role interference, and role ambiguity. Time pressure has been found to be one of sources of interrole conflicts

between work and family life. Two aspects of time pressure were identified: time constraints or time shortages from role overload and incompatible time requirements due to scheduling conflicts.

Several work-related factors including the number of hours worked per week, work schedules, and work orientation have been found to be associated with time-based work/family conflicts. Family characteristics that require a person to spend a large amount of time such as marriage, having children, being a female worker, and having a nonsupportive spouse also have been found to produce time-based work/family conflicts.

Various types of role conflicts can lead to role strain and other negative outcomes. These conflicts inhibit optimum job performance and negatively affect job, family, and life satisfaction in the job, with family.

University faculty also experience work/family interrole conflicts. Time pressure have been identified as one of the sources of stress in academia.

#### Management Strategies for Time-Induced Role Conflicts

##### Types of time management strategies

Because time pressure has been conceptualized in this study within the framework of role conflict, studies examining strategies of coping with role conflict will be reviewed first. As Bird, Bird, and Scruggs (1983) mentioned, strategies used for coping with role conflicts (role-management strategies) could help individuals alleviate some of the time constraints resulting from multiple role demands and too little time

to divide among these roles.

Toby (1952) identified several role conflict management strategies including playing off one group against the other, stalling until the pressures subside, redefining roles, ignoring certain roles, and escaping from the fields. Two major techniques were proposed by Goode (1960) to help individuals reduce role strain. The first technique involved manipulation of the person's role structure and relationships, which included compartmentalization of role obligations, delegation of role obligations, elimination of role relationships, extension of role relationships, and the creation of barriers against intrusion from role partners. The second technique, negotiating the terms of relationships with others involved in the role, included role-bargaining approaches. Role bargaining determined the standards by which the quality of role performance would be evaluated.

Considerable research has been done using Hall's model (1972) as a framework for examining strategies coping with role conflicts (Beutell & Greenhaus, 1982; Beutell & Greenhaus, 1983; Gilbert, Holahan, & Manning, 1981; Gordon & Hall, 1974; Gray, 1983; Hall, 1972; Gupta & Jenkins, 1985; Voydanoff, 1987). Hall's model consisted of three major types of coping with role conflict. Type I was termed structural role redefinition, similar to Goode's (1960) concepts of role bargains and involved redefining the expectations held by other people so that fewer conflicting demands were placed upon the person. This type of strategy included obtaining role supports from inside and outside the role set, redefining roles collaboratively, integrating roles, and changing

societal definition of roles. Type II coping, personal role redefinition, involved changing the person's perceptions of his or her role demands rather than attempting to change the environment. Specific approaches of Type II coping behaviors included establishing priorities, compartmentalizing role demands, overlooking role demands, changing attitudes toward roles, eliminating roles, rotating attention among roles, and developing self and own interests. Type III coping was referred to as reactive role behavior and involved attempts to meet all of the role demands experienced. The specific strategies of Type III included planning, scheduling, and organizing better, having no conscious strategy, and working harder.

Elman and Gilbert (1984) extended Hall's (1972) model by distinguishing between problem-focused and emotion-focused coping strategies. Problem-focused strategies, such as the types proposed by Hall (1972), included structural role redefinition, personal role redefinition, and increased role behavior. Emotion-focused strategies attempted to modify the individual's emotional reaction to the situation and involved cognitive restructuring. For example, accepting feeling/reactions as a natural in certain role situations and tension reduction techniques such as overtly expressing of feelings about the situation were proposed.

In the review of literature on dual-career family stress, Skinner (1980) suggested that compromising and prioritizing are coping strategies not only to deal with conflicts between roles but also in resolving competing demands within roles. In addition, Skinner identified taking a

more reactive orientation toward stress, establishing helping components in the marital relationship, and securing support outside the family served as stress-mitigating functions within the dual-career family.

Based on the responses of 107 two-earner families of university administrators, Bird, Bird, and Scruggs (1983) identified eight role management strategies using factor analysis. These strategies involved having a legitimate excuse, stalling until pressures subside, compartmentalizing or segregating roles, obtaining empathy or mutual support, developing barriers against intrusion, reducing responsibilities, delegating, and organizing.

Howards, Rechnitzer, and Cunningham (1975) classified the most effective and least effective coping techniques with job tension used by 300 managers. The most effective techniques included building resistance, compartmentalizing work and nonwork life, engaging in physical exercise, talking through with peers on the job, and withdrawing physically from the situation. Changing to a nonwork activity or different work activity, changing strategy of attack on work, talking through with one's spouse, and working harder were categorized as the least effective coping techniques.

Parasuraman and Clerk (1984) studied the coping behaviors 204 first level managers used to deal with role stressors. They conceptualized coping by distinguishing between adaptive coping and maladaptive coping. Adaptive coping behavior was referred to as problem-solving approaches and was aimed at dealing with the stressful situation by seeking and implementing solutions. Maladaptive coping behavior involved emotional

or defensive self-protective approaches to dealing with stressful work experiences.

Other approaches used to deal with time pressure have been found in literature investigating managerial behavior and time management. Even though these approaches have not been conceptualized as time pressures within a framework of role conflict, time management strategies used in these approaches were similar to some of the coping behaviors used with role conflicts. For example, establishing priorities, compartmentalizing roles, delegating, organizing, planning, scheduling, and implementing plans also have been employed in role management approaches in these approaches. These approaches, however, more place emphasis on increasing efficiency or facilitating role performance so as to accomplish more roles in a given time than on reconstructing or redefining role demands.

Lakin (1973) suggested that goal setting, prioritizing, using anti-procrastinating techniques, delegating, sequencing/scheduling, partitioning and segregating role, and evaluating time use were strategies individuals can use to deal with time scarcity. Goal setting, delegating, and sequencing/scheduling were found as effective time management strategies by McConalogue (1984), Schuler (1979), and Schuler and Sethi (1984). Along with delegation, Seiden (1980) identified establishing priorities, using procrastination management skills, joint time management planning, and breaking up larger tasks into manageable small ones as useful time management strategies for dual-career couple.

Setting priorities among tasks was identified by Grasha (1987) as a coping strategy for the time constraints experienced by university

faculty. Sorcinelli and Gregory (1987) suggested that improving organizations skill through planning ahead and scheduling can be used to cope with faculty stress. Making time schedules (Gross, Crandall, & Knoll, 1980), clustering or grouping activities that fall into sequence (Nickell, Rice, & Tucker, 1976), and coordinating activities effectively (Deacon & Firebaugh, 1981; Newton, 1979) were identified as management skills that saved time and energy. Nickell, Rice, and Tucker (1976) suggested that evaluating the current use of time is a beginning step for improving time management skills.

Implementing time plans has been identified as a time management strategy in the literature examining management behavior (Deacon & Firebaugh, 1981; Garrison & Winter, 1986; Newton, 1979; Nickell, Rice, & Tucker, 1976; Olson & Beard, 1984). As Deacon and Firebaugh (1981) stated, "implementing is actuating plans and procedures and controlling the actions." Putting time management strategies into effect, checking against specific sequences, making adjustment when necessary (Deacon & Firebaugh, 1981), carrying through with plans, meeting deadlines or appointment on time (Garrison & Winter, 1986; Newton, 1979), getting started on an activity, and giving instructions or orders to others (Olson & Beard, 1984) all have been identified as elements of implementing strategies in the literature.

#### Factors associated with coping strategies

The level of conflict. The relationships between the level or the intensity of conflicts perceived and the types of coping strategies used

and coping effectiveness have been found to be inconsistent in the literature. Beutell and Greenhaus (1983) found that female college students (n=115) with traditional attitudes used more Type III coping strategy (meeting all the role demands experienced) when they perceived more role conflicts. Elman and Gilbert (1984) found that lower levels of work and family conflict were associated with higher levels of coping effectiveness among female parents in dual-career families with preschool children (n=97). Coping effectiveness was found to be related with to level of stress (Howard, Rechnitzer, & Cunningham, 1975). They found that the low stress group more frequently used coping techniques that are among the highest in effectiveness (i.e., building resistance and talking problems about with peers on the job).

Gilbert, Holahan, and Manning (1981) found, however, that self-reported role conflict was not associated with the types of coping strategies used and the effectiveness of these strategies for female parents (n=22) in dual career families. They reported that subjects using a role redefinition strategy did not differ from subjects using a role expansion strategy (same as reactive role behavior in Hall's model) in self-reports of role conflicts and coping effectiveness.

Demographic and family-related factors. Sex has been found to be associated with the types of coping strategies used. Significant differences occurred between the coping strategies used by husbands and wives in two-earner families (Bird, Bird, & Scruggs, 1983). Wives in career-earner families used compartmentalization as a strategy to a

greater extent than did husbands. In addition, husbands in dual-career families used organization and reducing responsibilities strategies more frequently than did wives.

According to a study by Parasuraman and Clerk (1984), that female managers tended to engage in more adaptive coping behaviors (problem-solving approaches) than male managers. Pearlin and Schooler (1978) found that female respondents more often employed strategies that resulted in more stress, while males employed strategies that inhibited stressful outcomes.

Several studies have identified that age as a variable related to the coping strategies used. Howard, Rechnitzer, and Cunningham (1975) reported that younger managers tended to use such strategies as talking one's problems with peers on the job, changing to nonwork activities, and withdrawing from situations more frequently than older managers did. Osipow, Doty, and Spokane (1978) concluded that when compared with younger workers, older workers had learned to use coping resources and thus enhanced their ability to experience reduced strain given equal amounts of stress (n=310 employed adult males and females). Consistent with this result, Pearlin and Schooler (1978) found that older respondents were more disposed to self-reliance (less often seeking advice) and more engaged in a controlled reflection of marital problems (negotiation in marriage), both of which helped to reduce stress.

Newton (1979) also found that the age of the household head was positively correlated with the effectiveness of reported managerial behavior. Newton explained that households with older head were likely

to experience less complexity in management endeavors, have established management patterns, and had more experience in carrying out managerial activities than did younger household heads. This positive relationship between age and reported managerial behavior also was supported by Garrison and Winter (1986). Garrison and Winter found that age of women in the household was positively related to the effectiveness of reported managerial behavior of families with preschool children (n=312).

Education and/or income have been found to be related to coping strategies and managerial behavior. Pearlin and Schooler (1978) found that respondents whose level of education and income were higher tended to make positive comparisons (i.e., feeling present situations as better than past, or those of others) in dealing with money and job problem. Garrison and Winter (1986) found that education of the head of the household was positively related to the effectiveness of reported managerial behavior.

Several studies have found that family-related variables were related to the types of managerial behavior or coping strategies employed. Garrison and Winter (1986) found that household size and age of children were associated with reported managerial behavior. Household size was negatively related to the reported effectiveness of managerial behavior; families with children under age seven had the lowest reported managerial behavior scores.

The relationships between family or social support and types of coping strategies used were identified in the literature, however, the results of these studies have been somewhat inconsistent. Respondents

who received higher level of support more often employed role expansion strategies (trying to meet all the role demands) than role redefinition strategies (Gilbert, Holahan, & Manning, 1981). However, Elman and Gilbert (1984) reported that the group with higher levels of social support more frequently used coping strategies such as structural role redefinition, personal role redefinition, and cognitive restructuring.

The pattern of employment of wives was found to be associated with use of coping strategies by Bird, Bird, and Scruggs (1983). They reported that the extent of use of role management strategies was significantly different between wives in career-earner and dual-career families. They concluded that compartmentalizing roles, establishing barriers against intrusion, and reducing responsibility were more often used by wives in career-earner families than those in dual-career families.

Several studies have attempted to identify some personality characteristics associated with types of coping behaviors. Gordon and Hall (1974) found that women's self-image, and in particular her perceived supportiveness, were related to the types of coping strategies used. They reported that women who perceived themselves as more supportive tended to cope with role conflicts by structurally redefining roles (Type I) and not by attempting to meet all demands placed on them (Type III). Self-esteem was found to be related to the coping strategies for role conflict by Elman and Gilbert (1984). They concluded that women in dual-career families who reported higher level of self-esteem dealt with work and family role conflicts by using structural role

redefinition, personal role redefinition, and cognitive restructuring strategies. Women's sex role attitudes also were found to be associated with the types of coping strategies used (Beutell and Greenhaus, 1983). They reported that traditionally oriented women tended to use reactive coping strategy (Type III) to deal with intense home/nonhome conflicts.

Work-related factors. Studies examining the relationships between work-related variables and types of coping strategies used have received limited attention in empirical research. Parasuraman and Clerk (1984) hypothesized that as an individual's knowledge of the system increased with tenure in the organization, it could be expected that they would engage in more adaptive coping behaviors and fewer maladaptive behaviors. Consistent with this expectation, Parasuraman and Clerk (1984) found that managers who achieved organizational tenure tended to engage in fewer maladaptive coping strategies (emotional or defensive/self-protective approaches to deal with role stressors).

The relationships between coping behaviors and satisfaction and job performance

Research studies have found that the types of coping strategies or managerial behaviors employed are related to satisfaction experienced. Hall (1972) found that reactive role behavior (Type III) was negatively related to satisfaction with the way of dealing with multiple roles. On the other hand, structural role redefinition (Type I) and personal role redefinition (Type II) coping strategies were found to be positively (but

not strongly) related to satisfaction with the way of coping with role conflicts by Hall. Consistent with Hall's study, Beutell and Greenhaus (1982) found that the negative relationship between Type III coping behavior and life satisfaction was strong for women whose husbands were dissatisfied with their own lives. However, the results of Gilbert, Holahan, and Manning's (1981) study were not consistent with the above two studies. They found that female parents who used role expansion strategies (Type III) reported higher levels of life satisfaction than did those who used role redefinition strategies (Type I and Type II).

Relationships were found between more specific coping strategies used and satisfaction with balancing of work and family roles in Gray's (1983) study. Gray found that satisfaction was positively related with the strategies of having family members share household tasks, reducing standards within certain roles, scheduling and organizing activities carefully, having family members help resolve role conflicts, and considering personal interests important. The strategies negatively linked to satisfaction included: those of eliminating roles, keeping roles totally separate, attempting to meet the expectations of all, overlapping roles, and not having any conscious strategies for dealing with role conflicts.

Managerial behavior also was found to be related to satisfaction by Newton (1979). Newton reported that the effectiveness of managerial behavior positively impacted on satisfaction with management and overall life.

Limited research studies examining relationships between coping

strategies used and job satisfaction and performance were identified in the literature. Hall (1972) found that job satisfaction was positively related the number of Type I (structural redefinition) strategies employed. Parasuraman and Clerk (1984) reported that maladaptive coping behavior (emotional or defensive approaches) in conjunction with role ambiguity and quantitative role overload contributed to lower job satisfaction.

