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**ORGANIZATIONAL COMMITMENT AND JOB SATISFACTION:
THE EFFECT OF ALTERNATIVE OFFICING STRATEGIES ON
TELEWORKERS' ORGANIZATIONAL BEHAVIOR**

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ORGANIZATIONAL COMMITMENT AND JOB SATISFACTION: THE EFFECT OF ALTERNATIVE OFFICING STRATEGIES ON TELEWORKERS' ORGANIZATIONAL BEHAVIOR

BY

Seunghae Lee

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ABSTRACT

ORGANIZATIONAL COMMITMENT AND JOB SATISFACTION: THE EFFECT OF ALTERNATIVE OFFICING STRATEGIES ON TELEWORKERS' ORGANIZATIONAL BEHAVIOR

BY

Seunghae Lee

In this study, antecedents of teleworkers' organizational commitment and job satisfaction were identified. In addition, this research examined whether job satisfaction was a mediator between the antecedents and teleworkers' organizational commitment.

Research has suggested several potential antecedents of teleworkers' organizational commitment and job satisfaction such as perceived organizational support, perceived physical environment, alternative officing characteristics (primary alternative office types, types of alternative offices, voluntary participation in alternative officing, work time percentage in alternative offices, and tenure in alternative officing), and teleworkers' employment characteristics (work hours, tenure with job, tenure with organization).

Using an Internet survey method, 170 teleworkers participated in the survey and 148 completed questionnaires were used for the data analyses. Multiple regression analyses were used to test the conceptual model of teleworkers' organizational commitment process.

The results indicated that perceived organizational support affected teleworkers' organizational commitment through job satisfaction. Also, the results indicated that teleworkers' tenure with alternative officing and their work hours were positively related to organizational commitment. Having multiple alternative office locations was negatively related to continuance commitment. Tenure with organizations was positively related to affective commitment and job satisfaction.

Overall, the results suggest that the importance of facility management, information technology, and human resources departments in organizations should support teleworkers' own needs. A training program for new teleworkers is needed to focus specifically on new teleworkers' needs. It is also important for organizations to retain the teleworkers with a longer tenure with organizations because the results showed that those teleworkers are more committed and satisfied employees and have much more knowledge of their work.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ORGANIZATIONAL COMMITMENT AND JOB SATISFACTION:
THE EFFECT OF ALTERNATIVE OFFICING STRATEGIES ON
TELEWORKERS' ORGANIZATIONAL BEHAVIOR

CHAPTER 1

INTRODUCTION

Technological advances and economic and social changes have freed employees from traditional office settings, allowing them to work in non-traditional environments. Accompanying these changes has been a general perception that the new spaces are enabling settings or settings conducive to increasing both workers' productivity and their job satisfaction (Van Horn and Storen, 2000). These fast-paced changes have introduced new jargon into the American language. Thus, individuals working in non-traditional settings are referred to by newly coined phrases or names, such as teleworkers, telecommuters, and virtual workers. Their new workspaces, although taking many forms, both in and away from their corporate locations, are generally being referred to under the generic or umbrella phrase "alternative officing." Increasingly, organizations in both the public and private sectors are considering or actually implementing non-traditional or alternative officing strategies. The key to successful implementation of alternative officing in organizations is to integrate facility management strategies along with human resources and information technology strategies (Robertson, 1999).

Most teleworkers, who are employees under alternative officing strategies, have been exposed to both types of alternative officing; they have worked in both

on-site corporate locations, as well as off-site locations (Apgar, 1998). And as the popularity and use of alternative officing has grown, the population of teleworkers has dramatically increased. Although estimates vary widely depending upon the methodology and the definition used to describe teleworkers, Van Horn and Storen (2000) assumed that 10% of the workforce in the U.S. telework.

Objective of Study

The positive perception that alternative officing benefits employees and their organizations with high employee morale, productivity, flexibility and low turnover rate is widespread and generally accepted (Canadian Telework Association, 2001; Cascio, 2000; Gittleman, Horrigan, and Joyce, 1998; Hill, Miller, Weiner, and Colihan, 1998; Kurland and Bailey, 1999; Lovelace, 2000; O'Connell, 1996; Richards, 1996; Van Horn and Storen, 2000; Venkatesh and Speier, 2000; Whiting, 1997; Wilkes, Frolick, and Urwiler, 1994). Piskurich (1996) and Frogatt (1998), for example, indicate that employers implement alternative officing strategies with the intention of creating efficient and flexible working environments for employees. In addition, the benefits extend backwards, affecting teleworkers' satisfaction with their jobs and commitment to their organizations (Bergsman, 1995; Frogatt, 1998).

Findings from a recent study show that alternative officing increased job satisfaction of Arizona state employed teleworkers and reduced their turnover rate (Arizona Department of Administration, 2003). The interesting thing to note,

however, is that although the past decade has witnessed the wide-spread acceptance of alternative officing for corporate America, the majority of evidence supporting this belief is anecdotal. Little empirical evidence exists to support this general belief (Hill et al., 1998).

The purpose of this research is to empirically examine the relationship between alternative officing and teleworkers' organizational attitudes of organizational commitment and job satisfaction in an effort to test the anecdotal assumption that such a relationship exists. More specifically, the study examines factors in alternative officing such as teleworkers' perceptions regarding organizational support, perceptions of their physical environment, their experiences with alternative officing and their employment characteristics.

Numerous researchers have suggested that organizational commitment is positively related to job satisfaction (Mossholder and Bedein, 1983; Rousseau, 1985; Bateman and Strasser, 1984; Mathieu and Hamel, 1989; Morris and Steers, 1980). Good, Page, Jr., and Young (1996) reported that job satisfaction worked as a mediator in the relationship of organizational commitment and its antecedents. Therefore, the goal of the current study is to determine whether factors in alternative officing are related to job satisfaction and organizational commitment.

Significance of Study

Venkatesh and Speier (2000) indicated that alternative officing benefits employees, organizations, society and the environment. In addition, Lovelace

(2000) suggested that the benefits accruing from alternative officing far outweigh the costs of implementing it, which include setup costs for computer, equipment and furniture and ongoing costs such as technical support. Since real estate or the space to house workers, whether owned or leased, is the second largest organizational expenditure (Bergsman, 1995), following only human resource costs, any effort to focus on improved space utilization such as alternative officing strategies is certainly an effective means to aid corporate budget reductions. Moreover, alternative officing is considered as an employee recruitment and retention tool (Gordon, 1998; Hawkins, 1998). Fitz-Enz (1998) indicated that employee attraction and retention could be the biggest challenge in today's human resources management. Based on the information from the study of Fitz-Enz (1998), turnover costs can be as much as six months to three years' pay and benefits depending on the job type. Gordon (1998) provided a similar calculation for turnover costs, suggesting costs to be the employee's salary of six months to two years. Organizational commitment researchers have investigated the links between employees and their organizations in terms of the intensity and stability of employee dedication. Several studies have suggested that organizational commitment is related to reduced absenteeism and/or reduced turnover rate (Good et al., 1996; Ko, Price, and Mueller, 1997; Gordon, 1998; Doherty, Andrey, and Johnson, 2000; Venkatesh and Speier, 2000), both of which are also identified as benefits resulting from alternative officing (Wilkes et al., 1994; Hill et al., 1998; Venkatesh and Speier, 2000; Van Horn and Storen, 2000).

There are also challenges in alternative officing strategies. For example, a recent survey on alternative officing showed more than 50 percent of the organizations that implemented alternative officing indicated poor organizational support was the greatest obstacle to successful alternative officing (Piskurich, 1996). Not only is support from upper management important but also organizational support from Information Technology (IT), Human Resources (HR), and Facility Management (FM) in organizations is critical to the success of alternative officing (Hawkins, 1998). In addition, researchers are also interested in employees' perceived organizational support as an antecedent in the relationship with organizational commitment or turnover (Shore and Wayne, 1993; Rhodes, Eisenberger, and Armeli, 2001; Allen, Shore, and Griffeth, 2003; Casper, Martin, Buffardi, and Erdwins, 2002). Thus, it is important to explore the relationship between teleworkers' perceived organizational support and organizational commitment in alternative officing situation.

Although practitioners and researchers have reported positive results from alternative officing such as increased job satisfaction, flexibility in schedule, and decreased commuting time, these findings are mainly based upon anecdotal data. Little empirical research has been done on these topics. Why the level of analysis regarding the effects of alternative officing remains at the anecdotal level is not clear. The office environment is primarily studied in the field of Facility Management, which is a relatively new field of study. Given that the office environment has changed so dramatically in the last ten years and opened up various possibilities to employees, there is a need to empirically explore the

relationship between new office environments and how aspects of alternative officing affect employees' organizational outcomes. No existing research has examined various dimensions of alternative officing in relation to employees' organizational outcomes.