The types of coping strategies employed also have been associated with job performance. Elman and Gilbert (1984) found that women in dual-career families who frequently used increased role behavior and cognitive restructuring strategies reported higher levels of career engagement. However, lower endorsement of personal role redefinition was associated with higher levels of career engagement.

#### Summary

Studies investigating management strategies used to reduce time-based role conflicts have been found in the literature on role conflict and managerial behavior. Many of the strategies identified in the literature can be classified into five major categories: manipulation of the role environment, structure, and relationships; changing personal perceptions of role demands; attempting to meet all of demands through increasing efficiency of role performance; taking a reactive emotional orientation toward role conflict; and employing tension reduction technique.

Research shows that types of coping strategies and managerial

behavior used are influenced by several factors. These include the level of conflicts perceived; demographic and socio-economic variables including sex, age, educational level, and income; family-related variables including, household size, age of children, level of family or social support, and the pattern of employment; personality including self-image, self-esteem, and sex role attitude; and work-related variable including organizational tenure.

The coping strategies used to role conflicts and managerial behavior have been found to be related to the satisfaction with the way of dealing with conflicts, overall life satisfaction, and job satisfaction. Job performance such as level of career commitment also is related to the types of coping strategies employed.

**Impact of Time Management on Job Satisfaction  
and Productivity of Faculty**

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**ARTICLE I. IMPACT OF TIME MANAGEMENT ON JOB SATISFACTION AND  
PRODUCTIVITY OF FACULTY**

**Abstract**

The purposes of this study were to investigate the time management strategies used by faculty at work and to examine relationships between the use of these strategies and faculty job satisfaction and research productivity. Questionnaires examining work performance, job satisfaction, and time management strategies used at work were mailed to a stratified random sample of 275 faculty at a large midwestern land-grant university. Stepwise multiple regression analyses indicated that reported time conflicts among work roles, an academic appointment that includes time for research activities, and age of faculty were significant predictors of the choice of time management strategies at work. Time management strategies such as efficient implementation of work roles and getting support from colleagues and/or employers emerged as significant predictors of job satisfaction.

**Introduction**

The increasing number of dual-income and single-parent families in contemporary American society indicates that more and more individuals are faced by both work demands and family responsibilities. As a result, more individuals are required to perform the roles of worker, parent, and, in most cases, spouse simultaneously. Each of these roles carries demands requiring time, energy, and commitment to perform the role

adequately. When these demands are incompatible, role conflicts result.

Role conflicts exist within the work domain (i.e., Abdel-Halim, 1982; Cooke & Rousseau, 1984; Parasuraman & Clerk, 1984) as well as within the family domain (i.e., Katz & Piotrkowski, 1983). Furthermore, role conflicts also exist between the two domains. In the case of work and family interrole conflicts, opposing requirements arise from participation in multiple roles. Requirements that cut across different roles can compete for a person's limited time resources in two ways. First, role overload resulting from performance of multiple roles can lead to a feeling of time constraint or time shortage (Cooke & Rousseau, 1984; Heckman & Bryson, 1977; Kelly & Voydanoff, 1985; Skinner, 1980; Voydanoff & Kelly, 1984). That is, total demands on time are too great to perform multiple role requirements. Second, time conflicts arise because of incompatible time requirements between work and family roles (Greenhaus & Beutell, 1985; Keith & Schafer, 1980; Herman & Gyllstrom, 1977; Pleck, Staines, & Lang, 1980; Pleck & Staines, 1985). As Greenhaus and Beutell (1985) noted, time spent on one role cannot be devoted to performance of another role because of scheduling conflicts.

Several research studies (Gmelch, 1987; Gmelch, Lourich, & Wilke, 1984; Grasha, 1987; Sorcinelli & Gregory, 1987; Noel, 1987; Seldin, 1987) have identified that time pressure resulting from work overload and incompatible time requirements among different roles have contributed to perceived faculty stress. This stress adversely affects the productivity, job performance, job satisfaction, life satisfaction, and health of professionals in academia (Gmelch, Lourich, & Wilke, 1984).

Therefore, developing time management skills was suggested as one strategy to assist faculty in dealing with stress, especially stress resulting from time pressures (Grasha, 1987; Gmelch, 1987; Noel, 1987).

Although the need for developing time management skills has been addressed, strategies used by faculty to cope with time constraint and conflict have received limited attention in the empirical research literature. However, a number of studies have examined role conflict coping behaviors that individuals could use to alleviate the time constraints associated with the performance of multiple roles. Goode (1960) identified two major techniques: manipulation of the person's role structure and relationships and renegotiation of the terms of relationships with others involved in the role. Several studies have been conducted using Hall's model (1972) as a framework for examining strategies for coping with role conflicts (Beutell & Greenhaus, 1982, 1983; Gilbert, Holahan, & Manning, 1981; Gordon & Hall, 1974; Gray, 1983; Hall, 1972; Gupta & Jenkins, 1985; Voydanoff, 1987). Hall classified coping strategies into three types: structural role redefinition (Type I), personal role redefinition (Type II), and reactive role behavior (Type III). Along with these three types of coping strategies, referred to as problem-focused strategies, Elman and Gilbert (1984) developed emotional-focused strategies to examine role conflict coping behaviors used by professional women. Emotional-focused strategies included cognitive restructuring and tension reducing techniques.

Based on the results of factor analyses, Bird, Bird, and Scruggs (1983) identified eight role management strategies used in two-earner

families. These were having a legitimate excuse, stalling until pressures subside, compartmentalizing or segregating roles, obtaining empathy or mutual support, developing barriers against intrusion, reducing responsibilities, delegating, and organizing. Coping behaviors were conceptualized by distinguishing between adaptive coping (problem solving approaches) and maladaptive coping (emotional or defensive/self-protective approaches) behaviors in Parasuraman and Clerk's study (1984) of first level managers.

Studies investigating managerial and time management behaviors also have identified several strategies for managing time pressure. More emphasis generally is placed on increasing efficiency or facilitating role performance in order to accomplish more roles in a given time. These strategies include sequencing/scheduling (Deacon & Firebaugh; 1981; Gross, Crandall, & Knoll, 1980; Lakin, 1973; McConalogue, 1984; Newton, 1979; Schuler, 1979; Schuler & Sethi 1984; Sorcinelli & Gregory; 1987); prioritizing (Grasha, 1987; Lakin, 1973; Seiden, 1980); goal setting and delegating ((Lakin, 1973; McConalogue, 1984; Schuler, 1979; Schuler & Sethi, 1984; Seiden, 1980); implementing plans (Deacon & Firebaugh, 1981; Garrison & Winter, 1986; Newton, 1979; Nickell, Rice, & Tucker, 1976; Olson & Beard, 1984); using anti-procrastination techniques (Lakin, 1973; Seiden, 1980); evaluating time use (Lakin, 1973; Nickell, Rice, & Tucker, 1976); partitioning and segregating roles (Lakin, 1973); and joint management skills (Seiden, 1980).

Several factors associated with the choice of coping strategies and/or management behaviors have been found in the literature. The level

or the intensity of conflicts perceived was identified as a factor affecting the choice of coping strategies and coping effectiveness. Beutell and Greenhaus (1983) found that higher levels of conflict were associated with frequent use of Type III coping strategies (meeting all the role demands experienced) only among female college students with traditional attitudes. Lower levels of conflicts were found to be related to higher levels of coping effectiveness by Elman and Gilbert (1984) and Howard, Rechnitzer, and Cunningham (1975).

Research has identified that demographic variables including sex and age influence the use of coping strategies and managerial behaviors. Significant differences were found between the coping strategies used by husbands and wives in two-earner families by Bird, Bird, and Scruggs (1983). Parasuraman and Clerk (1984) found that female managers tended to engage in more adaptive coping behaviors than male managers. According to Pearlin and Schooler (1978), female respondents more often employed strategies that resulted in more stress. Several studies reported that older respondents tended to employ coping strategies to help to reduce stress (Howard, Rechnitzer, & Cunningham, 1975; Osipow, Doty, & Spokane, 1978; Pearlin & Schooler, 1978) and establish more effective management patterns (Garrison & Winter, 1986; Newton, 1979). In Gilbert, Holahan, and Manning's (1981) study, younger professional women tended to use increased role behavior (efforts to meet all demands), which placed more burdens on them. Structural role redefinition and personal role redefinition strategies were employed more often by older women.

Limited research studies examining the relationships between choice of coping strategies and work-related variables, job satisfaction, and job performance were identified in the literature. Parasuraman and Clerk (1984) found that the organizational tenure of managers was a factor associated with the use of coping strategies. They also reported that maladaptive coping behavior in conjunction with role ambiguity and quantitative role overload contributed to lower levels of job satisfaction. Hall (1972) found that job satisfaction was positively related to the use of Type I strategies (structural redefinition). The higher endorsement of increased role behavior and cognitive restructuring strategies were found to be associated with higher level of career engagement of married professional women by Elman and Gilbert (1984).

Although a number of studies investigating role conflict coping strategies and time management behaviors have been found, no research studies were found examining coping strategies or time management behaviors used by university faculty and the effect of these strategies on faculty productivity. Furthermore, limited attempts have been made to examine the relationships between the choice of coping strategies, work-related variables, and job satisfaction. Therefore, this research was designed to investigate the possible impacts of work-related variables on the choice of coping strategies used by university faculty and the influence of these coping strategies on faculty job satisfaction and research productivity.

Specific objectives were to:

1. Describe faculty on selected demographic, work-related, and

research productivity variables, level of time conflict experienced, and job satisfaction.

2. Identify the time management strategies used at work by faculty members.

3. Determine the degree to which selected demographic and work-related variables and level of time conflicts influence the choice of time management strategies at work.

4. Investigate relationships between the use of coping strategies at work, job satisfaction, and research productivity.

#### Method

##### Sample

The data were collected by means of a questionnaire mailed to a stratified random sample of 275 faculty at a large midwestern land-grant university. The bases for stratification were sex of the faculty member and the college in which the faculty member held academic rank. From each of the eight academic colleges, a sample of 20 male and 20 female faculty was drawn. The total invited sample consisted of 275 faculty because there were fewer than 20 female faculty in two academic colleges. Follow-up letters were sent to all respondents 2 weeks and 8 weeks after the questionnaire was distributed. A total of 197 questionnaires were returned (71.6%), 27 contained incomplete information and were not used in the data analyses.

Of the 170 faculty for whom usable data were available, 54.7% were male and 45.3% were female. The age distribution for responding faculty

was 27.9% under 40 years of age; 34.1%, 40-49; 31.8%, 50-59; and 6.5%, 60 or over. The academic division of respondents was distributed as follows: 18.1%, agriculture; 7.2%, business; 7.8%, design; 16.9%, education; 10.8%, engineering; 14.5%, family and consumer sciences; 13.3%, science and humanities; and 11.4%, veterinary medicine. Of the responding faculty, 33.1% held the rank of instructor or assistant professor, 32.5% the rank of associate professor, and 34.3% the rank of professor. Most of the respondents were married (80%). Over half of the faculty (58.4%) indicated that they worked 9 months and the remaining worked 12 months.

#### Instrumentation

The questionnaire used to collect data contained four instruments: a work-related information instrument, a demographic information instrument, a life satisfaction instrument, and a time management behavior instrument. Questions on the work-related information instrument were designed to obtain data on the total number of hours worked per week, work performance, and research productivity. Faculty research productivity during the last 5 years was assessed using 8 items. Faculty were asked to indicate the numbers of presentations, books or chapters in books, journal articles, and research grants; the total dollar amount of these grants; and level of involvement in editorial-related positions such as reviewer, editorial board member, and editor or associate editor. The numbers of presentations made, grants obtained, books, and journal articles published by each faculty were placed into

categories and given a numeric code. Each editorial-related position on professional journal(s) was coded as (1) for reviewer, (2) for editorial board member, and (3) for editor or associate editor.

The data related to selected demographic characteristics of faculty and perceived degree of time conflicts were collected by the demographic information instrument. The degree of time conflicts experienced by the faculty was assessed by 2 items on the demographic information instrument. Respondents were asked to indicate the degree of perceived time conflicts among work roles and between work and family roles using a 4-category response scale ranging from 1 (never) to 4 (often).

Job satisfaction was measured by one item from the life satisfaction instrument. Respondents were asked to report their level of job satisfaction on a 5-point Likert type scale ranging from 1 (very dissatisfied) to 5 (very satisfied).

Time management strategies employed by faculty were assessed using the time management behavior instrument. Forty-two items were developed from research on coping strategies for role conflicts (Bird, Bird, & Scruggs, 1983; Hall, 1972) and management behaviors (Olson & Beard, 1984; Deacon & Firebaugh, 1981; Lakin, 1973; Newton, 1979; Nickell, Rice, & Tucker, 1976; Sharpe & Winter, 1982). Among the items adapted from previous research, terminology was revised to make them applicable to university faculty and the management of time pressure and role conflicts. The instrument was reviewed by individuals with expertise in management to assess its content validity and administered to 6 faculty members and 6 graduate students at Iowa State University to assess its

usability. Respondents were asked to indicate how often they used each time management strategy at work on a 5-point Likert-type scale ranging from 1 (never) to 5 (almost always).

Responses to 6 of the 42 items were negatively correlated with the total item score and were eliminated in the factor analysis. The remaining 36 items were factor analyzed using the image factoring method (Kaiser & Caffrey, 1965) with varimax rotation. Items were placed into factors based upon size of factor loading and rationality of fit. In determining the factors, a minimum factor loading of .40 was used along with a factor reliability estimate of .65, which is the minimum recommended for research purposes (Gronlund, 1981; Nunnally, 1982). The 3-item factor assessing compartmentalization of roles yielded factor loadings ranging from .44 to .46. However, the coefficient alpha reliability estimate for this factor was .59, which was lower than the recommended level.

The remaining 8 factors represented the time management strategy subscales and were labeled as prioritizing/scheduling, implementing, reducing responsibility, compromising, goal setting, being on time, changing standards, and getting support. The coefficient alpha estimates for the 8 subscales resulting from Cronbach procedures ranged from .70 to .89 (see Table 1).