Conceptual Framework

The conceptual framework for this study rests upon the premise that alternative officing affects teleworkers' organizational commitment and job satisfaction. In order to study these relationships, factors related to alternative officing that affect teleworkers' job satisfaction and organizational commitment have been identified through literature review.

Organizational commitment has been studied for the last several decades mainly because it is considered to have an impact on employees' intention to leave and turnover (Ko et al., 1997; Colbert and Kwon, 2000). Along with organizational commitment, job satisfaction is one of the most frequently explored employee attitudes. Studies regarding job satisfaction have been conducted over a long period of time in fields such as industrial psychology and organizational psychology (Mathieu, 1991).

Understanding antecedents of organizational commitment and job satisfaction has been an important topic in studies on employees' organizational behavior. This study investigated alternative officing as an antecedent of organizational commitment and job satisfaction.

The relationship between alternative officing and organizational behavior in this study is grounded in Herzberg's job satisfaction theory (Herzberg, Mausner, and Snyderman, 1959). The theory has been modified and extended by Herzberg and other researchers (Ewen, 1964; Herzberg, 1966, 1987; Lindsay, Marks, and Gorlow, 1967). Job satisfaction is conceptualized as being a function of human-related factors (individual and intrinsic), environment-related factors (extrinsic), and the joint contribution of those two factors, and/or errors of measurement.

Herzberg (1966, 1987; Herzberg et al., 1959) suggested in his theory that job satisfaction and job dissatisfaction are not the poles of a single continuum, but are two mutually exclusive dimensions. The theory suggests that satisfaction is related to motivators that increase growth needs such as needs for achievement, recognition and advancement. It also indicates that dissatisfaction is related to hygiene factors that affect lower-order needs such as needs for salary, working conditions and security.

It identifies physical environment as a hygiene factor that affects job dissatisfaction, which would not necessarily affect employees' job satisfaction. The hygiene factors essentially describe the environment, serve primarily to prevent job dissatisfaction, and have little effect on positive job satisfaction.

Herzberg (1966) himself took the next logical step and decided that job satisfaction is made up of two unipolar traits of motivators and hygienes. Lindsay et al. (1969) advanced and tested a bipolar model of modified job satisfaction theory based on the original Herzberg theory. The modified theory explains that

job satisfaction is more parsimoniously conceptualized as a bipolar variable. That is, intrinsic factors satisfy the employee's need for self-actualization in the work place, leading to job satisfaction when the opportunity for self-actualization is afforded. Self-actualization is a compelling urge to realize his own potentiality by continuous psychological growth, fulfilling himself as a creative, unique individual according to his/her own innate potentialities and within the limits of reality.

Extrinsic factors essentially describe the environment (physical, social, and psychological) and have an effect on job satisfaction. Lindsay et al. (1969) conceptualized job satisfaction as being a function of human related factors (individual and intrinsic), environment-related factors (extrinsic), and the joint contribution of these two factors, and/or errors of measurement.

Lease (1998) reviewed literature on job satisfaction and organizational commitment during the period of 1993 to 1997 and suggested a conceptual model that identified individual characteristics and work environment characteristics as variables that affect job satisfaction and organizational commitment. She included dispositional affectivity (a personality variable regarding an employee's affective response), gender, tenure/career stage, work-family conflict, and mentor/protégé status as individual variables. She identified perceived discrimination, just and flexible policies and procedures, hazardous workplaces, supervisor and co-worker support, perceptions of control, promotional opportunity, and satisfaction as work environment variables.

This research includes those two types of antecedents such as individual variables and work environment variables in relation to employees' organizational

behavior under alternative officing (see Figure 1-1.). The antecedents were identified through literature review on previous studies. In this study the work environment variables include perceived organizational support and perceived physical environment. Teleworkers' alternative officing experiences and their employment characteristics were identified as individual variables to be explored. Those variables were explored in relation to teleworkers' organizational commitment and job satisfaction. In addition, the modifying effect of job satisfaction from those antecedents to organizational commitment was examined.

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│  Perceived physical environment  │
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│  Teleworkers' alternative officing │
│  experiences                    │
│                                 │
│  - Primary alternative office type │
│  - Having multiple alternative office │
│  locations                      │
│  - Voluntary participation in alternative │
│  officing                       │
│  - Average work hours in alternative offices │
│  - Tenure with alternative officing │
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┌─────────────────────────────────┐
│  Employment characteristics     │
│                                 │
│  - Work hours                   │
│  - Job type                     │
│  - Tenure with job              │
│  - Tenure with company          │
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          │  Job Satisfaction │
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          │  Organizational commitment │
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Figure 1-1. Conceptual Framework

CHAPTER 2

LITERATURE REVIEW

This literature review is divided into several parts. To understand the impact of alternative officing on teleworkers' organizational behavior, this review will first examine previous research on employees' organizational behavior including organizational commitment and job satisfaction.

After reviewing organizational behaviors, the focus will shift to alternative officing. Literature of alternative officing will be examined. The benefits and challenges of alternative officing strategies will be discussed. The antecedents of teleworkers' organizational behavior related to alternative officing will be identified from professional as well as academic literatures. First, teleworkers' perceptions of their organizations will be considered such as perceived physical environment and perceived organizational support. Given that alternative officing strategies deal with physical aspects of an organization, perceived physical environment is one of the important proposed antecedents in this research. In addition, perceived organizational support will be examined with its relation to employees' organizational behavior.

The level of teleworkers' experiences with alternative officing will be considered as a factor that affects organizational commitment and job satisfaction. This factor includes types and numbers of alternative offices, work time in alternative officing, and tenure with alternative officing. The employment

characteristics of teleworkers will also be identified, including job type, tenure with job and company.

Organizational Behavior

Obviously organizations expect benefits to result from implementing alternative officing strategies, or they would not expend the money and effort to implement them. And as indicated previously, anecdotal evidence does indeed suggest that alternative officing strategies appear to influence teleworkers' organizational behaviors positively, with a variety of constructive effects such as low turnover rates, high productivity, flexibility, and job satisfaction appearing to be linked to alternative officing (Kurland and Bailey, 1999; Apgar, 1998; Hawkins, 1999; Kane, 2001; Van Horn and Storen, 2000).

Studies on the relationship between the work environment and organizational behavior have centered on the impact of physical and social environment to organizational behavior (Whiting, 1997). The purpose of this research is to focus upon two kinds of organizational behavior related to alternative officing including job satisfaction and organizational commitment. It is important to determine whether empirical evidence indicates that statistically significant relationships do in fact exist between alternative officing and teleworkers' organizational behavior.

Organizational Commitment

Organizational commitment studies indicate that organizational commitment is related to employees' absenteeism, intention to leave, and

turnover (Ko et al., 1997). This linkage from organizational commitment to employees' withdrawal behaviors has attracted organizational researchers' attention as organizations will achieve a competitive advantage if they can manage these withdrawal behaviors (Colbert and Kwon, 2000).

Mowday, Steers, and Porter (1979) define organizational commitment as "the relative strength of an individual's identification with and involvement in a particular organization (p226)." Although there are various ways of approaching the study of organizational commitment, several themes exist in the literature: research on antecedents; consequences; and the process of organizational commitment (Whiting, 1997). For the purpose of this study, the most relevant theme appears to involve identifying organizational situations that affect organizational commitment. Information on alternative officing as an antecedent to organizational commitment will enable organizations to better understand and manage their employees in alternative officing situations.

Recently, there have been a significant number of studies on organizational commitment (Mowday, Porter, and Steers, 1982; Allen and Meyer, 1990). The increased interest in organizational commitment has resulted in developments of theory as well as research tools. However, there has been increasing disagreement on its conceptual and operational definitions. Researchers have argued that there should be a clear and careful segmentation of organizational commitment to enable more precise predictions of organizational commitment. Organizational commitment has several layers of concepts in its construct, which makes measurement of organizational

commitment harder and more complicated (O'Reilly, Sr. and Chatman, 1986; Herscovitch and Meyer, 2002; Sutton and Harrison, 1993). They proposed organizational commitment as a complex of three factors; (a) employees' belief in and acceptance of organizational goals and values; (b) a willingness to exert effort in organizational goal; and (c) a desire to maintain organizational membership.