#### Data analysis

Descriptive statistics including frequencies, percentages, means, and standard deviations were calculated for all questionnaire items. A

composite variable for each of the eight time management strategy subscales was created to examine the relationships between use of the time management strategy and demographic/work-related variables, and level of time conflicts perceived. Canonical correlation analysis between the time management strategy subscales (dependent variables) and the demographic/work-related variables and level of time conflicts perceived (independent variables) was conducted to identify the weight of each dependent variable that produces the maximum possible correlation with a linear combination of independent variables (Pedhazur, 1982). The corresponding raw canonical coefficient in the first function (root) was used as a weight of each time management strategy subscale in creating the composite variable. Each raw canonical coefficient was multiplied by the corresponding time management subscale. To obtain the composite time management strategy variable, the multiplied values of these variables were summed. A composite variable on research productivity also was created using the same procedure just described.

Stepwise multiple regression analyses were conducted to determine the degree to which demographic/work-related variables and level of time conflicts influenced the time management strategy composite variable. In addition, the influence of time management on job satisfaction and the research productivity composite variable were examined using regression analysis procedures.

Pearson product moment correlation analyses were computed to better interpret the relationships between significant predictors of the composite time management strategy variable and the specific time

management strategies employed by faculty. The relationships between each time management strategy subscale and the composite variable for research productivity were explained using the same procedures.

### Results and Discussion

#### Information on work-related variables and research productivity

Respondents were asked to indicate the number of hours per week spent at work. The average hours per week worked by male faculty was 51.4 hours and by female faculty 45.7 hours. The average percentage of appointment for each job activity performed by male and female faculty respectively was 54.7% and 67% for teaching and advising; 28% and 20% for research; and 17.6% and 12.7% for administration, extension, and other. The results of t-tests showed that there were significant differences between male and female faculty's average percentage of appointment for research and teaching and advising activities. Male faculty members had significantly more time allocated to research activities while female faculty members were expected to spend more time in teaching and advising. The respondents reported a mean class teaching load per semester of 6.1 hours and a mean total number of committees served on of 5.2.

The average degree of time conflicts among work roles and between work and family roles experienced by faculty were 3.2 and 2.9 respectively on a 4.0 point scale. Faculty appeared to experience higher levels of time conflicts in performing work roles than in balancing work and family roles. The t-test results indicated that no significant

differences were found in the levels of perceived time conflicts between male and female faculty members. These findings indicate that both male and female faculty members experienced higher levels of time conflicts in performing multiple roles. The average level of job satisfaction of responding faculty was 3.9 on a 5.0 scale.

The average number of presentations made at national meetings, books or chapters in books written, and articles published during the last 5 years by responding faculty were 5.1, 0.9, and 6.5 respectively. Faculty had obtained an average of 1.7 grants from funding sources outside the institution in the last 5 years. The mean total dollar value of these grants received was \$ 100,515. Of the respondents, 47.9% worked as a reviewer, 17.8% were editorial board members, and 14.7% were editors or associate editors of professional journals.

#### Use of time management strategies

The mean item scores and standard deviations for the eight time management strategy subscales are shown in Table 1. The results indicate that faculty members most frequently used the strategy of being on time compared with other strategies. Strategies associated with prioritizing/scheduling, goal setting, and efficiently implementing job tasks also were frequently employed by the faculty in dealing with time pressures resulting from the performance of multiple roles.

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Insert Table 1 about here

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Frequent use of these strategies suggests that faculty seemed to try to meet all work role demands through increasing the efficiency of role performance. However, strategies associated with restructuring and redefining the role environment such as compromising, changing standards, reducing responsibility, and getting support were found to be employed less frequently by the respondents. This result partially corroborates earlier studies by Bird, Bird, and Scruggs (1983) and Elman and Gilbert (1984). Bird, Bird, & Scruggs (1983) found that reducing responsibility was the least used strategy for both spouses in dual-career families. According to Elman and Gilbert (1984), increased role behavior (trying to do it all by doing it more efficiently) was the most highly endorsed coping strategy by women in dual-career families.

These findings appear to reflect that less effort on the part of faculty members to change their roles and their role relationships at work. These time management strategies may be employed more often in their personal or family lives where they perceive that they have more control over renegotiating roles and role relationships. In addition, faculty may feel that efficient performance of work tasks is a reflection on their ability to successfully handle multiple roles and is part of the image of career success.

Relationships between demographic/work-related variables time conflicts, and time management strategies

Demographic/work-related variables and level of time conflicts experienced by faculty were introduced into stepwise multiple regression

analyses to determine the degree to which these independent variables predicted the composite time management strategy variable. Results of the stepwise multiple regression analyses are shown in Table 2.

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Insert Table 2 about here

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The significant predictors of the composite time management strategy variable were reported time conflicts among work roles ( $\beta=.31$ ), appointment on the research activities ( $\beta=.32$ ), and age of the faculty member ( $\beta=.25$ ). These three variables produced a multiple R of .45 and accounted for 21 percent of the variance in the composite time management strategy variable.

The results of the Pearson product moment correlation analysis between these three significant predictors and specific time management strategy subscales are shown in Table 4. Four time management strategies including prioritizing/scheduling ( $r=-.21$ ), implementing ( $r=-.19$ ), goal setting ( $r=-.15$ ), and getting support from colleagues and/or employer ( $r=-.27$ ) were significantly related to the reported level of time conflicts among work roles. The negative correlations indicated that faculty who reported higher levels of time conflicts among work roles less frequently used these four strategies. The findings suggest that higher levels of time conflicts among work roles may inhibit faculty members' efforts to perform expected tasks efficiently or to get support from colleagues and/or boss. These results are somewhat inconsistent with Beutell and Greenhaus' (1983) findings. They found positive

relationships between use of Type III coping strategies and level of role conflict. Three strategies in the present study (i.e., prioritizing/scheduling, implementing, and goal setting) are similar to the Type III coping strategies identified by Beutell and Greenhaus. It should be noted that their results identified positive relationships only for women with traditional sex role attitudes.

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Insert Table 4 about here

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The significant negative correlation ( $r=-.24$ ) between the use of the strategy, trying to be on time, and type of appointment was found. Faculty whose major job activity was research or scholarly writing tended to less frequently use being on time as a time management strategy. This finding reflects the nature of research and scholarly writing activities. These activities allow more flexibility in meeting deadlines (i.e., being on time) than teaching or administrative activities.

The positive significant relationship between age and use of the implementing strategy indicate that older faculty more frequently employed this strategy. This relationship supports Newton's (1979) interpretation that older heads of households have established management patterns and are better able to carry out managerial activities.

The strategies associated with compromising role demands and getting support from colleagues and/or employer were negatively correlated with the age of the faculty members. Younger faculty members tended to more frequently compromise their roles through discussion with colleagues

and/or employer and to seek support from colleagues and/or employer in dealing with time conflicts. These two strategies used by younger faculty could be viewed as attempts to redefine role structures and relationships so that fewer conflicting demands are placed upon the faculty member. From this point of view, these results are inconsistent with research conducted by Gilbert, Holahan, and Manning (1981). They found that older professional women tended to use structural role redefinition and personal role redefinition more often.

Relationships between time management strategies, job satisfaction, and research productivity

In order to examine whether or not the use of time management strategies influenced job satisfaction, the eight time management subscales were entered into stepwise multiple regression analyses as independent variables (see Table 3). Use of the implementing strategy (beta=.21) and the getting support from colleagues and/or employer (beta=.20) strategy emerged as significant predictors of job satisfaction. However, the R square of .08 (multiple R=.29) indicated that only 8 percent of the variance in job satisfaction was explained by these two time management strategies. Faculty who more efficiently implemented and completed job tasks and more often received support from colleagues and/or employer in coping with time conflicts between work and family roles were more satisfied with their job.

These findings are partially consistent with an earlier study by Hall (1972), which found that job satisfaction was positively related to

structural role redefinition coping behaviors (i.e., getting support is a part of this coping behavior). Support from colleagues and/or employer in meeting role demands may keep faculty from being burdened by family and job responsibilities and facilitate the performance of multiple roles. Faculty who are more conscious of carrying out planning and completing job tasks could feel more successful in their ability to manage multiple roles and get more positive recognition from colleagues and employer. This feeling, in conjunction with more supports from colleagues and/or employer, might contribute to higher levels of satisfaction with their current job.

The eight time management subscales were entered into stepwise multiple regression analyses to determine the degree to which these independent variables predicted the composite research productivity variable. No time management variables were found to be significant predictors of the composite research productivity variable. This result suggests that no significant relationships existed between linear combinations of the two sets of variables — the time management strategy subscales and the research productivity variables.

However, several correlations between specific time management variables and productivity variables were found to be significant in the Pearson product moment correlation analysis (see Table 4). The use of prioritizing/scheduling job tasks was significantly related to the number of presentations made ( $r=.18$ ), books written ( $r=.18$ ), and grants obtained from funding sources outside the institution ( $r=.16$ ). The positive correlations indicated that faculty who more frequently set priorities,

arranged, and scheduled among job tasks made more presentations, wrote more books, and obtained more grants. Efficient implementation of job tasks also was positively correlated with the number of books written ( $r=.17$ ) and articles published ( $r=.17$ ). These findings are not surprising because these two time management strategies allow faculty to accomplish more roles in a given time by increasing efficiency and, as a result, they are likely to be more productive.

Positive relationships between goal setting and the number of presentations made, articles published, and working as a reviewer were found. Faculty who more frequently established and tried to achieve professional goals made more presentations, published more articles, and were more involved as reviewers for professional journals. One of the criteria of career success in academia is faculty publication records. These also contribute to promotion within the institution and national recognition. Thus, faculty who are conscious of setting and achieving professional goals may be more willing to devote time and effort to publication and related activities.

The strategy associated with reducing responsibility was positively related to the number of presentations made and involvement on professional journals as an editor or associate editor. Faculty who reduce some of their job responsibilities by delegating and saying "no" more often made more presentations at national meetings and worked more often as editors or associate editors of professional journals. The ability to assign certain tasks to others and to say "no" to additional responsibilities allows faculty more time for their own career

development.

### Conclusions

Several conclusions can be made based upon the results of this study. First, faculty tended to more frequently use time management strategies emphasizing efficient role performance. These included being on time, prioritizing/scheduling, goal setting, and implementing. Second, the level of time conflicts among work roles, an academic appointment that includes time for research activities, and the age of faculty member were significant predictors of the composite time management strategy variable. Third, use of implementing as a strategy and getting support from colleagues and/or employer emerged as significant predictors of faculty job satisfaction. Fourth, no time management strategy was found to be a significant predictor of the composite research productivity variable. However, several time management strategies used by faculty were correlated with some of individual research productivity variables.

University administrators or faculty could use the findings of this study to improve job satisfaction and research productivity. Because perceived support from colleagues or employers can contribute to faculty job satisfaction, establishing supportive administrative systems can be used to increase faculty job satisfaction. Faculty also need to develop supportive the collegial relationships and learn to implement time plans and job tasks efficiently in order to deal with time pressures and increase job satisfaction. Strategies such as setting priorities among

job tasks, scheduling time in advance for important job tasks, implementing job tasks efficiently, and establishing professional goals are used by more productive faculty. Work shops or seminars designed to develop faculty time management skills emphasize these strategies. Use of these strategies can help faculty improve their research productivity by increasing efficiency of the work role performance.

Generalizations from this study are limited by the nature of the sample. The sample used in the present study represents a highly educated group of professional, thus these findings would not necessarily apply to groups who differ in level of education or who work in other organizational settings. More empirical research is required to better understand time management strategies used for coping role conflicts and their relationships to job satisfaction and job performance outcomes among different occupational groups.

**Table 1. Mean Scores, Standard Deviations, and Reliability Estimates for Time Management Strategy Subscales**

<b>Time Management Strategy Subscales</b>	<b>Mean</b>	<b>SD</b>	<b>Alpha</b>
<b>Prioritizing/scheduling</b>	<b>3.82</b>	<b>.60</b>	<b>.89</b>
<b>Implementing</b>	<b>3.66</b>	<b>.60</b>	<b>.75</b>
<b>Goal setting</b>	<b>3.71</b>	<b>.86</b>	<b>.90</b>
<b>Being on time</b>	<b>4.70</b>	<b>.48</b>	<b>.78</b>
<b>Reducing responsibility</b>	<b>2.90</b>	<b>.74</b>	<b>.76</b>
<b>Compromising</b>	<b>2.25</b>	<b>.67</b>	<b>.70</b>
<b>Changing standards</b>	<b>2.32</b>	<b>.06</b>	<b>.76</b>
<b>Getting support</b>	<b>2.93</b>	<b>.78</b>	<b>.72</b>

**Table 2. Regression of Demographic and Work-Related Variables and Level of Time Conflicts on the Composite Time Management Strategy Variable**

Independent variables	beta	t
<u>Demographic variables</u>		
Age	.25	2.73**
Sex	-.13	-1.39
<u>Work-related variables</u>		
Rank	-.00	-.02
Base	.11	1.26
Total work time	.08	.83
Type of appointment		
Teaching/advising	.11	.32
Research	.32	3.51***
Admin./ext./other	-.11	-1.15
Total numbers of committee	.08	.87
<u>Level of time conflicts</u>		
Among work roles	.31	3.39***
Between work and family roles	.12	1.18
Multiple R	.45	
R Square	.21	

\*\*\*

Significant at  $P < .001$ .

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Significant at  $P < .01$ .

**Table 3. Regression of Time Management Subscales on Job Satisfaction and Composite Research Productivity Variable**

Independent variables	<u>Job satisfaction</u>		<u>Research productivity composite variable</u>	
	beta	t	beta	t
Prioritizing/scheduling	.00	.02		- a
Implementing	.21	2.30*		
Goal setting	.05	.54		
Being on time	-.04	-.41		
Reducing responsibility	.07	.48		
Compromising	-.01	-.10		
Changing standards	-.13	-1.37		
Getting Support	.20	2.10*		
Multiple R	.29			
R Square	.08			

<sup>a</sup> No time management strategy subscale was entered as significant predictors for composite research productivity variable.

\* Significant at  $P < .05$ .

**Table 4. Correlations between the Use of Time Management Strategies and Selected Independent Variables and Research Productivity-Related Variables**

	Prioritiz- ing/sched- uling	Implement- ing	Goal setting	Being on time
<b><u>Independent variables</u></b>				
Time conflict among work roles	-.21**	-.19**	-.15*	-.11
Age	-.03	.13*	-.10	-.02
Type of appointment Research	-.02	-.02	.03	-.24**
<b><u>Research productivity-related variables</u></b>				
Presentations	.17*	.03	.20*	-.01
Grants	.16*	.03	.08	-.02
Books	.18*	.17*	.13	.08
Articles	.10	.17*	.16*	.08
Involvement with professional journal Reviewer	-.01	.09	.14*	-.05
Editorial board Editor	.03	-.05	.03	.02
	-.01	-.06	.04	-.10

\*  
Significant at  $P < .05$ .

\*\*  
Significant at  $P < .01$ .

Table 4 continued

	Reducing responsi- bility	Compro- mising	Changing standard	Getting support
<b><u>Independent variables</u></b>				
Time conflict among work roles	-.05	.01	.08	-.27**
Age	-.07	-.28**	-.08	-.14*
Type of appointment Research	.10	.04	.01	.02
<b><u>Research productivity-related variables</u></b>				
Presentations	.16*	.08	.11	.04
Grants	.10	-.02	-.05	-.13
Books	.10	-.01	-.07	-.07
Articles	.09	-.09	.01	-.03
Involvement with professional journal Reviewer	-.04	-.02	.02	.02
Editorial board	.11	.01	.10	.02
Editor	.14*	.13	.12	.02

\*  
Significant at  $P < .05$ .

\*\*  
Significant at  $p < .01$ .

## References

- Abdel-Halim, A. A. (1982). Social support and managerial affective responses to job stress. Journal of Occupational Behavior, 3, 281-295.
- Beutell, N. J., & Greenhaus, J. H. (1982). Interrole conflict among married women: The influence of husband and wife characteristics on conflict and coping behavior. Journal of Vocational Behavior, 21, 99-110.
- Beutell, N. J., & Greenhaus, J. H. (1983). Integration of home and nonhome roles: Women's conflict and coping behavior. Journal of Applied Psychology, 68, 43-48.
- Bird, G. A., Bird, G. W., & Scruggs, M. (1983). Role management strategies used by husbands and wives in two-earner families. Home Economics Research Journal, 12, 63-70.
- Cooke, R. A., & Rousseau, D. M. (1984). Stress and strain from family roles and work-role expectations. Journal of Applied Psychology, 69, 252-260.
- Deacon, R. E., & Firebaugh, F. H. (1981). Family resource management: Principles and applications. Boston: Allyn and Bacon.
- Elman, M. T., & Gilbert, L. A. (1984). Coping strategies for role conflict in married professional women with children. Family Relations, 33, 317-327.
- Garrison, M. E., & Winter, M. (1986). The managerial behavior of families with preschool children. Journal of Consumer Studies and Home Economics, 10, 247-260.
- Gilbert, L. A., Holahan, C. K., & Manning, L. (1981). Coping with conflict between professional and maternal roles. Family Relations, 30, 419-426.
- Gmelch, W. H. (1987). What colleges and university can do about faculty stressors. In P. Seldin (Ed.), Coping with faculty stress (pp. 23-31). San Francisco: Jossey-Bass.
- Gmelch, W. H., Lourich, N. P., Wilke, P. K. (1984). Sources of stress in academia: A national perspective. Research in Higher Education, 20, 477-490.
- Goode, W. J. (1960). A theory of role strain. Sociological Review, 25, 483-496.

- Gordon, F. E., & Hall, D. T. (1974). Self-image and stereotypes of femininity: Their relationship to women's conflicts and coping. Journal of Applied Psychology, 59, 241-243.
- Grasha, A. F. (1987). Short-term coping techniques for managing stress. In P. Seldin (Ed.), Coping with faculty stress (pp.53-63). San Francisco: Jossey-Bass.
- Gray, J. D. (1983). The married professional women: An examination of her role conflicts and coping strategies. Psychology of Women Quarterly, 7, 235-243.
- Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. Academy of Management Review, 10, 76-88.
- Gronlund, N. E. (1981). Measurement and evaluation in teaching. New York: Macmillan.
- Gross, I. H., Crandall, W. W., & Knoll, M. M. (1980). Management for modern families. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Gupta, N., & Jenkins, Jr., G. D. (1985). Dual-career couples: Stress, stressors, strain, and strategies. In T. A. Behr & R. S. Bhagat (Eds.). Human stress and cognition in organizations: An integrated perspective. New York: John Wiley & Sons.
- Hall, D. T. (1972). A model of coping with role conflict: The role behavior of college educated women. Administrative Science Quarterly, 17, 471-485.
- Heckman, N. A., & Bryson, J. B. (1977). Problems of professional couples: A content analysis. Journal of Marriage and Family, 39, 323-330.
- Herman, J. B., & Gyllstrom, K. K. (1977). Working men and women: Inter- and intra-role conflict. Psychology of Women Quarterly, 1, 319-333.
- Howard, J. H., Rechnitzer, P. A., & Cunningham, D. A. (1975). Coping with job tension: Effective and ineffective methods. Public Personnel Management, 1, 317-326.
- Kaiser, H. F., & Caffrey, J. (1965). Alpha factor analysis. Psychometrika, 30, 1-14.
- Katz, M. H., & Piotrkowski, C. S. (1983). Correlates of family role strain among employed black women. Family Relations, 32, 331-339.
- Keith, P. M., & Schafer, R. P. (1980). Role strain and depression in two-job families. Family Relations, 29, 483-488.

- Kelly, R. K., & Voydanoff, P. (1985). Work/family role strain among employed parents. Family Relations, 34, 367-374.
- Lakin, A. (1973). How to get control of your time and your life. Signet, NY: New American Library.
- McConalogue, T. (1984). Developing the skill of time management. Leadership and Organizational Development, 5, 25-27.
- Newton, D. L. (1979). Managerial behavior, goal achievement, satisfaction with managerial behavior, and life satisfaction. Unpublished master's thesis, Iowa State University, Ames, Iowa .
- Nickell, P., Rice, A. M., & Tucker, S. P. (1976). Management in family living. New York: John Wiley & Sons.
- Noel, J. L. (1987). Long-term stress management. In P. Seldin (Ed.), Coping with faculty stress (pp. 65-73). San Francisco: Jossey-Bass.
- Nunnally, J. C. (1982). Reliability of measurement. In H. E. Mitzel (Ed.). Encyclopedia of educational research, Vol. 4. New York: Free Press.
- Olson, G. I., & Beard, D. M. (1984). Assessing management related to daily activities. Paper presented at the annual meeting of NCR-116, Family Resource Management, Minneapolis, Minnesota.
- Osipow, S. H., Doty, R. E., & Spokane, A. R. (1978). Occupational stress, strain, and coping across the life span. Journal of Vocational Behavior, 27, 98-108.
- Parasuraman, S., & Clerk, M. A. (1984). Coping behaviors and managers' affective reactions to role stressors. Journal of Vocational Behavior, 24, 179-193.
- Pearlin, L. I., & Schooler, C. (1978). The structure of coping. Journal of Health and Social Behavior, 19, 2-21.
- Pedhazur, E. J. (1982). Multiple regression in behavioral research: Explanation and prediction. New York: Holt, Rinehart and Winston.
- Pleck, J. H., & Staines, G. L. (1985). Work schedules and family life in two-earner couples. Journal of Family Issues, 6, 61-82.
- Pleck, J. H., Staines, G. L., & Lang, L. (1980). Conflicts between work and family life. Monthly Labor Review, 103, 29-31.
- Schuler, R. S. (1979). Managing stress means managing time. Personnel Journal, 58, 851-854.

- Schuler, R. S., & Sethi, A. S. (1984). Time management and leader communication behavior. In A. S. Sethi, & R. S. Schuler (Ed.), Handbook of organizational stress and coping strategies (pp. 69-87). Cambridge, MA: Ballinger Publishing Co.
- Seiden, A. M. (1980). Time management and dual-career couple. In F. Pepitone-Rockwell (Ed.), Dual-career couples (pp. 163-189). Beverly Hills, CA: Sage Publications. 163-189.
- Seldin, P. (1987). Research findings on causes of academic stress. In P. Seldin (Ed.), Coping with faculty stress (pp. 13-21) San Francisco: Jossey-Bass.
- Sharpe, A. M., & Winter, M. (1982). Toward a definition of effective manager: Thought process and behavior. Paper presented at the annual meeting of NCR-116, Family Resource Management, Columbus, Ohio.
- Skinner, D. A. (1980). Dual-career families stress and coping: A literature review. Family Relations, 29, 473-480.
- Sorcinelli, M. D., & Gregory, M. W. (1987). Faculty stress: The tension between career demands and having it all. In P. Seldin (Ed.), Coping with faculty stress (pp. 43-52). San Francisco: Jossey-Bass.
- Voydanoff, P. (1987). Work and family life. Newbury Park, CA: Sage Publications.
- Voydanoff, P., & Kelly, R. F. (1984). Determinants of work-related family problems among employed parents. Journal of Marriage and Family, 46, 881-892.

**Family Time Management Strategies: Relationships to  
Perceived Time Conflicts and Life Satisfaction**

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**ARTICLE II. FAMILY TIME MANAGEMENT STRATEGIES: RELATIONSHIPS TO  
PERCEIVED TIME CONFLICTS AND LIFE SATISFACTION**

**Abstract**

This study examined factors affecting the time management strategies used by faculty at home and investigated relationships between the use of time management strategies at home, perceived time conflicts, and faculty life satisfaction. Responses to a questionnaire assessing demographic and family variables, time management strategies used at home, and life satisfaction were obtained from 170 faculty members at a large midwestern land-grant university. The results of stepwise multiple regression analyses indicated that the sex of the faculty member and perceived time conflicts among family roles and between work and family roles emerged as significant predictors of the use of time management strategies at home. Time management strategies such as planning family activities, goal setting, and changing standards were significant predictors of life satisfaction.

**Introduction**

A number of studies have conceptualized role conflicts within the framework of time pressure. Two forms of time pressure generally have been identified in the literature. First, role overload resulting from performing multiple role expectations can lead to time constraint or time shortages (Cooke & Rousseau, 1984; Heckman & Bryson, 1977; Kelly & Voydanoff, 1985; Skinner, 1980; Voydanoff & Kelly, 1984). That is, total

demands on time are too great to perform multiple role requirements. Second, incompatible time requirements from multiple roles can result in time conflicts (Greenhaus & Beutell, 1985; Keith & Schafer, 1980; Herman & Gyllstrom, 1977; Pleck & Staines, 1985; Pleck, Staines, & Lang, 1980). According to these studies, time devoted to one role cannot be spent in fulfilling the requirements of another role because of conflicts in the scheduling of demands.

Role conflicts in the form of time pressure have been found as factors negatively affecting job performance or commitment (Schultz & Henderson, 1985), job satisfaction (Cooke & Rousseau, 1984; Jones & Butler, 1980; Kopelman, Greenhaus, & Connolly, 1983; Pleck, Staines, & Lang, 1980), family satisfaction, and life satisfaction (Kopelman, Greenhaus, & Connolly, 1983; Pleck, Staines, & Lang, 1980). Thus, several studies suggest that individuals who perform multiple roles need assistance in developing time management skills so that role conflicts can be reduced (Schultz & Henderson, 1985; Seiden, 1980).

Several strategies for managing time pressure have been identified in the literature investigating managerial behavior and time management. The emphasis in this approach is on increasing efficiency or facilitating role performance in order to accomplish more roles in a given time. These strategies include sequencing/scheduling (Deacon & Firebaugh, 1981; Gross, Crandall, & Knoll, 1980; Lakin, 1973; McConalogue, 1984; Newton, 1979; Schuler, 1979; Schuler & Sethi, 1984; Sorcinelli & Gregory, 1987); prioritizing (Grasha, 1987; Lakin, 1973; Seiden, 1980); goal setting and delegating (Lakin, 1973; McConalogue, 1984; Schuler, 1979; Schuler &

Sethi, 1984; Seiden, 1980); implementing plans (Deacon & Firebaugh, 1981; Garrison & Winter, 1986; Newton, 1979; Nickell, Rice, & Tucker, 1976; Olson & Beard, 1984); using antiprocrastination techniques (Lakin, 1973; Seiden, 1980); evaluating time use (Lakin, 1973; Nickell, Rice, & Tucker, 1976); partitioning and segregating roles (Lakin, 1973); and joint management skills (Seiden, 1980).

According to Bird, Bird, and Scruggs (1983), strategies used for coping with role conflicts can help individuals alleviate time constraints resulting from the performance of multiple roles. They identified eight role management strategies used in two-earner families based on the results of a factor analysis. These were having a legitimate excuse, stalling until pressures subside, compartmentalizing or segregating roles, obtaining empathy or mutual support, developing barriers against intrusion, reducing responsibilities, delegating, and organizing.

Based on Hall's (1972) model, role conflict coping behaviors also have been conceptualized in the literature (Beutell & Greenhaus, 1982, 1983; Gilbert, Holahan, & Manning, 1981; Gordon & Hall, 1974; Gray, 1983; Gupta & Jenkins, 1985; Hall & Gordon, 1973; Voydanoff, 1987). Hall's model consisted of three major types of coping strategies: structural role redefinition (Type I), personal role redefinition (Type II), and reactive role behavior (Type III). This model emphasizes not only increasing efficiency to meet all of the role demands (Type III) but also restructuring role relationships and environments (Type I) and changing individual's perceptions of role demands (Type II).

Elman and Gilbert (1984) extended Hall's (1972) model in a study of married professional women. Along with Hall's three types of coping strategies, referred to as problem-focused strategies, they identified emotion-focused strategies. These strategies included cognitive restructuring and tension reducing techniques. Parasuraman and Clerk's study (1984) conducted with first level of manager classified coping behaviors by differentiating between adaptive coping (problem solving approaches) and maladaptive coping (emotional or defensive approaches).

The use of coping strategies and/or managerial behaviors has been found to be associated with the level or the intensity of perceived conflicts. Higher levels of conflict were found to be related to the use of Type III coping strategies among female college students with traditional attitudes by Beutell and Greenhaus (1983). Elman and Gilbert (1984) and Howard, Rechnitzer, and Cunningham (1975) reported that higher levels of coping effectiveness was related to the lower levels of conflict.

Demographic and socioeconomic variables including sex, age, educational level, income, and family variables such as household size, age of children, and employment patterns have been identified as factors affecting the use of coping strategies and managerial behavior. Bird, Bird, and Scruggs (1983) found that husbands and wives in two-earner families used different coping strategies. Wives in career-earner families used the compartmentalization strategy while husbands in dual-career families used organization and reducing responsibilities strategies more frequently as role management strategies. According to

Parasuraman and Clerk (1984), female managers tended to engage in more adaptive coping behaviors than male managers. Pearlin and Schooler (1978) found that female respondents often employed more stress producing strategies. When compared with younger respondents, older respondents were more likely to employ stress reducing coping strategies (Howard, Rechnittzer, & Cunningham, 1975; Osipow, Doty, & Spokane, 1978; Pearlin & Schooler, 1978) and to establish more effective management patterns (Garrison & Winter, 1986; Newton, 1979). In Gilbert, Holahan, and Manning's (1981) study, younger professional women tended to employ increased role behavior (efforts to meet all demands) while older women were likely to use structural role redefinition and personal role redefinition strategies.