One development in organizational commitment research is a multifaceted tool with several dimensions of commitment designed by Meyer, Allen, and colleagues (Meyer and Allen, 1984; Meyer, Allen, and Gellatly, 1990; Meyer, Bobochel, and Allen, 1991; Meyer, Allen, and Smith, 1993). Their multifaceted tool includes three dimensions of commitment; affective, continuance, and normative. Affective commitment refers to an emotional attachment to the organization, such that employees remain because they want to do so. Continuance commitment is based on an employee's perception about the cost of leaving. In other words, employees continue employment because they feel they have to do so. Normative commitment reflects a perceived obligation to maintain membership in an organization. The studies with three types of organizational commitment showed that the three components of organizational commitment measures are empirically distinguishable with different correlates.

Reichers (1986), who focused on organizational commitment and its antecedents, reviewed empirical and theoretical literature on this topic and suggested three types of antecedent variables of organizational commitment:

psychological variables, behavioral variables, and structural variables. Alternative officing, one type of structural variable, will be examined in this study. Although research on the impact of alternative officing to organizational commitment is rare, it is assumed that alternative officing influences employees to be more motivated and committed to the organization. Studies on alternative officing have supported this possibility, showing that alternative officing reduces employee turnover rate and absenteeism and improves teleworkers' productivity (Van Horn and Storen, 2000; Doherty et al., 2000).

Job Satisfaction

Locke (1976) defines job satisfaction as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences." As Lindsay et al. (1969) suggest the assumption is that allowing employees to work in environments that meet their personal and professional needs will positively affect their job satisfaction. This assumption is based on the Herzberg's job satisfaction theory, which proposes that employees' environment affects job satisfaction. Literature on job satisfaction shows that satisfied employees work harder than frustrated employees do (Etzioni, 1964; Gross and Etzioni, 1985). Borgatta and Ford (1970) indicate that to provide more satisfaction for employees, it is important for organizations to find ways to motivate employees through organizational restructuring.

One of the frequently studied topics in job satisfaction is its relationship to the office environment (Zalesney and Farrace, 1988). It is assumed that

dimensions and characteristics of alternative officing would affect job satisfaction because they would benefit employees in many ways including providing a balance between work and life situations as well as flexibility.

Job satisfaction research with respect to alternative officing is in the beginning stages. Whiting (1997) recently studied employee job satisfaction and organizational commitment in a virtual office environment. The study attempted to determine whether communication levels affect job satisfaction and organizational commitment. Whiting (1997) compared employees working in a traditional work environment with those who work in a virtual office. She assumed that job satisfaction and organizational commitment would be decreased after employees moved to virtual work environments due to reduced face-to-face communications. However, research results showed that the virtual officing did not decrease employees' job satisfaction and organizational commitment. A private consulting firm conducted another study, which indicated that more than half of the companies implementing alternative officing reported higher job satisfaction among employees than they had experienced before implementing it (Caldwell, 1997).

Robertson (1999) suggests that employees perceive alternative officing as a way of better satisfying their growing needs to improve their overall quality of life. O'Connell (1996) indicated that a computer manufacturing company experienced an increase in employees' job satisfaction after they implemented alternative officing. Another recent anecdotal study on alternative officing supports this perception that alternative officing satisfy employees' needs. Davis

and Polonko (2001) surveyed teleworkers about their experiences with telework. The vast majority of teleworkers in the study reported that they were satisfied with their telework and committed to their organizations.

It appears that various factors in alternative officing positively affect job satisfaction, because of numerous benefits to employees. This includes its apparent ability to help workers more easily achieve a balance between their work and life situations. In addition, flexibility appears to increase in alternative officing situations. Pratt (Personal communication, September 28, 2002) indicated that flexibility is perceived as the most valuable benefit from alternative officing. Flexibility is important because employees can have control over their work schedule, and thereby their productivity increases (Kurland and Bailey, 1 999).

Alternative Officing

In general, alternative officing is defined as a strategy that allows a substitution for the traditional office environment. Most literature regarding alternative officing does not define alternative officing, but rather explains it by suggesting that alternatives fall within two general types—officing situations inside and outside of the corporate facility (Robertson, 1999). When developing an alternative officing strategy, companies consider specific alternative officing choices within the two general types (Frogatt, 1998). The term 'telework' is used to refer to off-site alternative officing. The U.S. federal and state governments

use 'telework' to refer to off-site alternative officing in their research and on their websites.

A variety of names are used to identify different officing situations within the two types. Table 1-1 lists some of these and illustrates the degree of complexity and confusion that can exist about the various alternatives and why the general idea of on-site and off-site types is used to simplify this confusion. Under the heading of on-site or within the building or campus, come such alternatives or settings as hoteling, shared offices, free address spaces, which refers to an alternative officing strategy that enables multiple teleworkers to share a single workplace (Kane, 2001). Off-site alternative officing situations include such alternatives as home offices, satellite offices, or telework centers.

As indicated previously, alternative officing is a business strategy as well as a facility management strategy. Companies implement it to cut costs and to better utilize their corporate space. In addition, extensive management effort is needed to plan, implement, and evaluate a strategy to house office workers differently (Stocks, 1998). Finally, once changes are implemented, organizations need to manage the new physical environments in which their employees are housed, as well as the ways in which employees work in those environments. For all of these reasons, alternative officing has become an important option in corporate cultures.

Table 2-1

Alternative Officing Types

Researcher, or author	Alternative officing types	
	On-site	Off-site
International Facilities Management Association (IFMA) and Haworth (1994)	Shared office Project team environment Group address account Free address Hoteling	Telecommuting Satellite officing Remote telecenters Virtual office
Frogatt (1998)	Non-territorial office Activity setting Free address Shared-assigned Hoteling Caves and commons Universal standard	Work-at-home Telecommuting Virtual office Telework center Virtual corporation
Olsen, Porter, and Yang (1998)	Nonterritorial Just-in-time Hoteling Group address vs free address Hot desking Drop-in Shared-assigned Universal plan Team/collaborative space Telework/telecommuting Satellite office vs branch office Virtual office	
Herman Miller (1998)	Free-address Hoteling Shared-assigned	Satellite office Telework center Just-in-time Telecommuting Home office Virtual office Distributed

Utilizing qualitative and quasi-experimental methods, Hill et al. (1998) explored teleworkers' perceptions to determine whether the workers felt alternative officing delivers benefits that they appreciate. The results suggested

that teleworkers perceived they were more productive and experienced more flexibility when they are compared to employees in traditional offices. The study of Hill et al. (1998) was a good beginning, but there is a need for empirical studies to determine how teleworkers actually perceive the physical aspects of their alternative office environments and whether the benefits attributed to allowing teleworkers to be housed in these new locations are actually accruing. In addition, it is important to determine teleworkers' perceptions regarding their employers' supports to better meet their work space needs.

Benefits of Alternative Officing

The benefits of alternative officing cover a wide spectrum, including employees' behavioral outcomes such as increased job satisfaction and lower turnover rates, productivity, and legal issues (Kurland and Bailey, 1999). Studies from private sectors such as Andersen Consulting, IBM, AT&T, and Hewlett Packard report increased productivity, cost reduction, improved employee recruitment and retention, and increased employee job satisfaction (O'Connell, 1995).

Even though this research focuses on employee behavior such as job satisfaction and organizational commitment, overall advantages of alternative officing will be examined in this chapter because the advantages are related and affect each other. Organizations turn to this strategy with expectations for financial and competitive benefits, which are gained from lowered real estate costs, more satisfied employees and customers and decreased turnover rates (Whiting, 1997; Gittleman et al., 1998; Richards, 1996). Employees benefit from

alternative officing due to increased quality of life and greater flexibility in work schedule and decreased commuting time (Lovelace, 2000; Canadian Telework Association, 2003). The public sector encourages alternative officing to achieve social goals because low-income and disabled individuals have more flexibility for their childcare and easier access to their work when they telework (Van Horn and Storen, 2000; Canadian Telework Association, 2003). The U.S. government continues research on telework to find its potential to resolve transportation issues and reduce air pollution. The U.S. government is also examining policies and tax code changes to encourage companies and organizations to implement telework (U.S. Congress. House. Committee on Government Reform, Subcommittee on Technology and Procurement Policy. 2001; U.S. Department of Transportation, 1992). The effort to solve problems with traffic congestion and pollution in densely populated areas initiated telework research twenty-five years ago (Nilles, Carlson, Jr., Gray, and Hanneman, 1976). Since the first research, in which the term telecommuting was coined, there have been studies from both academia and the government on telework's implications for transportation (Ellison, 1999). Among various benefits of alternative officing, several important benefits will be discussed here.