According to Garrison and Winter (1986), educational level of the head of the household was positively related to the effectiveness of reported managerial behavior. They also found that household size was a negatively related to the reported effectiveness of managerial behavior. Furthermore, families with children under age seven had the lowest reported managerial behavior scores. The pattern of employment of wives was found to be associated with use of coping strategies by Bird, Bird, and Scruggs (1983). Their findings indicated that compartmentalizing roles, establishing barriers against intrusion, and reducing responsibilities were more often used by wives in dual-earner families than those in dual-career families.

Studies investigating relationships between the types of coping strategies or managerial behaviors employed and satisfaction experienced

have been found in the literature. Hall (1972) found that reactive role behavior (Type III) was negatively related to satisfaction with the way of coping with role conflict. On the other hand, structural role redefinition (Type I) and personal role redefinition (Type II) were positively related. According to Beutell and Greenhaus (1982), reactive role behavior was negatively related to the life satisfaction of female college students whose husbands were dissatisfied with their own lives. In contradiction to the above two studies, Gilbert, Holahan, and Manning (1981) found that female parents who used role expansion strategies (Type III) reported higher levels of life satisfaction than those who used role redefinition strategies (Type I and Type II).

Gray's (1983) study of married professional women found that satisfaction with balancing work and family roles was positively related to the strategies of having family members share household tasks, reducing standards within certain roles, scheduling and organizing activities carefully, having family members help resolve role conflicts, and considering personal interests as important. Furthermore, the strategies negatively linked to satisfaction included eliminating roles, keeping roles totally separate, attempting to meet the expectations of all, overlapping roles, and not having any conscious strategies for dealing with role conflicts. Newton (1979) reported that the effectiveness of managerial behavior positively impacted satisfaction with management and overall life.

Although a number of studies examining managerial behaviors and role conflict coping strategies have been found, limited empirical attempts

have been made to identify the management strategies used in dealing with time-induced role conflicts. Limited empirical literature investigating the factors affecting these strategies as well as the impact of these strategies on life satisfaction also as found. Furthermore, recently the importance of developing time management skills to assist faculty in dealing with stress resulting from time pressure has been suggested (Grasha, 1987; Gmelch, 1987; Noel, 1987); however, no empirical research was found examining the time management behaviors used by university faculty. Therefore, this research was designed to identify the time management strategies used by university faculty and level of perceived time conflicts, to examine factors affecting the use of time management strategies, and to investigate the influence of these time management strategies on faculty life satisfaction.

### Method

#### Sample

Questionnaires were mailed to a stratified random sample of 275 faculty at a large midwestern land-grant university. Sex of the faculty member and the college in which the faculty held academic rank were used as the bases for stratification. Twenty male and 20 female faculty were selected from each of the eight academic colleges. Because two academic colleges had fewer than 20 female faculty, the total invited sample consisted of 275 faculty. Follow-up letters were mailed to all respondents 2 weeks and 8 weeks after the questionnaire was distributed. Twenty seven of the 197 questionnaires returned (71.6%) contained

incomplete data and were unusable in the data analyses.

Of the faculty for whom usable data were available, 33.1% held the rank of instructor or assistant professor, 32.5% the rank of associate professor, and 34.3% the rank of professor. The academic division of respondents was distributed as follows: 18.1% for agriculture, 7.2% for business, 7.8% for design, 16.9% for education, 10.8% for engineering, 14.5% for family and consumer sciences, 13.3% for science and humanities, and 11.4% for veterinary medicine. Of the responding faculty, 54.7% were male and 45.3% were female. The age distribution for respondents was 27.9% under 40 years of age; 34.1%, 40-49; 31.8%, 50-59; and 6.5%, 60 or over.

Most of the participants were married (80%). Of the respondents, 51.5% did not have any children living at home, 37.6% had 1 or 2, and 10.9% had 3 or more. The average age of faculty member's children was 12.3 years old. Respondents were asked to indicate the number of hours per week family members spent doing household tasks. The average hours per week worked by female faculty was 22.1 hours, by male faculty 7.1 hours, by children 1.7 hours, and by others 1 hour. Over four-fifth of (82.5%) the female faculty members and 60.2% of male faculty members had employed spouse. The average number of hours per week by spouses of female and male faculty members were 47.2 and 37.2 hours respectively. The total household income distribution of faculty was as follows: 11%, less than \$ 30,000 per year; 31.2%, \$ 30,000-\$ 50,000; 34.1%, \$ 50,001-\$ 70,000; 18.8%, \$ 70,001-\$ 90,000; and 9.4%, more than 90,000.

### Instrumentation

The questionnaire contained three instruments that were used to collect data. These were a demographic information instrument, a life satisfaction instrument, and a time management behavior instrument. Questions on the demographic information instrument were designed to obtain data on selected demographic characteristics, home and family variables of faculty, employment background of faculty member's spouse, and perceived degree of time conflicts.

Two items on the demographic information instrument were used to assess the degree of time conflicts experienced by faculty. Respondents were asked to indicate the degree of perceived time conflicts among family roles and between work and family roles using a 4-category response scale ranging from 1 (never) to 4 (often).

Life satisfaction was measured by 14 items adapted from the Quality of Life Scale developed by Olson and McCubbin (1983). Respondents were asked to report their level of satisfaction with each item on a 5-point Likert type scale ranging from 1 (very dissatisfied) to 5 (very satisfied). The coefficient alpha reliability estimate for the life satisfaction scale was .84, which is greater than minimum recommended for research purpose by Gronlund (1981) and Nunnally (1982).

The time management behavior instrument was used to assess the time management strategies at home employed by faculty. Forty-six items were developed based on research on role conflict coping strategies (Bird, Bird, & Scruggs, 1983; Hall, 1972) and managerial behaviors (Olson & Beard, 1984; Deacon & Firebaugh, 1981; Lakin, 1973; Newton, 1979;

Nickell, Rice, & Tucker, 1976; Sharpe & Winter, 1982). Terminology of the items used in previous research was revised to make them applicable to university faculty and to time management at home. The questionnaire was reviewed by individuals with expertise in management to assess content validity and administered to 6 faculty members and 6 graduate students at Iowa State University to assess its usability. Participants were asked to indicate how often they used each time management strategy at home on a 5-point scale ranging from 1 (never) to 5 (almost always).

Responses to 6 of the 46 items were negatively correlated with the total item score and were not used in the factor analysis. A factor analysis was conducted for remaining the 40 items using the image factoring method (Kaiser & Caffrey, 1965) with varimax rotation. Items were placed into factors based upon size of factor loading and rationality of fit. In determining the factors, a minimum factor loading of .40 was used along with a reliability estimate of .65, which is the minimum recommended for research purposes (Gronlund, 1981; Nunnally, 1982). The coefficient alpha reliability estimates for the two factors on assessing reducing responsibilities and avoiding implementing were .49 and .54 respectively. The remaining 7 factors were labeled as planning family activities, changing standard, goal setting, implementing, prioritizing, compromising, and scheduling. Using the Cronbach procedure all of the seven subscales yielded coefficient alpha reliability estimates ranging from .75 to .95 (see Table 2).

### Data analysis

Descriptive statistics including frequencies, percentages, means, and standard deviations were calculated for all questionnaire items. In order to examine the relationships between use of time management strategies at home and selected demographic and family variables, and perceived level of time conflict, a composite variable for each of the seven time management strategy subscales was created. Canonical correlation analysis between the time management strategy subscales (dependent variables) and the demographic and family variables and perceived level of time conflict (independent variables) was conducted to determine the weight of each time management subscale that produces the maximum possible correlation with a linear combination of independent variables (Pedhazur, 1982). The corresponding raw canonical coefficient in the first root (function) was used as a weight of each time management strategy subscale in creating the composite variable. Each time management subscale was multiplied by the corresponding raw canonical coefficient. The multiplied values of these variables were summed to obtain the composite variable for time management strategies.

A composite variable on life satisfaction also was created to investigate the impact of time management strategies on life satisfaction. Based on canonical correlation analysis between the seven time management strategy subscales (independent variables) and 14 items on life satisfaction instrument (dependent variables), a life satisfaction composite variable was obtained using same procedure described above.

The impact of selected demographic and family variables and

perceived level of time conflicts on the time management composite variable was examined using stepwise multiple regression analysis. The same regression analysis technique also was conducted to determine the degree to which the seven time management subscales influenced the life satisfaction composite variable.

Pearson product moment correlation analyses were used to explain the relationships between significant predictors of the composite time management strategy variable and the specific time management strategies employed at home by faculty. The same procedures were used to explain the relationships between each time management strategy subscale and the composite variable for life satisfaction.

## Results and Discussion

### Level of life satisfaction and perceived time conflict

The mean item score and standard deviation for the 14 items in life satisfaction scale are shown in Table 1. The results indicated that family life and marriage were the most satisfied life aspects for faculty in the present study. These findings are consistent with Flanagan and Russ-Eft's (1975) national sample study and Schultz and Chung's (1987) faculty study. Flanagan and Russ-Eft found that family-related components, including relationship with spouse, having and raising children, and being a parent, were the most important and most satisfied life dimension for the men and women surveyed. Home and family life also was found to be the most important and satisfied life component of university faculty by Schultz and Chung (1987).

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Insert Table 1 about here

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The level of satisfaction with current housing arrangement, neighborhood and community life, and health was relatively higher than for the remaining life components. The lower levels of satisfaction were found for the time related life aspects including time for leisure activities, time for self, time for family, and time for job. The dissatisfaction with time components partially reflects the stress experienced by faculty in finding enough time to manage various activities.

The average scores for perceived time conflicts among family roles and between work and family roles were 2.5 and 2.9 respectively on a 4.0 point scale. Faculty seem to perceive more time conflicts in balancing work and family roles than in performing family roles. These results indicated that faculty members experienced slightly higher levels of time conflicts resulting from multiple role performance. In addition, these findings were consistent with the lower level of satisfaction with time related life aspects described above. The results of t-tests showed that there were no significant differences in the levels of perceived time conflicts between male and female faculty members.

#### Use of time management strategies

The mean item scores and standard deviations for the seven time management strategy subscales are shown in Table 2. Time management

strategy used most frequently at home by faculty members was efficient implementing plans for family activities and household tasks. Strategies associated with compromising and planning family activities also were frequently employed at home by the faculty in dealing with time pressures resulting from multiple role performance. Frequent use of these three strategies indicates that faculty seemed to deal with time conflicts or time pressures by trying to increase the efficiency of role performance as well as by attempting to restructure and redefine the role environment. Compromising also was proposed by Skinner (1980) as a coping strategy to deal with conflicts between work and family roles in dual-career families.

Faculty members, however, used less frequently goal setting as strategy when compared with other strategies. Three time management strategies including prioritizing, scheduling, and changing standard were employed with moderate frequency. These findings suggest that faculty members employ a mixture of time management strategies at home. That is, along with the efforts to change their roles and role relationships, faculty members try to meet all family demands through increased efficiency of role performance. Faculty members seem to perceive their personal or family lives as more flexible than work lives in negotiating roles and role relationships. In addition, faculty members may feel that efficient performance of family activities and household tasks is a reflection on their ability to successfully handle multiple roles.

Relationships between demographic and family variables and time conflicts and time management strategies

Selected demographic and family variables and perceived level of time conflicts were entered into a stepwise multiple regression analysis to determine the degree to which these independent variables predicted the composite time management strategy variable. Table 3 shows the results of this stepwise multiple regression analysis.

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Insert Table 3 about here

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Sex of the faculty member ( $\beta = -.47$ ) and perceived time conflicts among family roles ( $\beta = -.23$ ) and between work and family roles ( $\beta = -.20$ ) emerged as significant predictors of the composite time management strategy variable. An R square of .39 (multiple  $R = .63$ ) indicated that 39 percent of the variance in the composite time management strategy variable was explained by these three variables.

Pearson product moment correlations between these three significant predictors and the seven time management strategy subscales were computed to further interpret these results (see Table 4). All time management strategies except planning family activities were significantly related to the sex of faculty. The strong positive correlation between changing standards ( $r = .47$ ) and sex indicated that female faculty tended to more frequently change their standards for household tasks or family life than male faculty. Positive relationships also were found between sex and other time management strategies including prioritizing ( $r = .24$ ),

scheduling ( $r=.23$ ), compromising ( $r=.18$ ), and implementing ( $r=.17$ ). These findings suggest that female faculty members were more likely to set priorities for household tasks, schedule time in advance, and implement time plans for household tasks or family activities than their male counterparts. Female faculty members more often discussed time conflicts in performing multiple roles with their spouse or other family members and also received support from their spouse or other family members. These results also indicate that when compared with male respondents, female faculty used more time management strategies for dealing with time pressures and conflicts resulting from the performance of multiple roles.

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Insert Table 4 about here

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These findings are somewhat consistent with the results of earlier studies (Dubois, 1981; Herman & Gyllstrom, 1977; Kelly & Voydanoff, 1985; Voydanoff & Kelly, 1984). These studies found that women perceived greater conflicts when performing both work and family roles. Women who work feel more personal and social pressure because they traditionally have continued to assume major responsibility for household tasks completion. As a result, female faculty may make more deliberate choices of time management strategies to balance work and family responsibilities. These findings also are consistent with an earlier study by Schultz, Chung, and Henderson (1987). They found that female faculty used more time management strategies to balance job and personal

life than their male counterparts.

The use of goal setting as a strategy ( $r=-.14$ ) was slightly negatively correlated with sex of the faculty member. Male faculty members appeared to more frequently establish a set of family goals and identify activities to achieve these goals.

Significant negative relationships were found between the strategy of planning family activities and perceived level of time conflicts among family roles ( $r=-.20$ ) and between work and family roles ( $r=-.20$ ). Implementing as a strategy ( $r=-.21$ ) also was found to be negatively related to the perceived level of time conflicts among family roles. These negative correlations indicate that faculty members who reported higher levels of time conflicts among family roles and between work and family roles used these strategies less frequently. These findings suggest that higher levels of time conflict among family roles and/or between work and family roles may inhibit a faculty members' efforts to plan and organize family activities or to implement time plans for household tasks or family activities efficiently. The results of Beutell and Greenhaus' (1983) study were somewhat different from these findings. They found positive relationships between level of role conflicts and the use of Type III coping strategies. However, this relationship was found only for women with traditional sex role attitudes. The Type III coping strategies identified by Beutell and Greenhaus are similar to two strategies in the present study (i.e., planning family activities and implementing).