Cost Reduction

The leading driver of alternative officing in organizations is cost reduction (Apgar, 1998). Employers could reduce real estate costs and related overhead costs to maintain facility spaces accordingly through alternative officing (Lovelace, 2000). A number of studies from the private sector reveal results on cost

reduction with alternative officing. This cost reduction comes primarily from reduced real estate costs (Davenport and Pearlson, 1998). The principle behind the strategy is a better use of office space leading to cost reduction (Bergsman, 1995). Companies try to change the way they assign office space to become more efficient. They can save real estate costs by eliminating unnecessary space and by distributing the spaces not by employee rank or status, but by needs. Under alternative officing, the amount of individual office space is reduced while communal areas and shared workstations such as team space and hoteling are added (Bergsman, 1995). Companies such as AT&T, IBM, and American Express Travel have experienced reduced office space needs (Van Horn and Storen, 2000) as they implement alternative officing. According to AT&T, some organizations annually save 25% of office space real estate costs per site by giving offices only to employees who really need them (O'Connell, 1996) and reducing related overhead costs (Apgar, 1998). IBM saves more than $100 million a year with alternative officing from its North America sales and distribution unit alone (Apgar, 1998).

Employee Recruitment and Retention

Another benefit of alternative officing is the fact that alternative officing widens the talent pool available to the organization. By providing employees with flexibility, organizations can recruit and retain a more talented and motivated workforce (Kurland and Bailey, 1999; Apgar, 1998; Hawkins, 1999; Kane, 2001). In addition, alternative officing reduces employee absenteeism and retention costs (Van Horn and Storen, 2000). This benefit is related to cost reduction as it

reduces employee turnover rate and the associated costs of turnover. Employee turnover rate is reduced for several reasons. Reductions of commuting time and freedoms from geographic restrictions are two reasons for turnover reduction. Reducing employee turnover rate is important because turnover costs including termination, hiring, vacancy, and learning curve loss is estimated to be as much as six month to three years' pay and benefits (Fitz-Enz, 1998; Gordon, 1998). This shows that alternative officing benefits employees, and these benefits eventually lead to employer gains.

Productivity

The perceived productivity gain is one of the benefits alternative officing can provide (Kane, 2001). The reduction of commute time, fewer distractions, greater flexibility to work at peak times, a more comfortable work environment, and the ease of working during unscheduled time are the factors that positively influence productivity (Hill et al., 1998; Frogatt, 1998; Richards, 1996).

A survey at IBM on perceived productivity under alternative officing showed that 87% of respondents believed that their productivity and effectiveness had increased significantly (Apgar, 1998). Women reported a higher productivity score than men did as measured by self-report appraisal ratings. Perhaps the reason for this is that women have a greater overall need for flexibility (Hill et al., 1998). Whiting (1997) investigated teleworkers' job satisfaction and organizational commitment and found that there was no difference between men and women.

Flexibility

Increased flexibility afforded by alternative officing results in a positive influence on both work and personal/family life (Hill et al., 1998). The positive results from work flexibility are because employees can work wherever or whenever they want to and they can control their own time. On the personal/family side, workers have the flexibility to take care of sick children and personal needs (Hill et al., 1998). Hill et al., 1998 showed that increased flexibility is significantly correlated with higher productivity in his empirical study. It is assumed that it is because employees can work whenever they want to (Kurland and Bailey, 1999). Alternative officing helps employees balance work and family life by providing the capability to collaborate electronically with people at work while being available to family members (Cascio, 2000; Frogatt, 1998).

Job Satisfaction

Alternative officing can provide an opportunity to increase employee job satisfaction (Van Horn and Storen, 2000). Employees claim job satisfaction increases due to reduced stress and flexibility as a result of alternative officing (Wilkes et al., 1994). More importantly, employee satisfaction leads to customer satisfaction, and organizations can reap the benefits from the improved customer satisfaction. IBM reported that their alternative officing program, named Workforce Mobility Transformation Program, increased employee satisfaction along with productivity and customer satisfaction (O'Connell, 1996).

Challenges of Alternative Officing

Despite the reported benefits of alternative officing, many U.S. organizations are still reluctant to implement alternative officing due to perceived challenges (Cascio, 2000; Wilkes et al., 1994). Studies suggest a number of challenges related to alternative officing, including resistance to change, reduced communication, employees' feelings of social isolation, and the costs of additional information technology, furniture, and equipment (Davenport and Pearson, 1998; Wilkes et al., 1994; Joice, 2000).

Resistance to change is often considered to be the biggest challenge in alternative officing, specifically in off-site alternative officing (Frogatt, 1998; Joice, 2000). This resistance to change covers several layers in organizations including management resistance, employee resistance, and organizational support functions' resistance (Joice, 2000). Management resistance comes from fearing of the loss of control (Ellison, 1999; Davenport and Pearlson, 1998). It is also a reason why alternative officing is expanding more slowly than expected (Frogatt, 1998; Ellison, 1999). While management resistance has been studied in alternative officing research as a factor in slowing the rate of alternative officing implementation, the other types of resistance such as employee resistance and organizational support function resistance have been recently identified as challenges in alternative officing (Joice, 2000). The organizational support functions from Information Technology (IT), Human Resources (HR), and Facility Management (FM) also show reluctance in implementing alternative officing

because they have supported the traditional on-site workplace only and become reluctant to change (Joice, 2000).

Most articles on teleworkers suggested that organizations should change their management style from observation to objective evaluation focusing on output quality. Managers have challenges from both cultural changes and the systems improvements necessary to implement alternative officing (Apgar, 1998). Middle managers need to cope with changes in performance measurement and communication under alternative officing (O'Connell, 1995), and they need to analyze the results of employees' job performance rather than to focus on processes (O'Connell, 1995). Regularly scheduled telephone meetings, face-to-face meetings or social gatherings are several recommendations to improve communications with remote managers.

Employees have several reasons for resisting alternative officing. First, they do not want to give up office space at their corporate locations. Secondly, their physical environments at their off-site workplace do not support their work properly (Davenport and Pearlson, 1998; Joice, 2000). Employees might feel frustrated by the concept of alternative officing because alternative officing allocates space not by an employee's rank or status, but by need (Robertson, 1999; Kane, 2001). Employees may have an isolated feeling when they lose their permanent workspace and need to share space with other employees. They also can feel insecure when they no longer have space to personalize (Robertson, 1999). Based on a survey at AT&T, the most frequently mentioned concerns from employees are about communication and isolation when they work off-site.

Another concern is about on-site alternative officing such as hoteling and shared space programs; employees experience needs for a place to store their belongings and a space that they can personalize when they are in on-site alternative locations (Anderson, 1995).

Factors of Alternative Officing

This study will examine factors related to alternative officing to understand their relationships to organizational commitment and job satisfaction. For example, the sheer complexity of alternative officing must be considered with factors such as type of alternative officing, in which the teleworkers are housed, and amount of work time spent in alternative officing. Teleworkers' experiences with differing alternative officing situations would have an impact on both their job satisfaction and their organizational commitment.

In addition to factors affecting how teleworkers experience alternative officing, the workers will have perceptions regarding physical components of their alternative officing situations. These perceptions, in particular, will be extremely important in determining the effect of alternative officing on job satisfaction and organizational commitment. Zalesny, Farrace, and Kurchner-Hawkins (1985) and Burke (1990) suggested that although organizational researchers explored both the social and physical aspects of work environment, they have not studied the effect of the physical environment on employee attitudes with an equal weight of importance as the social environment.

A worker's officing situation is only one dimension of his or her involvement with an employing organization. Other factors will be equally influential in determining the level of satisfaction teleworkers feel towards their jobs and the commitment to their organizations. These factors include such factors as the hierarchic level a teleworker occupies within the corporate structure and the length of tenure with his/her job and hiring organization. These employment characteristics are assumed to affect the level of satisfaction and degree of organizational commitment an employee experiences in a working situation and must be explored along with other factors.

More importantly, all workers have perceptions regarding their organizations. Because we are interested in teleworkers' perceptions with respect to job satisfaction and their level of organizational commitment, one employment perception in particular, organizational support for alternative officing could have important ramifications on the specific organizational behaviors under consideration in this study.

Perceived Organizational Support

Eisenberger, Huntington, Hutchson, and Sowa (1986) extended the interpretation of organizational commitment with a social exchange approach that integrates employees' perceived organizational support. They defined perceived organizational support as employees' global beliefs about the extent to which the organization values their contributions and cares about their well-being.

Employees personify the organization and expect care for their well-being from the organization when they commit themselves to the organization.

Several studies were identified concerning the relationship between perceived organizational support and organizational commitment (Eisenberger et al., 1986; Eisenberger, Fasolo, and Davis-LaMastro, 1990; Shore and Wayne, 1993). Eisenberger et al. (1986) and Eisenberger et al. (1990) found that a positive relationship existed between perceived organizational support and organizational commitment. Shore and Wayne (1993) used a different method to study the relationship between perceived organizational support and organizational commitment. They focused on perceived organizational support and organizational commitment as antecedents of employee behavior, studying such factors as organizational citizenship and impression management and found that perceived organizational support was a better predictor of organizational citizenship and impression management than was organizational commitment.

Wallace (1995) studied employees' commitments to their jobs in professional and nonprofessional organizational settings, while conducting research with attorneys. The results indicated that organizational commitment was highly dependent on perceived organizational support.

Although organizational support was identified as an important factor in achieving a successful and effective alternative officing strategy (Gittleman et al., 1998; Bergsman, 1995; Frogatt, 1998), no empirical research appears to have been done on teleworkers' perceptions of their organizational support and

especially on whether alternative officing situations might have any impact on this relationship. One of the goals of this research is to determine whether empirically significant relationships exist between employees' perceptions of their organizational support and both their level of job satisfaction and their level of organizational commitment.

On the other hand, management resistance to support alternative officing has been regarded as the greatest obstacle to implementing it (Frogatt, 1998; IFMA and Haworth, 1994). Several articles have offered guidelines and assessment tools, which can be used to increase organizational support for implementing alternative officing. They focused mainly on improving communication and the organizational culture, increasing the use of technology, developing greater organizational flexibility, and providing basic training on alternative officing. The most important three organizational support functions are FM, HR, and IT. How these functions could support teleworkers to enable them to be effective is discussed here. These functions are closely related with each other in managing and supporting alternative officing. As shown in Figure 2.1, each function represents on one of three resources related to alternative officing; teleworkers, workplace, and technology. The three functions have important roles in successful alternative officing management. Interventions of these three functions in alternative officing are identified here.
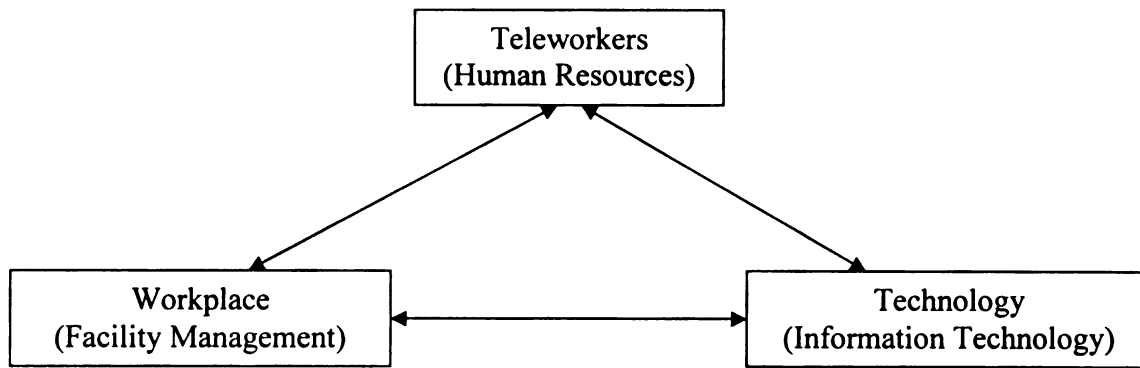
Figure 2-1. Alternative Officing Resources

(Modified after Robertson, 1999)

Facility Management

Facility Management (FM) practices play a major role in implementation of alternative officing (Robertson, 1999; Frogatt, 1998). FM provides technology, furniture, equipment, and whatever else teleworkers need to support them. As organizations implement alternative officing, support services such as lighting, HVAC, parking and janitorial services need to be able to meet the changing needs of teleworkers (Anderson, 1995). More importantly, FM manages the vacant space left after teleworkers begin to work remotely. Considering the high cost of real estate, the effective management of the vacant space is important. In other words, the important function of FM in alternative officing is to offer a supportive and effective physical environment (Steelcase, 2002).

Some companies set standards for off-site workplaces and let the employees choose among those workplaces. FM needs to support and treat teleworkers the same as customers. When organizations hope to have financial benefits from on-site corporate office space vacated by teleworkers, FM should be able to suggest and implement new on-site alternative officing strategies for the freed-up office space such as hoteling, free-address, and team space (Joice, 2000; Davenport and Pearlson, 1998). Through these new strategies, organizations do not need to pay a double overhead cost for teleworkers who work off-site and still need to work on-site sometimes. It is strongly suggested that FM should provide some type of office space on-site for teleworkers for the time when they return to their corporate location (Davenport and Pearlson, 1998).

Davenport and Pearlson (1998) suggested three main activities in alternative officing implementation:

- Managing the deployment process for off-site alternative officing

- Providing technical support for teleworkers

- Managing on-site office space left behind

Becker and Joroff (1995) and Becker, Quinn, Rappaport and Sims (1994) discussed more specifically FM's practices to support teleworkers. Those support functions include:

- Furniture and wire management

- Workspace, its furnishings, layout, lighting, and utilities

- Mail delivery

- Office supplies

- Equipment maintenance and upgrades

- Voice and data communications

- Safety/ergonomic policies and guidelines setup and upgrades

- Noise/distraction control

Information Technology

Well-equipped computers, cellular phones, second phone lines, powerful networks, and sophisticated telephone systems are the infrastructure requirements of alternative officing. IBM found that the equipment cost for a teleworker is approximately $5000 more than one for a traditional worker, as it demands connectivity to corporate locations and other colleagues (O'Connell, 1995). Organizations also need on-line downloadable materials, databases on products and customers, well-indexed automated central files, and a location track system of teleworkers (O'Connell, 1995).

Human Resources

The implementation of alternative officing requires adjustments in Human Resources, which are critical to the success of alternative officing such as changes in communication methods, the management style, and the training and compensation system (Robertson, 1999). Managers need to change their communication methods to be effective in communicating with teleworkers. The use of emails, the telephone, and scheduled face-to-face meetings are examples of the methods (Robertson, 1999). The major change of management style in alternative officing would be a shift from visual management to management by

result. Management by results enables managers and employees to be more specific on the outcomes and deliverables of the job (Robertson, 1999). It is suggested that organizations require a better-trained workforce to support teleworkers and deal with increased demand for services under alternative officing. A well-planned training and compensation system is also needed (Anderson, 1995).

Perceived Physical Environment

In his study of Fortune 100 best companies, Lieber (1998) referred the physical environment as one of three reasons why employees enjoy their jobs. Because alternative officing concerns the physical environment of organizations (Richards, 1996), one of the goals of this study is to understand how teleworkers perceive their working environments. Ultimately, the purpose is to determine how these perceptions affect both their job satisfaction and their organizational commitment.

In case of on-site alternative officing, Robertson (1999) suggested that alternative officing includes a workspace design that facilitates tasks at a particular point in time rather than traditional permanently assigned workspace design. He also suggested that organizations need to help employees be more comfortable in their alternative offices as part of the tradeoff for sharing space by providing appropriate furniture and equipment. Anderson (1995) also indicated that furniture and equipment are important aspects of physical environments in alternative offices. One of the frequently discussed concerns in furniture is the

provision of enough storage space due to the demand for storing personal belongings. The importance of flexibility in space design is suggested in literature on alternative officing because flexibility is needed to satisfy teleworkers' various needs (Robertson, 1998; Paret, 2001; Anderson, 1995; Stocks, 1998).

Several studies examined the effect of the physical environment on organizational behavior (Sundstrom, Town, Brown, Forman, and McGee, 1982; Sundstrom, Town, Rice, Osborn, and Brill, 1994; Oldham and Rotchford, 1983; Zalesny, et al., 1985; Burke, 1990; Block and Stokes, 1989). Adler, Skov, and Salvemini (1985) examined physical environment as one of the characteristic variables in relation to job satisfaction. They found more satisfied work groups evaluated their physical environment higher than dissatisfied work groups.

Some researchers attempted to identify the various aspects of physical environment as antecedents of job satisfaction. For example, Block and Stokes (1989) and Sundstrom et al. (1982) focused on the effect of privacy and noise on employee attitudes such as satisfaction and perception. Block and Stokes (1989) studied job satisfaction in private versus non-private work settings and found that employees in private offices were more satisfied than were employees in non-private settings. Sundstrom et al. (1982) indicated that reported disturbance by noise is negatively related to satisfaction. Another study by Burke (1990) examined the effects of the physical environment (office equipment and air quality) on job satisfaction of stockbrokers. He indicated that the stockbrokers who reported more stress from the physical environment were less satisfied.