Perceived level of time conflicts both among family roles and

between work and family roles were positively related to the use of the changing standards strategy. Faculty members who more frequently experienced time conflicts among family roles and between work and family roles tended to change their standards for household task performance and/or family life when time demands became too great. As discussed earlier higher levels of time conflicts may inhibit a faculty member's effort to perform multiple roles efficiently, thus he or she may change standards for household tasks and/or expectations of what family life should be like.

#### Relationships between time management strategies and life satisfaction

In order to examine the impact of the use of time management strategies on the composite life satisfaction variable, the seven time management subscales were introduced into a stepwise multiple regression analysis as independent variables (see Table 5). The significant predictors of the composite life satisfaction variable were the use of the planning family activities (beta=-.48), changing standards (beta=.38), and goal setting (beta=-.25) strategies. These three variables yielded a multiple R of .64 and accounted for 41 percent of the variance in the composite life satisfaction variable.

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Insert Table 5 about here

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Pearson product moment correlation analyses again were conducted to further examine the relationships between these three significant

predictors of life satisfaction (see Table 6). Planning family activities as a time management strategy was found to be positively related satisfaction with family ( $r=.28$ ), marriage ( $r=.40$ ), friends ( $r=.32$ ), health ( $r=.27$ ), time for self ( $r=.29$ ), family ( $r=.30$ ), job ( $r=.20$ ), and leisure activities ( $r=.24$ ), personal ( $r=.35$ ) and family member's household responsibilities ( $r=.47$ ), current housing arrangement ( $r=.29$ ), and neighborhood and communities ( $r=.27$ ). These results suggest that faculty members who more often planned and organized family activities were more likely to be satisfied with family life and marriage, time related aspects, household responsibilities allocated to them and their family, and other general aspects of life including friends, health, housing, and neighborhood and communities. Items in the planning family activities subscale deal with planning family activities, coordinating timing of household tasks, making plans for leisure activities, establishing breaks to meet personal needs, and receiving supports from spouse and/or children. These efforts can assist faculty members in more efficiently managing family and leisure activities, household tasks, life in general, and receiving more supports from family members. Therefore, it is not surprising that they are more satisfied with these aspects of life.

The use of the goal setting strategy was positively related to satisfaction with family life ( $r=.34$ ), friends ( $r=.16$ ), time for family ( $r=.17$ ), and personal ( $r=.19$ ) and family member's household responsibilities ( $r=.23$ ). These positive relationships between use of the goal setting strategy and satisfaction with these aspects of life

indicate that faculty who more frequently established a set of family goals and tried to achieve these goals tended to be more satisfied with their family life, friends, available time for their family, and household responsibilities allocated to them and their family members. Faculty who establish family goals and attempt to achieve these goals may be more conscious of planning family activities, allocating time for family, and organizing household tasks. These efforts may lead to more efficient role performance and therefore contribute to higher levels of satisfaction with these aspects of life.

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Insert Table 6 about here

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A small but significant negative relationship was found between the use of the goal setting strategy and satisfaction with financial well-being. This result suggests that faculty members who more often set down family goals and attempted to achieve them were less likely to be satisfied with their financial well-being. This finding may indicate that faculty who establish family goals and try to achieve them may see a greater discrepancy between their financial goals and their present financial situation. This probably accounts for the lower level of satisfaction with their present financial well-being.

The use of changing standards as a strategy was negatively correlated with satisfaction with family life ( $r=-.31$ ), marriage ( $r=-.19$ ), health ( $r=-.26$ ), time for self ( $r=-.22$ ) and family ( $r=-.19$ ), personal ( $r=-.31$ ) and family member's household responsibilities,

( $r = -.18$ ) and job ( $r = -.18$ ). These negative relationships indicated that faculty who more often changed their standards for household tasks and family life to deal with time pressures tended to be less satisfied with their family, marital relationships, health, available time for self and family, their own and family member's household responsibilities, and job. Faculty who are more likely to modify their own standards, self-expectations, or personal role conceptions may view these changes as a reflection on reduction in their ability to manage various aspects of life roles or a lack of adequate support from their spouse and/or other family members. Therefore, they are less satisfied with family, marital relationships, available time for self and family, personal and family member's household responsibilities, and job.

### Conclusions

The following conclusions can be drawn from this study. First, family life and marriage appear to be the most satisfied aspects of life for faculty members. Second, time management strategies at home such as implementing plans, compromising, and planning family activities were used frequently by faculty members. Faculty tended to meet all family demands through increased efficiency of role performance as well as through efforts to change their roles and role relationships. Third, the sex of the faculty member and time conflicts among family roles and between family and work roles emerged as significant predictors of the composite time management strategy variable. When compared with male faculty, female faculty were more likely to use prioritizing, scheduling,

compromising, and implementing time management strategies at home. Higher levels of time conflicts among family roles was negatively related to the use of implementing strategies at home. The positive relationships were found between the use of changing standards strategy at home and the perceived level of time conflicts among family roles and between work and family roles. Fourth, the use of planning family activities, goal setting, and changing standards strategies were significant predictors of the composite life satisfaction variable. Faculty members who more frequently planned and organized family activities and established a set of family goals tended to be more satisfied with several aspects of their life. Faculty members were less likely to be satisfied with several aspects of their life when they more often change their standards for household tasks and family life.

The results of the present study indicate that time conflicts among family roles and between work and family roles inhibit a faculty member's efforts to use time management strategies that could increase the efficiency of their role performance. Thus, individuals in professional positions, such as university faculty members, need assistance in learning time management skills to reduce time pressures or conflicts resulting from the performance of multiple roles. Because the use of planning family activities and goal setting as time management strategies can contribute to faculty life satisfaction, workshops or seminars designed to help faculty members develop time management skills should include these strategies. These sessions should be planned at the work site and during the work day whenever possible because of the time

pressures and conflicts experienced by faculty members.

Limited generalizations can be made from this study because of the nature of the sample. A highly educated group of professionals was used in the present study, thus these findings would not necessarily apply to groups who differ in level of education or who work in other organizational settings. Further research is needed to investigate the use of time management strategies at home in order to cope with role conflicts and the relationships of these strategies to life satisfaction for different occupational groups.

**Table 1. Mean Scores and Standard Deviations for Life Satisfaction Components**

<b>Life Satisfaction Components</b>	<b>Mean</b>	<b>SD</b>
Family	4.52	.74
Marriage	4.59	.78
Friends	3.99	.86
Health	4.19	.95
Time for self	3.15	1.19
Time for family	3.39	1.03
Time for job	3.67	.98
Time for leisure activities	2.98	1.20
Personal household responsibilities	3.44	1.04
Current housing arrangement	4.27	.98
Family member's household responsibilities	4.02	1.02
Job	3.91	1.02
Financial well-being	3.90	1.07
Neighborhood and community	4.24	.87

**Table 2. Mean Scores, Standard Deviations, and Reliability Estimate for Time Management Strategy Subscales**

<b>Time Management Strategy Subscales</b>	<b>Mean</b>	<b>SD</b>	<b>Alpha</b>
<b>Planning family activities</b>	<b>3.61</b>	<b>.62</b>	<b>.85</b>
<b>Goal setting</b>	<b>2.97</b>	<b>1.17</b>	<b>.95</b>
<b>Implementing</b>	<b>3.87</b>	<b>.65</b>	<b>.88</b>
<b>Prioritizing</b>	<b>3.48</b>	<b>.78</b>	<b>.79</b>
<b>Scheduling</b>	<b>3.34</b>	<b>.72</b>	<b>.75</b>
<b>Changing standards</b>	<b>3.25</b>	<b>.71</b>	<b>.81</b>
<b>Compromising</b>	<b>3.68</b>	<b>.75</b>	<b>.81</b>

**Table 3. Regression of Selected Demographic and Family Variables and Level of Time Conflicts on the Composite Time Management Strategy Variable**

Independent Variables	Beta	T
<u>Demographic variables</u>		
Age	-.08	-1.0
Sex	-.47	-6.0 ***
<u>Family variables</u>		
Marital status	.09	1.13
Number of children	.16	1.95
Income	.01	.11
Time spent on household tasks		
Self	-.03	-.35
Spouse	.16	1.84
Spouse's working hours	.15	-1.63
<u>Level of time conflicts</u>		
Among family roles	-.24	-2.63 **
Between work and family roles	-.20	-2.24 *
Multiple R		.63
R square		.39

\*\*\*

Significant at  $P < .001$ .

\*\*

Significant at  $P < .01$ .

\*

Significant at  $P < .05$ .

**Table 4. Correlations between Time Management Strategy Subscales and Selected Independent Variables**

	Sex	Level of Time Conflicts	
		Among family roles	Between work & family roles
Planning family activities	.13	-.20 **	-.20 *
Goal setting	-.14 *	-.09	.01
Implementing	.17 *	-.21 **	-.14
Prioritizing	.24 ***	.13	.10
Scheduling	.23 **	-.01	-.03
Changing Standards	.46 ***	.25 ***	.17 *
Compromising	.18 *	.04	-.06

\*\*\*

Significant at  $P < .001$ .

\*\*

Significant at  $P < .01$ .

\*

Significant at  $P < .05$ .

**Table 5. Regression of Time Management Strategy Subscales on the Composite Life Satisfaction Variable**

<b>Time Management Strategy Subscales</b>	<b>beta</b>	<b>T</b>
Planning family activities	-.47	-5.28 ***
Goal setting	-.25	-2.96 **
Implementing	.16	1.64
Prioritizing	.15	1.73
Scheduling	-.14	-1.32
Changing standards	.38	4.66 ***
Compromising	.13	1.37
Multiple R	.64	
R square	.41	

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Significant at  $P < .001$ .

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Significant at  $P < .01$ .

Table 6. Correlations between Selected Time Management Strategy Subscales and Life Satisfaction Components

	Planning family activities	Goal setting	Changing standards
<u>Life satisfaction components</u>			
Family	.28 ***	.34 ***	-.31 ***
Marriage	.40 ***	.13	-.19 *
Friends	.32 ***	.16 *	-.13 ***
Health	.27 ***	.08	-.25 ***
Time for self	.29 ***	.12	-.22 **
Time for family	.30 ***	.17 *	-.19 *
Time for job	.20 *	.06	-.13
Time for leisure activities	.24 **	.03	-.11
Personal household responsibilities	.35 ***	.19 *	-.31 ***
Current housing arrangement	.29 ***	.13	-.12
Family member's household responsibilities	.47 ***	.24 *	-.18 *
Job	.09	-.03	-.18 *
Financial well-being	.07	-.16 *	-.06
Neighborhood and communities	.27 ***	.12	.07

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Significant at  $P < .001$ .

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Significant at  $P < .01$ .

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Significant at  $P < .05$ .

## References

- Beutell, N. J., & Greenhaus, J. H. (1982). Interrole conflict among married women: The influence of husband and wife characteristics on conflict and coping behavior. Journal of Vocational Behavior, 21, 99-110.
- Beutell, N. J., & Greenhaus, J. H. (1983). Integration of home and nonhome roles: Women's conflict and coping behavior. Journal of Applied Psychology, 68, 43-48.
- Bird, G. A., Bird, G. W., & Scruggs, M. (1983). Role management strategies used by husbands and wives in two-earner families. Home Economics Research Journal, 12, 63-70.
- Cooke, R. A., & Rousseau, D. M. (1984). Stress and strain from family roles and work-role expectations. Journal of Applied Psychology, 69, 252-260.
- Deacon, R. E., & Firebaugh, F. M. (1981). Family resource management: Principles and applications. Boston: Allyn and Bacon.
- Dubois, L. M. (1981). Career and family in mid-life men and women (Doctoral dissertation, Adelphi University, 1981). Dissertation Abstracts International, 42, 8120877.
- Elman, M. T., Gilbert, L. A. (1984). Coping strategies for role conflict in married professional women with children. Family Relations, 33, 317-327.
- Flanagan, J. C., & Russ-Eft, D. (1975). An empirical study to aid in formulating educational goals. Palo, CA: American Institute for Research.
- Garrison, M. E., & Winter, M. (1986). The managerial behavior of families with preschool children. Journal of Consumer Studies and Home Economics, 10, 247-260.
- Gilbert, L. A., Holahan, C. K., & Manning, L. (1981). Coping with conflict between professional and maternal roles. Family Relations, 30, 419-426.
- Gmelch, W. H. (1987). What colleges and university can do about faculty stressors. In P. Seldin (Ed.), Coping with faculty stress (pp. 23-31). San Francisco: Jossey-Bass.
- Gordon, F. E., & Hall, D. T. (1974). Self-image and stereotypes of femininity: Their relationship to women's conflict and coping. Journal of Applied Psychology, 59, 241-243.

- Grasha, A. F. (1987). Short-term coping techniques for managing stress. In P. Seldin (Ed.). Coping with faculty stress (pp. 53-63). San Francisco: Jossey-Bass.
- Gray, J. D. (1983). The married professional women: An examination of her role conflicts and coping strategies. Psychology of Women Quarterly, 7, 235-243.
- Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. Academy of Management Review, 10, 76-88.
- Gronlund, N. E. (1981). Measurement and evaluation in teaching. New York: Macmillan.
- Gross, I. H., Crandall, W. W., Knoll, M. M. (1980). Management for modern families. Englewood Cliffs, NJ: Prentice-Hall.
- Gupta, N., & Jenkins, Jr., G. D. (1985). Dual-career couples: Stress, Stressors, strain, and strategies. In T. A. Behr & R. S. Bhagat (Ed.). Human stress and cognition in organizations: An integrated perspectives. New York: John Wiley & Sons.
- Hall, D. T. (1972). A model of coping with role conflict: The role behavior of college educated women. Administrative Science Quarterly, 17, 471-485.
- Hall, D. T., & Gordon, F. E. (1973). Career choices of married women: Effects on conflict, role behavior, and satisfaction. Journal of Applied Psychology, 58, 42-48.
- Heckman, J. B., & Bryson, J. B. (1977). Problems of professional couples: A content analysis. Journal of Marriage and Family, 39, 323-330.
- Herman, J. B., & Gyllstrom, K. K. (1977). Working men and women: Inter- and intra-role conflict. Psychology of Women Quarterly, 1, 319-333.
- Howard, J. H., Rechnitzer, P. A., & Cunningham, D. A. (1975). Coping with job tension: Effective and ineffective methods. Public Personnel Management, 1, 317-326.
- Jones, A. P., & Butler, M. C. (1980). A role transition approach to the stresses of organizationally induced family role disruption. Journal of Marriage and Family, 42, 367-376.
- Kaiser, H. F., & Caffrey, J. (1965). Alpha factor analysis. Psychometrika, 30, 1-14.