Studies that investigated topics concerning the physical environment and employee attitudes utilized various measurement tools, one of which was the perceived physical environment. Sundstrom et al. (1982) and Zalesny et al. (1985) used perceptions about the physical environment to assess the actual physical environment. Sundstrom et al. (1982) suggested that employees at different organizational levels appear to perceive the same environment differently. Zalesny et al. (1985) found perceptions of the physical environment were consistently related to satisfaction through different job levels, although perceptions predicted satisfaction more efficiently at higher employment levels than at lower ones. The social environment was a better predictor of the satisfaction of lower-level employees.

Thus far, no research has been identified concerning the effect of the physical environment or perceptions about the physical environment on organizational commitment.

Teleworkers' Alternative Officing Experiences

Attempting to explore workers' experiences with alternative officing is a complex and difficult task due to the nature of the experience. For example, it is entirely possible that workers may be utilizing a variety of alternative offices at any one point in time. An alternative might exist to house a worker while they are on-site, for example, while another alternative might exist as an off-site situation. For purposes of this study, the goal is to determine the level of experience teleworkers have with alternative officing. To do this, the type and number of alternative officing situations and the work time in alternative officing will be

considered because they have been identified as important factors in alternative officing (Hawkins, 1999; Hughes, 1994; Paret, 2001).

Past studies, for example, suggest a spectrum of alternative officing options and definitions (IFMA and Haworth, 1994; Frogatt, 1998; Herman Miller, 1998; Davenport and Pearlson, 1998; Marmot, 1992; Zelinsky, 1995). Choosing the right alternatives is important for organizations to be successful in the implementation of an officing strategy (Hawkins, 1999).

Types of alternative officing

As shown in Table 2.1, researchers categorize alternative officing into on-site and off-site strategies. Each alternative officing strategy will be identified and discussed here.

Home office

Home-based teleworkers work at home on a regular basis. The frequency that they work from home varies from several days per month to several days per week and rarely, everyday. This study does not include self-employed home office workers. Some companies purchase furniture and information technology equipment for their employees.

Hoteling

Hoteling is the most commonly known on-site alternative officing strategy (Buck, 1998). Teleworkers reserve a specific workspace in advance at their corporate location. A reservation system such as a computerized system, an email scheduling tool, or a paper-based system, needs to be established as a business procedure in this type of alternative officing (Robertson, 1999; Frogatt,

1998). The ratio of employee to workspace could be 2:1 to 10:1 or higher (Frogatt, 1998).

Hoteling enables organizations to utilize workspace more effectively with less corporate physical space and more employees working in the space compared to the traditional workspace. Organizations should be able to map out and implement hoteling with well-planned policies and procedures to support employees. Otherwise, it will make employees feel frustrated and reduce their effectiveness (Kane, 2001). Hoteling needs to be coordinated with a concierge system to equip workspace with whatever features teleworkers request (Robertson, 1999; MacMorrow, 1996).

Satellite Office

Satellite teleworkers work away from primary corporate locations and outside of their homes. Companies provide satellite offices, office furniture, and equipment for their employees with the convenience of working closer to home and the accompanying reduction in commuting to corporate locations. Some satellite offices offer a variety of services and amenities such as photocopiers, fax machines, networked personal computers and a kitchenette.

Telework Center

A telework center has the same concept as the satellite office in that workers are provided with the convenience of working closer to home without the long commute. The center is located in residential neighborhoods for small groups of employees who live in the area. It could offer more technology than an employee's home office (O'Connell, 1996). A telework center is leased by several

companies and managed by a private company or a local government agency. Office furniture and equipment are furnished by the site owner or by each renting firm.

Shared office

Two or more employees are assigned the use of a single full-functioned unassigned workstation or office at differently scheduled times (Frogatt, 1998; Herman Miller, 1998). Employees need to communicate with each other to determine when each employee will use the space (Robertson, 1999).

Free-address office

A free-address office is used on a first-come, first-served basis. Employees who work off-site from a corporate location for a large portion of their working time use unassigned individual workstations (Herman Miller, 1998). Various information technology systems can be used to support employees, including the Internet, e-mail, voice mail, Local Area Networks (LANs), Wide Area Networks (WANs), scheduling tools to book meeting and on-site space, a portable telephone and modem, audio and video conferencing system, and High-Speed Telecommunications such as ADSL (Asymmetric Digital Subscriber Line) and ISDN (Integrated Switched Digital Network).

Having multiple alternative office locations

On-site alternative officing enables organizations to use the freed-up space which teleworkers left to work off-site (Kane, 2001). Organizations have several options with both on- and off- site alternative officing depending on the types of teleworkers. The number of alternative officing locations used by

teleworkers is another variable that is assumed to influence organizational behavior. Organizations implement a combination of alternative officing options (Davenport and Pearlson, 1998). Teleworkers often work outside of their corporate locations and experience some type of on-site alternative officing as well (Kane, 2001). Hughes (1994) warns that the addition of too many alternative officing locations increases costs, creates work, and thus decreases efficiency.

Work hours in Alternative Officing

Work hours in alternative officing situations are another important characteristic identified. Employees located in alternative officing situations have the potential to be more effective simply because they can reduce commuting time and thus spend more time at work (MacMorrow, 1996; Richards, 1996).

The assumption was made in this research that types of alternative officing, the number of alternative officing options that a teleworker has, and the length of work time in alternative officing would be related to organizational commitment and job satisfaction.

Employment Characteristics

Although characteristics which describe the employment situations of workers that would automatically fit into alternative officing situations are limited, an understanding of these characteristics is important. Due to the short history of research on the topic of alternative officing, only a few studies were found which focus on the relationship between the employment characteristics of individuals housed in alternative officing situations and organizational commitment and job

satisfaction. In general, available information suggests that three employment characteristics need to be considered. They include: job type (Begley and Czajka, 1993; Sundstrom et al., 1982), tenure with a job, and tenure in a company (Hodson, 1984; Geyer and Daly, 1998; Van Maanen and Katz, 1976).

Job type

In the organizational behavior literature, current studies regarding the effect of job type on organizational behavior are contradictory (Van Maanen and Katz, 1996; Begley and Czaika, 1993; Sundstrom, et al, 1982; Zalensy and Farrace, 1988). Thus it is important to identify the types of interactions that might occur between teleworkers' job types and their organizational behavior. In addition, studies on the teleworker population suggest the professional job type as the most common found in teleworking situations (Van Horn and Storen, 2000; International Telework Association and Council (ITAC), 2000).

Begley and Czajka (1993) showed that the relationship between individual characteristics and organizational commitment appeared stronger for blue collar and nonprofessional white-collar workers than for professional employees. Sundstrom et al. (1982) studied the relationship between job type (secretaries, bookkeepers and accountants, and office managers and administrators) and job satisfaction. The results indicated that each job type had different antecedents predicting job satisfaction. Office managers and administrators were the only group identified that had a physical environmental variable as an antecedent predicting job satisfaction. Zalesny and Farrace (1988) found results similar to

41

Sundstrom et al. (1982). Their study included clerical, professional, and managerial job types and found that physical environmental characteristics were more important in explaining the employee attitudes of individuals in professional and managerial job types.

Van Maanen and Katz (1976) studied the relationship between job types (administrative, professional, clerical, and maintenance) and job satisfaction. The job satisfaction dimensions noted satisfaction with the overall job, job properties, interaction context, and organizational policies. The results indicated that all four job types exhibited similar tendencies, although on different dimensions. The administrative and professional group showed the highest level of satisfaction with job properties such as skill variety, task identity, task significance, autonomy, feedback-from-job, and colleague assistance.

Kline and Boyd (1991) studied three managerial-level job types (president, vice president, and middle manager) to determine the relationship between job satisfaction and organizational structure, context, and climate. Overall, managers at the highest level reported the most job satisfaction. For presidents, satisfaction was related to the organization's structure and context, as well as the organization's climate, whereas for middle managers and vice presidents, the organization's climate was more frequently related to job satisfaction.

Tenure with Job and Organization

Lease (1998) reviewed literature on employee behavior and suggested that the results of several studies showed a relationship between tenure and organizational commitment. Hodson (1984) studied the relationship between

employees' tenure with the company and job satisfaction and found that tenure with the company had a negative effect on job satisfaction. Another study on the relationship between tenure and job satisfaction, Geyer and Daly (1998), controlled the tenure variable (tenure with job and tenure with organization) to eliminate work experiences from the age variable in explaining job satisfaction in their study and found no significant role of tenure on the relationship of age and job satisfaction. Begley and Czajka (1993) studied the relationship between tenure and organizational commitment, but did not find a significant correlation.

Through literature review, the factors in alternative officing situations were identified with the purpose of examining the relationship between those factors and job satisfaction and organizational commitment. In addition, research on organizational commitment and job satisfaction was reviewed.

CHAPTER 3

METHODOLOGY

<u>Subjects</u>

The population of this study consisted of employed teleworkers who work one day or more per week in alternative offices. Alternative offices are non-traditional offices such as home offices, hoteling, satellite offices, telework centers, free-address offices, and shared offices. Self-employed teleworkers are not considered as part of the population group in this study, since the goal is to examine employees' behavior and attitude in an organizational context.

Employed teleworkers were invited to participate in an Internet survey. 170 teleworkers participated in the survey, and 148 completed responses were used in the data analyses. According to Fowler, Jr. (1990), confidence ranges depend on the sample size and precision increases rather steadily up to sample sizes of 150 to 200.

An on-line consent form was provided along with the questionnaire to enable a subject to decide voluntarily whether or not to participate as a research subject. Once the completed Internet survey had been received by the researcher, standard confidentiality procedures were employed. The results of this participation remain confidential, and will not be released in any individually identifiable form, unless otherwise required by law.

Data Collection

A questionnaire was developed for the Internet-based survey in this study. It included existing validated measurement tools such as perceived organizational support, perceived physical environment, organizational commitment, and job satisfaction. In addition, questions on teleworkers' alternative officing experiences and their employment characteristics were developed based on literature review. Questions on demographic information were included to understand the sample characteristics of the study.

An on-line form of the questionnaire was generated using an on-line survey software program provided by an on-line survey company. In addition, an on-line consent form was generated and followed the instructions requested by the University Committee on Research Involving Human Subjects (UCRIHS) at Michigan State University. The consent form, questionnaire, and methodology section were submitted in to UCRIHS and approved by UCRIHS at Michigan State University on June 11, 2003. The survey with a consent form was posted on a website from June 11, 2003 to September 15, 2003 (see appendix A and B). A respondent was able to respond to the survey questions by pointing and clicking on the chosen answer or typing an open-ended answer into a text box.

There are some advantages to Internet-based surveys, including a higher response rate, low cost per contact, convenience to respondents completing the questionnaire, and the elimination of the need for separate data entry (Roztochi, 2003). On the other hand, there are also disadvantages. Some targeted respondents may not have access to a computer, and system compatibility/user

hardware requirements may create difficulties. However, considering that the subjects in the population (i.e., teleworkers) use computer technology extensively, the disadvantages did not necessarily apply to this study. In terms of Internet-based survey methodology, the only concern for this research is that it cannot ensure that the correct respondent completes the questionnaire. By clearly specifying the subject population in the research advertisement and the consent letter, a concerted effort was made to prevent unqualified respondents from participating in the survey.

U.S. General Services Administration telework coordinator, IFMA U.S. regional chapters, ITAC (International Telework Association Council), and several telework consultant companies' websites were identified to be popular to teleworkers and managers of teleworkers. The identification was done through Internet web searches, alternative officing related-article review, and consultation with experts in alternative officing. After the websites were selected, each website administrator was contacted through email or phone and asked to distribute the survey website information to teleworkers or to link the survey website to their websites. Eight websites participated by linking the survey website information. The follow-up emails were sent to the administrators of the websites over a two-week period of time from August 11, 2003 to August 25, 2003. An incentive of a chance to win $100.00 was given to the subjects. Subjects were informed in the consent form that when subjects are interested in winning a chance at the $100.00, they need to type their email address. One subject was drawn from the pool, contacted, and given the $100.00 prize.

Variables

The concepts defined for study in this research were operationalized using a variety of pre-existing, tested measurement scales and some new measures developed specifically for this study. The constructs operationalized include:

1) Perceived organizational support;

2) Perceived physical environment;

3) Alternative officing experiences;

4) Employment characteristics;

5) Organizational commitment; and finally,

6) Job satisfaction.

The variables were operationalized to be tested in an empirical model.

Independent Variables

Perceived organizational support

The nine-item short form of the Survey of Perceived Organizational Support (SPOS; Rhodes et al., 2001) was used to measure perceived organizational support. Respondents were asked to indicate their agreement with each item on a 5-point Likert scale (i.e., 1= strongly disagree, 5= strongly agree). The types of items included: (a) "My organization really cares about my well-being," (b) "My organization strongly considers my goals and values," (c) "My organization shows little concern for me." Responses to these items were

averaged to calculate a perceived organizational support score. Using the current data, an internal consistency reliability (i.e., Cronbach's alpha) of .92 was found.

Perceived physical environment

The perceived physical environment of the primary alternative office, the one in which the respondents work most often and consider the most dominant work place, was measured using six items. The items were adapted from Zalesny and Farrace (1988). The previously reported reliability (a = .76) of these items was adequate to measure perceptions about the physical environment.

Respondents were asked to indicate agreement with items on a 5-point Likert scale in which response options range from strongly disagree (1) to strongly agree (5). The items that were measured included whether the work area is: (a) adequately lighted; (b) adequately equipped; (c) large enough for the work; (d) at a comfortable temperature; (e) located near personal facilities (e.g., bathrooms, eating area, etc.); (f) furnished safely and effectively for the job; (g) in control of noise and distraction; and (h) provides enough storage space for work needs. Responses to these items were averaged to calculate an overall perceived physical environment score. Using the current data, an internal consistency reliability (i.e., Cronbach's alpha) of .85 was found.

Teleworkers' alternative officing experiences

Five items were presented to determine the level and nature of teleworkers' experiences with alternative officing. These items included: primary

alternative office, types of alternative offices, voluntary participation in alternative officing, work time percentage in alternative offices, and tenure in alternative officing. Respondents were asked to indicate their primary alternative officing situation from among seven choices including both on- and off-site locations: home office, hoteling, satellite office, telework center, shared office, free-address office, and other. The subjects were invited to indicate all alternative officing types in which they worked among the same seven choices that were given for the choice of the primary alternative officing.

The subjects were asked to indicate if participating in alternative officing was voluntary or not. Subjects were asked to indicate by percentage the average work time they spend in their alternative offices per week among five choices: 1% to 20%, 21% to 40%, 41% to 60%, 61% to 80%, and 81% to 100%. Tenure in alternative officing was assessed by asking respondents to select among four choices: less than 1 year, 1 year to 2 years, 3 year to 5 years, and over 5 years.

Teleworkers' employment characteristics

Four items were included to determine employment characteristics. The items are: work hours, job type, tenure with job, and tenure with organization. Subjects were asked to indicate the number of hours they work per week among five choices: less than 20 hours, 20 hours to 30 hours, 31 hours to 40 hours, 41 hours to 50 hours, and over 50 hours. Job types in this study included clerical, managerial, professional, sales, and other. The tenure related questions were derived from the study by Lease (1998). Tenure with the company was defined in this study as 'time working at that particular company' and tenure with job was

defined as 'time working at a particular job.' Subjects were asked to indicate how long they have been with the job and the company. The choices for both questions are less than 2 years, 2 to 5 years, 6 to 10 years, 11 to 20 years, and over 20 years.

Dependent Variables

Affective and continuance organizational commitment

The organizational commitment measurement included affective and continuance commitment. Affective commitment was measured with six items that were originally used by Rhodes et al. (2001). Meyer et al., (1990) developed the tool and Rhodes et al. (2001) modified it into a short form. The previously reported reliability from Meyer and Allen was .86. Continuance commitment was measured with the 8-item instrument from Meyer et al. (1990). The previously reported reliability for the scale was .82. Respondents were asked to indicate their agreement using a 5-point Likert-type scale (strongly disagree=1 to strongly agree=5).

To measure affective commitment in this study, the survey invited responses to the following statements: (a) "I feel a strong sense of belonging to my organization," (b) "I feel personally attached to my organization," (c) "I am proud to tell others that I work at my organization", (d) "Working at my organization has a great deal of personal meaning to me," (e) "I would be happy to work at my organization until I retire," and (f) "I really feel that problems faced by my organization are also my problem."

For the measurement of continuance commitment, statements include (a) "I am afraid of what might happen if I quit my job without having another one lined up," (b) "It would be very hard for me to leave my organization right now, even if I wanted to," (c) "Too much in my life would be interrupted if I decided to leave my organization now," (d) "It would be too costly for me to leave my organization right now, even if I wanted to," (e) "Right now, staying with my organization is a matter of necessity," (f) "I feel that I have too few other options to consider leaving this organization," (g) "One of the few serious consequences of leaving this organization would be the scarcity of available alternatives," and (h) "One of the major reasons I continue to work for this organization is that leaving would require considerable personal sacrifice".