- Katz, M. H., & Piotrkowski, C. S. (1983). Correlates of family role strain among employed black women. Family Relations, 32, 331-339.
- Keith, P. M., & Schafer, R. P. (1980). Role strain and depression in two-job families. Family Relations, 29, 483-488.
- Kelly, R. K., & Voydanoff, P. (1985). Work/family role strain among employed parents. Family Relations, 34, 367-374.
- Kopelman, R. E., Greenhaus, J. H., & Connolly, T. F. (1983). A model of work, family, and interrole conflict: A construct validation study. Organizational Behavior and Human Performance, 32, 198-215.
- Lakin, A. (1973). How to get control of your time and your life. Signet, NY: New American Library.
- McConalogue, T. (1984). Developing the skill of time management. Leadership and Organization Development Journal, 5, 25-27.
- Newton, D. L. (1979). Managerial behavior, goal achievement, satisfaction with managerial behavior, and life satisfaction. Unpublished master's thesis, Iowa State University, Ames, Iowa.
- Nickell, P., Rice, A. M., & Tucker, S. P. (1976). Management in family living. New York: John Wiley & Sons.
- Noel, J. L. (1987). Long-term stress management. In P. Seldin (Ed.), Coping with faculty stress (pp. 65-73). San Francisco: Jossey-Bass.
- Nunnally, J. C. (1982). Reliability of measurement. In H. E. Mitzel (Ed.), Encyclopedia of educational research, Vol. 4. New York: Free Press.
- Olson, G. I., & Beard, D. M. (1984). Assessing management related to daily activities. Paper presented at the annual meeting of NCR-116, Family Resource Management, Minneapolis, Minnesota.
- Olson, D. H., & McCubbin, H. I. (1983). Families: What makes them work. Beverly Hills, CA: Sage Publications.
- Osipow, S. H., Doty, R. E., & Spokane, A. R. (1978). Occupational stress, strain, and coping across the life span. Journal of Vocational Behavior, 24, 179-193.
- Parasuraman, S., & Clerk, M. A. (1984). Coping behavior and managers' affective reactions to role stressors. Journal of Vocational Behavior, 24, 179-193.

- Pearlin, L. I., & Schooler, C. (1978). The structure of coping. Journal of Health and Social Behavior, 19, 2-21.
- Pedhazur, E. J. (1982). Multiple regression in behavioral research: Explanation and prediction. New York: Holt, Rinehart and Winston.
- Pleck, J. H., & Staines, G. L. (1985). Work schedules and family life in two-earner couples. Journal of Family Issues, 6, 61-82.
- Pleck, J. H., Staines, G. L., & Lang, L. (1980). Conflicts between work and family life. Monthly Labor Review, 103, 29-31.
- Schuler, R. S. (1979). Managing stress means managing time. Personnel Journal, 58, 851-854.
- Schuler, R. S., & Sethi, A. S. (1984). Time management and leader communication behavior. In A. S. Sethi, & R. S. Schuler (Eds.), Handbook of organizational stress and coping strategies (pp. 69-87). Cambridge, MA: Ballinger Publishing, Co.
- Schultz, J. B., & Chung, Y. L. (1987). Impact of home and family satisfaction on job satisfaction and productivity of faculty. Paper presented at the American Vocational Association annual meeting, Dallas, Texas.
- Schultz, J. B., Chung, Y. L., & Henderson, C. G., (1987). Work/family concerns of university faculty. Unpublished paper, Department of Family and Consumer Sciences Education, Iowa State University, Ames, Iowa.
- Schultz, J. B., & Henderson, C. G. (1985). Family satisfaction and job performance: Implications for career development. Journal of Career Development, 12, 33-47.
- Seiden, A. M. (1980). Time management and dual-career couple. In F. Pepitone-Rockwell (Ed.), Dual-career couples (pp. 163-189). Beverly Hills, CA: Sage Publications.
- Sharpe, D. L., & Winter, M. (1982). Toward a definition of the effective manager: Thought process and behavior. Paper presented at the annual meeting of NCR-116, Family Resource Management, Columbus, Ohio.
- Skinner, D. A. (1980). Dual-career families stress and coping: A literature review. Family Relations, 29, 473-480.
- Sorcinielli, M. D., & Gregory, M. W. (1987). Faculty stress: The tension between career demands and having it all. In P. Seldin (Ed.), Coping with faculty stress (pp. 43-52). San Francisco: Jossey-Bass.

Voydanoff, P. (1987). Work and family life. Newbury Park, CA: Sage Publications Inc.

Voydanoff, P., & Kelly, R. F. (1984). Determinants of work-related family problems among employed parents. Journal of Marriage and Family, 46, 881-892.

## SUMMARY AND RECOMMENDATIONS

### Summary

The major purposes of this study were to examine the factors affecting time management strategies used by faculty and to investigate the relationships between use of time management strategies and job satisfaction, research productivity, and life satisfaction. The sample was a stratified random sample of 275 faculty at a midwestern land-grant university.

The data collection devices consisted of two time management behavior instruments, a life satisfaction instrument, a demographic information instrument, and a work performance instrument. The time management strategies used at work and home were assessed using two separate time management behavior instruments. The time management behavior instrument for the work site contained 42 items. A factor analysis of the items yielded 8 factors: prioritizing/scheduling, implementing, reducing responsibility, compromising, goal setting, being on time, changing standards, and getting support. Time management strategies used at home were assessed using a time management behavior at home instrument containing 46 items. The results of factor analysis yielded 7 factors including planning family activities, changing standards, goal setting, implementing, prioritizing, compromising, and scheduling.

Job satisfaction and life satisfaction were measured by 14 items adapted from the Quality of Life scale developed by Olson and McCubbin (1983). Faculty research productivity during the last 5 years was

measured with 8 items. These were the number of presentations, books or chapters in books, journal articles, and research grants; the total dollar amount of these grants; and level of involvement in editorial-related positions such as reviewer, editorial board member, and editor or associate editor. Selected demographic, family and work-related information on faculty was obtained using the demographic information instrument and the work performance instrument. Descriptive statistics, canonical correlation analyses, stepwise multiple regression analyses, and Pearson product moment correlations analyses were used to analyze the data.

Results showed that the time management strategies used by faculty members at work were being on time, prioritizing/scheduling, goal setting, and implementing. At home faculty members tended to more often use such time management strategies as implementing, compromising, and planning family activities. The implementing time management strategy was used frequently both at work and home by faculty members. These findings indicated that the time management strategies emphasizing efficient role performance were frequently employed at work. However, faculty members try to change their roles and role relationships and to increase efficiency of their role performance to deal with time conflicts at home.

In looking at the factors influencing the use of time management strategies, it was found that the level of perceived time conflicts among work roles, an academic appointment that includes time for research activities, and the age of faculty member were significant predictors of

time management strategies used at work. The uses of time management strategies at home were affected by the sex of the faculty member, and perceived time conflicts among family roles and between work and family roles. Time conflicts or pressures resulting from the performance of multiple roles emerged as significant predictors of the use of time management strategies both at work and home. Higher levels of time conflict among work roles were negatively related to the use of time management strategies used at work such as prioritizing/scheduling, implementing, goal setting, and getting support from colleagues and/or employer. Significant negative relationships were found between the strategy of planning family activities used at home and perceived level of conflict among family roles and between work and family roles. Implementing as a time management strategy in the home domain also was found to be negatively related to the perceived level of time conflicts among family roles. However, perceived level of time conflicts both among family roles and between work and family roles was positively related to the use of the changing standards strategy at home.

Older faculty were more likely to use implementing strategies at work. On the other hand, younger faculty tended to more frequently compromise their roles and to seek support from their colleagues and/or employe. Faculty whose job activity was research or scholarly writing tended to less frequently use being on time as a time management strategy at work. Female faculty were more likely to use prioritizing, scheduling, compromising, and implementing strategies at home.

The use of implementing as a strategy and getting support from

colleagues and/or employer were significant predictors of faculty job satisfaction. Faculty who more efficiently implemented and completed job tasks and more often received support from their colleagues and/or employer in coping with time conflicts were more likely to be satisfied with their job.

The results of Pearson product moment correlation analyses indicated that several time management strategies were significantly correlated with faculty research productivity. The use of prioritizing/scheduling job tasks was positively related to the number of presentations made, books written, and grants obtained from funding sources outside the institution. Positive relationships between use of goal setting as a strategy and the number of presentations made, articles published, and working as a reviewer also were found. The strategy associated with reducing responsibility was positively related to the number of presentations made and involvement on professional journals as an editor or associate editor.

Significant predictors of the composite life satisfaction variable were the planning family activities, goal setting, and changing standards strategies. Pearson product moment analyses showed that the use of the planning family activities strategy was positively related to the satisfaction with family life, marriage, friends, health, time for self, family, job, and leisure activities, personal and family member's household responsibilities, current housing arrangement, and neighborhood and communities. The use of goal setting strategy also was positively correlated with satisfaction with family life, friends, time for family,

and personal and family member's household responsibilities. Significant negative relationships were found between the use of changing standards as a time management strategy and satisfaction with family life, marriage, health, time for self and family, personal and family member's household responsibilities, and job.

#### Recommendations

The following recommendations are made for future research:

1. More empirical research conducted with the groups who differ in level of education or who work in other organizational settings is required to replicate and extend the findings of the present study.
2. Studies are needed to conceptualize time management strategies by distinguishing between effective strategies and ineffective strategies in reducing stress and improving job satisfaction, job performance, and life satisfaction.
3. It would be useful to explore the impact of organizational policies and practices (i.e., flexible working hours) or personal characteristics (i.e., attitudes, value orientation, self-concepts, etc.) on the use of time management strategies by individuals.
4. Research productivity data used in the present study represent faculty member across all academic discipline at the institution. Because disciplinary affiliation has been found to influence research productivity in an earlier study (Blackburn, Behymer, & Hall, 1978), further research is needed to examine possible differences in the impact of the use of time management strategy on the research productivity by

academic discipline. In addition, it would be useful to study faculty in the same academic division across different universities to get clearer picture on the relationships between the use of time management strategy and research productivity.

5. A longitudinal study is needed to examine how individuals develop time management strategies and change these strategies as they become older. An investigation into the effect of these strategies on role performance at various stages of life cycle seems warranted.

Based on the results of the present study, the following time management educational applications are recommended to university administrators in order to help faculty members improve their job performance and satisfaction.

1. Establishing supportive administrative systems and developing supportive colleague relationships are important to increase faculty job satisfaction.

2. Faculty members need to develop time management skills such as setting priorities among job tasks, scheduling time in advance for important job tasks, implementing job tasks efficiently, planning and organizing family activities, and establishing professional or family goals and trying to achieve them in order to be more productive and/or more satisfied with their life.

3. Workshops and seminars designed to help faculty members develop time management skills should emphasize the strategies identified above.

4. These sessions should be planned at the work site and during the

work day whenever possible because of the time pressures and conflicts experienced by faculty members.

## BIBLIOGRAPHY

- Adel-Halim, A. A. (1982). Social support and managerial affective responses to job stress. Journal of Occupational Behavior, 3, 281-295.
- Beutell, N. J., & Greenhaus, J. H. (1982). Interrole conflict among married women: The influence of husband and wife characteristics on conflict and coping behavior. Journal of Vocational Behavior, 21, 99-110.
- Beutell, N. J., & Greenhaus, J. H. (1983). Integration of home and nonhome roles: Women's conflict and coping behavior. Journal of Applied Psychology, 68, 43-48.
- Bird, G. A., Bird, G. W., & Scruggs, M. (1983). Role-management strategies used by husbands and wives in two-earner families. Home Economics Research Journal, 12, 63-70.
- Blackburn, R. T., Behymer, C. E., & Hall, D. E. (1978). Research note: Correlates of faculty publication. Sociology of Education, 51, 132-141.
- Blood, R., & Wolfe, D. (1960). Husbands and wives. New York: Macmillan.
- Burke, R. J., Weir, T., & DuWors, R. E. (1980a). Perceived type A behavior of husbands' and wives' satisfaction and well-being. Journal of Occupational Behavior, 1, 139-150.
- Burke, R. J., Weir, T., & DuWors, R. E. (1980b). Work demands on administrators and spouse well-being. Human Relations, 33, 253-278.
- Cartwright, L. K. (1978). Career satisfaction and role harmony in a sample of young women physicians. Journal of Vocational Behavior, 12, 184-196.
- Clark, R. A., Nye, F. I., & Gecas, V. (1978). Husband's work involvement and marital role performance. Journal of Marriage and Family, 40, 9-21.
- Cooke, R. A., & Rousseau, D. M. (1984). Stress and strain from family roles and work-role expectations. Journal of Applied Psychology, 69, 252-260.
- Crouter, A. C. (1984). Spillover from family to work: The neglected side of the work-family interface. Human Relations, 6, 425-442.

- Deacon, R. E., & Firebaugh, F. M. (1981). Family resource management: Principles and applications. Boston: Allyn and Bacon.
- Dubois, L. M. (1981). Career and family in mid-life men and women (Doctoral dissertation, Adelphi University, 1981). Dissertation Abstract International, 42, 8120877.
- Elman, M. T., Gilbert, L. A. (1984). Coping strategies for role conflict in married professional women with children. Family Relations, 33, 317-327.
- Farmer, H. S. (1984). Development of a measure of home-career conflict related to career motivation in college women. Sex Roles, 10, 663-675.
- Flanagen, J. C., & Russ-Eft, D. (1975). An empirical study to aid in formulating educational goals. Palo, CA: American Institute for Research.
- Garrison, M. E., & Winter, M. (1986). The managerial behavior of families with preschool children. Journal of Consumer Studies and Home Economics, 10, 247-260.
- Gilbert, L. A., Holahan, C. K., & Manning, L. (1981). Coping with conflict between professional and maternal roles. Family Relations, 30, 419-426.
- Gmelch, W. H. (1987). What colleges and university can do about faculty stressors. In P. Seldin (Ed.), Coping with faculty stress (pp. 23-31). San Francisco: Jossey-Bass.
- Gmelch, W. H., Lourich, N. P., & Wilke, P. K. (1984). Sources of stress in academia: A national perspective. Research in Higher Education, 20, 477-490.
- Goode, W. J. (1960). A theory of role strain. Sociological Review, 25, 483-496.
- Gordon, F. E., & Hall, D. T. (1974). Self-image and stereotypes of femininity: Their relationship to women's conflicts and coping. Journal of Applied Psychology, 59, 241-243.
- Grasha, A. F. (1987). Short-term coping techniques for managing stress. In P. Seldin (Ed.), Coping with faculty stress (pp. 53-63). San Francisco: Jossey-Bass.
- Gray, J. D. (1983). The married professional women: An examination of her role conflicts and coping strategies. Psychology of Women Quarterly, 7, 235-243.

- Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. Academy of Management Review, 10, 76-88.
- Gronlund, N. E. (1981). Measurement and evaluation in teaching. New York: Macmillan.
- Gross, I. H., Crandall, W. W., & Knoll, M. M. (1980). Management for families. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Gupta, N., & Jenkins, Jr., G. D. (1985). Dual-career couples: Stress, stressors, strain, and strategies. In T. A. Behr & R. S. Bhagat (Eds.), Human stress and cognition in organizations: An integrated perspective (pp. 141-175). New York: John Wiley & Sons.
- Hall, D. T. (1972). A model of coping with role conflict: The role behavior of college educated women. Administrative Science Quarterly, 17, 471-485.
- Hall, D. T., & Gordon, F. E. (1973). Career choices of married women: Effects on conflict, role behavior, and satisfaction. Journal of Applied Psychology, 58, 42-48.
- Heckman, J. B., & Bryson, J. B. (1977). Problems of professional couples: A content analysis. Journal of Marriage and Family, 39, 323-330.
- Herman, J. B., & Gyllstrom, K. K. (1977). Working men and women: Inter-and intra-role conflict. Psychology of Women Quarterly, 1, 319-333.
- Holahan, C. K., & Gilbert, L. A. (1979a). Conflict between major life roles: Women and men in dual career couples. Human Relations, 32, 451-467.
- Holahan, C. K., & Gilbert, L. A. (1979b). Interrole conflict for working women: Careers versus jobs. Journal of Applied Psychology, 64, 86-90.
- Howard, J. H., Rechnitzer, P. A., & Cunningham, D. A. (1975). Coping with job tension: Effective and ineffective methods. Public Personnel Management, 1, 317-326.
- Ivancevich, J. M., Matteson, M. T., & Preston, C. (1982). Occupational stress, Type A behavior, and physical well-being. Academy of Management Journal, 25, 373-391.
- Johnson, C. L., & Johnson, F. A. (1977). Attitudes toward parenting in dual-career families. American Journal of Psychiatry, 134, 391-395.

- Jones, A. P., & Butler, M. C. (1980). A role transition approach to the stresses of organizationally induced family role disruption. Journal of Marriage and Family, 42, 367-376.
- Kaiser, H. F., & Caffrey, J. (1965). Alpha factor analysis. Psychometrika, 30, 1-14.
- Kahn, R. L., Wolfe, D. M., Quinn, R., Snoek, J. D., & Rosenthal, R. A. (1964). Organizational Stress. New York: Wiley.
- Katz, M. H., & Plotrkowski, C. S. (1983). Correlates of family role strain among employed black women. Family Relations, 32, 331-339.
- Keith, P. M., & Schafer, R. P. (1980). Role strain and depression in two-jobs families. Family Relations, 29, 483-488.
- Kelly, R. K., & Voydanoff, P. (1985). Work/family role among employed parents. Family Relations, 34, 367-374.
- Kingston, P. W., & Nock, S. (1985). Consequences of family work day. Journal of Marriage and Family, 47, 619-629.
- Kopelman, R. E., Greenhaus, J. H., & Connolly, T. F. (1983). A model of work, family, and interrole conflict: A construct validation study. Organizational Behavior and Human Performance, 32, 198-215.
- Lakin, A. (1973). How to get control of your time and your life. Signet, NY: New American Library.
- McConalogue, T. (1984). Developing the skill of time management. Leadership and Organization Development Journal, 5, 25-27.
- Newton, D. L. (1979). Managerial behavior, goal achievement, satisfaction with managerial behavior, and life satisfaction. Unpublished master's thesis, Iowa State University, Ames, Iowa.
- Nickell, P., Rice, a. M., & Tucker, S. P. (1976). Management in family living. New York: John Wiley & Sons.
- Noel, J. L. (1987). Long-term stress management. In P. Seldin (Ed.), Coping with faculty stress (pp. 65-73). San Francisco: Jossey-Bass.
- Nunnally, J. C. (1982). Reliability of measurement. In H. E. Mitzel (Ed.). Encyclopedia of educational research, Vol. 4. New York: Free Press.
- Olson, G. I., & Beard, D. M. (1984). Assessing management related to daily activities. Paper presented at the annual meeting of NCR-116, Family Resource Management, Minneapolis, Minnesota.

- Olson, D. H., & McCubbin, H. I. (1983). Families: What makes them work. Beverly Hills, CA: Sage Publications.
- Osipow, S. H., Doty, R. E., & Spokane, A. R. (1978). Occupational stress, strain, and coping across the life span. Journal of Vocational Behavior, 27, 98-108.
- Parasuraman, S., & Clerk, M. A. (1984). Coping behavior and managers' affective reactions to role stressors. Journal of Vocational Behavior, 24, 179-193.
- Pedhazur, E. J. (1982). Multiple regression in behavioral research: Explanation and prediction. New York: Holt, Rinehart and Winston.
- Pearlin, L. I., & Schooler, C. (1978). The structure of coping. Journal of Health and Social Behavior, 19, 2-21.
- Peters, D. S., & Mayfield, J. R. (1982). Are there any rewards for teaching? Improving College and University Teaching, 30, 105-110.
- Pleck, J. H., & Staines, G. L. (1985). Work schedules and family life in two-earner couples. Journal of Family Issues, 6, 61-82.
- Pleck, J. H., Staines, G. L., & Lang, L. (1980). Conflicts between work and family life. Monthly Labor Review, 103, 29-31.
- Rapoport, R., & Rapoport, R. N. (1969). The dual career family: A variant pattern and social change. Human Relations, 22, 3-30.
- Schuler, R. S. (1979). Managing stress means managing time. Personnel Journal, 58, 851-854.
- Schuler, R. S., & Sethi, A. S. (1984). Time management and leader communication behavior. In A. S. Sethi, & R. S. Schuler (Eds.), Handbook of organizational stress and coping strategies (pp. 69-87). Cambridge, MA: Ballinger Publishing Co.
- Schultz, J. B., & Chung, Y. L. (1987). Impact of home and family satisfaction on job satisfaction and productivity of faculty. Paper presented at the American Vocational Association annual meeting, Dallas, Texas.
- Schultz, J. B., Chung, Y. L., & Henderson, C. G., (1987). Work/family concerns of university faculty. Unpublished paper, Department of Family and Consumer Sciences Education, Iowa State University, Ames, Iowa.
- Schultz, J. B., & Henderson, C. G. (1985). Family satisfaction and job performance: Implications for career development. Journal of Career Development, 12, 33-47.

- Selden, A. M. (1980). Time management and dual-career couple. In F. Pepitone-Rockwell. Dual-career couples (pp. 163-189). Beverly Hills: Sage Publications.
- Seldin, P. (1987). Research findings on causes of academic stress. In P. Seldin (Ed.), Coping with faculty stress (pp. 13-21). San Francisco: Jossey-Bass.
- Sharpe, D. L., & Winter, M. (1982). Toward a definition of the effective manager: Thought process and behavior. Paper presented at the annual meeting of NCR-116, Family Resource Management, Columbus, Ohio.
- Skinner, D. A. (1980). Dual-career families stress and coping: A literature review. Family Relations, 29, 473-480.
- Sorcinelli, M. D., & Gregory, M. W. (1987). Faculty stress: The tension between career demands and having it all. In P. Seldin (Ed.), Coping with faculty stress (pp. 43-52). San Francisco: Jossey-Bass.
- St. Pierre, T. W. (1984). Addressing work and family issues among extension personnel. Journal of Home Economics, 76, 42-47.
- Stumpf, S. A., & Rabinowitz, S. (1981). Career stage as a moderator of performance relationships with facet of job satisfaction and role perceptions. Journal of Vocational Behavior, 18, 202-218.
- Toby, J. (1952). Some variables in role conflict analysis. Social Forces, 30, 323-327.
- Voydanoff, P. (1980a). Work roles as stressors in corporate families. Family Relations, 29, 489-494.
- Voydanoff, P. (1980b). Implications of work-family relationships for productivity. Scarsdale, NY: Work in America Institute.
- Voydanoff, P. (1987). Work and family life. Newbury Park, CA: Sage Publications Inc.
- Voydanoff, P., & Kelly, R. F. (1984). Determinants of work-related family problems among employed parents. Journal of Marriage and Family, 46, 881-892.

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**APPENDIX A. FACTOR ANALYSES RESULTS**

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**These consist of pages:**

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**APPENDIX B. RAW CANONICAL COEFFICIENTS**

**Table 1. Canonical Correlations between Demographic and Work-related Variables and Perceived Level of Time Conflicts and Time Management Subscales for Work Domain**

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<b>Time management subscales (Dependent variables)</b>	<b>Raw canonical coefficients in the first function</b>
Prioritizing/scheduling	.31088
Implementing	-.00134
Goal setting	-.14554
Being on time	-1.97137
Reducing responsibility	-.04619
Compromising	.22729
Changing standards	.01689
Getting support	-.63507

---

**Table 2. Canonical Correlations between Time Management Subscales for Work Domain and Research Productivity Variables**

<b>Research productivity variables (Dependent variables)</b>	<b>Raw canonical coefficients in the first function</b>
<b>Presentations</b>	<b>.09376</b>
<b>Grants</b>	<b>-.48201</b>
<b>Books</b>	<b>-.29301</b>
<b>Articles</b>	<b>.26637</b>
<b>Involvement with professional journal</b>	
<b>Reviewer</b>	<b>1.42656</b>
<b>Editorial board</b>	<b>-.23708</b>
<b>Editor</b>	<b>.11352</b>

**Table 3. Canonical Correlations between Demographic and Family Variables and Perceived Level of Time Conflicts and Time Management Subscales for Home Domain**

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<b>Time management subscales (Dependent variables)</b>	<b>Raw canonical coefficients in the first function</b>
Planning family activities	.55021
Goal setting	.17374
Implementing	.18513
Prioritizing	-.71766
Scheduling	-.15227
Changing standards	-1.05882
Compromising	-.04695

---

**Table 4. Canonical Correlations between Time Management Subscales for Home Domain and Life Satisfaction Components**

Life satisfaction components (Dependent variables)	Raw canonical coefficients in the first function
Family	-.28097
Marriage	-.13365
Friends	-.11134
Health	-.24428
Time for self	.02713
Time for family	-.22159
Time for job	.01422
Time for leisure activities	-.10778
Personal household responsibilities	-.32379
Current housing arrangement	-.15713
Family member's household responsibilities	-.32369
Job	.05963
Financial well-being	.40200
Neighborhood and communities	.11418

**APPENDIX C. QUESTIONNAIRE**

**PLEASE NOTE:**

**Copyrighted materials in this document have not been filmed at the request of the author. They are available for consultation, however, in the author's university library.**

**These consist of pages:**

**130-136 Time Management Behavior At Work**

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**APPENDIX D. CORRESPONDENCE**

Iowa State University *of Science and Technology*



Ames, Iowa 50011-1120

November 13, 1987

Department of Family  
& Consumer Sciences Education  
219 MacKay Hall  
Telephone: (515) 294-6444

Dear Reader:

The purpose of this survey is to explore the time management behavior of faculty. Several recent studies have suggested that effective time management skills are important in helping individuals cope with conflicts between work and personal or family life. We are interested in examining the time management strategies used by faculty as they balance their work and personal or family responsibilities. This is a part of on-going research efforts in the Department of Family and Consumer Sciences Education to investigate the relationships between work and family life.

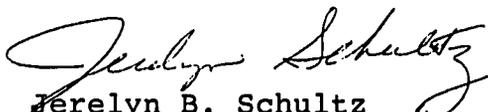
You have been chosen as part of a random sample of faculty at Iowa State University to complete the following questionnaire. The questionnaire is organized in five parts: 1) time management behavior at work, 2) time management behavior at home, 3) life satisfaction, 4) demographic information, and 5) work-related information. To save you time, questions have been arranged so that all you have to do is select a rating or make a check.

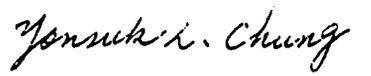
Realizing that you are pressed for time, this questionnaire should take 20-25 minutes to complete. Your responses will remain confidential and will be reported only as part of a total group.

We would appreciate it greatly if you would complete the questionnaire and return it in the business reply envelope by December 1, 1987. If you would like to receive a summary of results of this study, please let us know. They should be available by July 1, 1988.

We sincerely hope you will contribute to this data collection effort. If you have any questions, please feel free to call us at 515/294-6444. Thank you for your assistance and cooperation.

Sincerely,

  
Jerelyn B. Schultz  
Professor and Chair

  
Yonsuk L. Chung  
Research Assistant

Iowa State University *of Science and Technology*

Ames, Iowa 50011-1120



Department of Family  
& Consumer Sciences Education  
219 MacKay Hall  
Telephone: (515) 294-6444

December 2, 1987

Dear Professor:

Recently we asked for your cooperation in a study on the time management behavior of university faculty. To date we have no record of your response; possibly your response is now in the mail.

We realize how busy you are at this time of year and know how easy it is to misplace or overlook materials. But would you fill out the enclosed questionnaire and return it to us immediately, so that results of the study will adequately represent the time management behavior of faculty at Iowa State University.

We thank you for your time and effort and appreciate your cooperation.

Sincerely,

Handwritten signature of Jerelyn B. Schultz.

Jerelyn B. Schultz, Ph.D.  
Professor and Chair  
Family & Consumer  
Sciences Education

Handwritten signature of Yonsuk L. Chung.

Yonsuk L. Chung  
Research Assistant

bn

Iowa State University *of Science and Technology*



Ames, Iowa 50011-1120

Department of Family  
& Consumer Sciences Education  
219 MacKay Hall  
Telephone: (515) 294-6444

January 13, 1988

Dear Professor:

Recently we asked for your cooperation in a study on the time management behavior of university faculty. To date we have no record of your response; possibly your response is now in the mail.

We realize how busy you were prior to the end of the first semester and know how easy it is to misplace or overlook materials. But would you fill out the enclosed questionnaire and return it to us immediately so that results of the study will adequately represent the time management behavior of faculty at Iowa State University.

We thank you for your time and effort and appreciate your cooperation.

Sincerely,

Jerelyn B. Schultz, Ph.D.  
Professor and Chair  
Family & Consumer  
Science Education

Yonsuk L. Chung  
Research Assistant

bn

**APPENDIX E. HUMAN SUBJECTS APPROVAL**