Principal components factor analyses with direct oblimin rotation for the items in the organizational commitment scale were conducted to assess whether the items factored into the following two constructs: affective commitment and continuance commitment. Direct oblimin rotation was used because it is assumed that the two factors are correlated. Examination of Eigenvalues, scree plot, and factor loadings all indicated a two factor solution: affective commitment (factor 2) and continuance commitment (factor 1). The scree plot is shown in Figure 3-1.
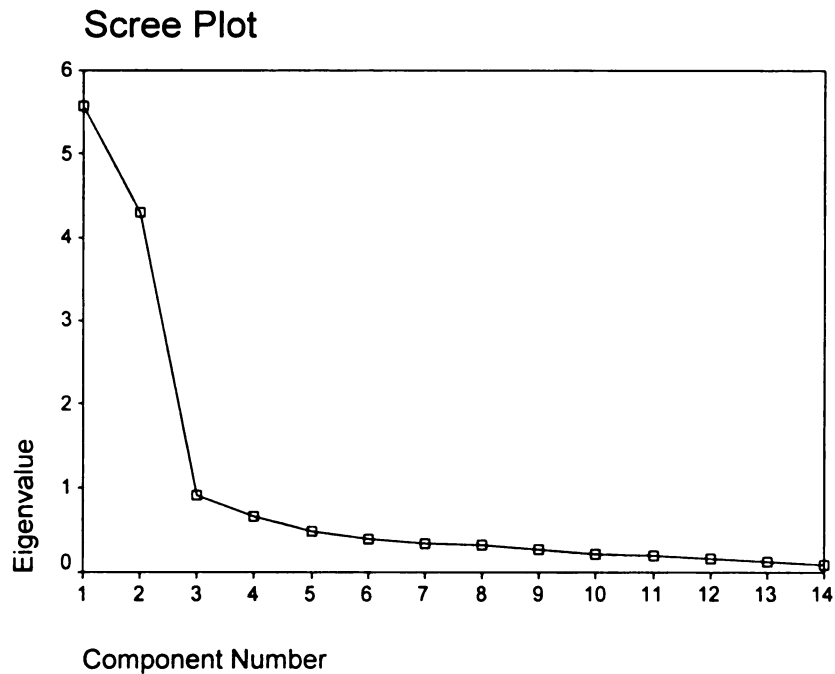
Scree Plot

Figure 3-1. Scree Plot from Factor Analysis

The Eigenvalue for affective commitment (i.e., the first six items) was 5.0 and accounted for 37% of the variance. Continuance commitment (consisting of the last eight items) resulted in an Eigenvalue of 4.3 and accounted for 31% additional variance. The factor structure matrix loadings for affective commitment factor ranged from .70 to .86, and for continuance commitment the loadings ranged from .74 to .90 (see Table 3-1). The responses for each factor were averaged resulting in a range of 1 (low commitment) to 5 (high commitment). Using the present data, Cronbach's alphas were .92 for affective commitment and .93 for continuance commitment.

Table 3-1

Structure Matrix Loadings

Organizational commitment items	Component 1	Component2
OC1	-	.90
OC2	-	.88
OC3	-	.84
OC4	-	.85
OC5	-	.88
OC6	-	.74
OC7	.70	-
OC8	.80	-
OC9	.81	-
OC10	.86	-
OC11	.77	-
OC12	.80	-
OC13	.82	-
OC14	.76	-

Job satisfaction

A six-item version of the Michigan Scale of Facet-free Job Satisfaction was modified from Sundstrom, et al. (1994). The previously reported reliability was .88. This measurement tool is often used in overall job satisfaction studies. It

is thus assumed that this is an appropriate initial tool to determine job satisfaction related to alternative officing. The types of questions that were asked included: (a) "All in all, how satisfied would you say you are with your current job?" (1=not at all satisfied, not too satisfied, neutral, somewhat satisfied, 5=very satisfied); (b) "If you were free right now to go into any job you wanted, what would be your choice? I would..." (take the same job as I now have; take the same job with a different employer; take a different job with the same employer; take a different job with a different employer; not want to work).

An item with 4-point scale in the original study was modified to 5-point scale because it did not have 'neutral' in its scale. The scale of another item that asked "If you were free right now to go into any job you wanted, what would be your choice? I would..." was modified also with the same method to better understand teleworkers' job satisfaction.

Another item, which had 3-point scale originally, was modified into 5-point scale. The modification was to find out whether job satisfaction is purely about the job itself or is biased with satisfaction with an employer. In addition, one item was added to ask "How satisfied are you with the type of work you are doing now." The addition was to understand whether employees are satisfied with types of work they do because satisfaction with the type of work could be different from satisfaction with job. Using the current data, an internal consistency reliability (i.e., Cronbach's alpha) of .90 was found.

Research Hypotheses

This study examined the impact of alternative officing on organizational commitment (affective commitment and continuance commitment) and job satisfaction. The independent variables are perceived organizational support, perceived physical environment, teleworkers' alternative officing experience (i.e., primary alternative office; types of alternative offices; voluntary participation in alternative officing; work time percentage in alternative offices; tenure in alternative officing) and their employment characteristics (i.e., work hours; job type; tenure with job; tenure with organization).

> Hypothesis 1A: Teleworkers' perceived organizational support is significantly related to their affective commitment.

> Hypothesis 1B: Teleworkers' perceived organizational support is significantly related to their continuance commitment.

> Hypothesis 1C: Teleworkers' perceived organizational support is significantly related to their job satisfaction.

> Hypothesis 2A: Teleworkers' perceived physical environment is significantly related to their affective commitment.

> Hypothesis 2B: Teleworkers' perceived physical environment is significantly related to their continuance commitment.

> Hypothesis 2C: Teleworkers' perceived physical environment is significantly related to their job satisfaction.

> Hypothesis 3A: Each of Teleworkers' alternative officing experiences (i.e., primary alternative office type, having multiple alternative

offices, voluntary participation in alternative officing, work time percentage in alternative offices, and tenure in alternative officing) is significantly related to affective commitment.

Hypothesis 3B: Each of Teleworkers' alternative officing experiences (i.e., primary alternative office type, having multiple alternative offices, voluntary participation in alternative officing, work time percentage in alternative offices, and tenure in alternative officing) is significantly related to continuance commitment.

Hypothesis 3C: Each of Teleworkers' alternative officing experiences (i.e., primary alternative office type, having multiple alternative offices, voluntary participation in alternative officing, work time percentage in alternative offices, and tenure in alternative officing) is significantly related to job satisfaction.

Hypothesis 4A: Each of teleworkers' employment characteristics (i.e., work hours, job type; tenure with job, and tenure with organization) is significantly related to affective commitment.

Hypothesis 4B: Each of teleworkers' employment characteristics (i.e., work hours, job type; tenure with job, and tenure with organization) is significantly related to continuance commitment.

Hypothesis 4C: Each of teleworkers' employment characteristics (i.e., work hours, job type; tenure with job, and tenure with organization) is significantly related to job satisfaction.

Hypothesis 5A: Job satisfaction is a mediator between perceived organizational support, perceived physical environment, teleworkers' alternative officing experiences and teleworkers' employment characteristics and affective commitment.

Hypothesis 5B: Job satisfaction is a mediator between perceived organizational support, perceived physical environment, teleworkers' alternative officing experiences and teleworkers' employment characteristics and continuance commitment.

Data Analyses

The following statistical analyses were undertaken to test the hypotheses. All analyses were conducted using SPSS 11.5 for Windows.

1. First, zero-order correlation analyses were employed to determine the bivariate relationships between the independent and dependent variables.

2. After the correlations were explored, multiple regression analyses were used to examine (1) the contributions of the sets of predictor variables in explaining the variance in the criterion variables, and (2) the significance level of specific beta coefficients within the models (Pedhazur, 1982). As a precaution against multicollinearity, tolerance tests were conducted using the default value of .10 as the low level for tolerance (Cohen and Cohen, 1983). The means and standard deviations of the variables are reported in Table 4-1. Dummy coding was used for categorical variables to examine the relationship from teleworkers' alternative officing experiences and

employment characteristics to organizational commitment and job satisfaction. This is necessary because both teleworkers' alternative officing experiences and employment characteristics measures include categorical variables. First, the relationships between predictor variables and job satisfaction were tested (see Figure 3.2). After the regression model with job satisfaction was tested, the relationships between predictor variables and organizational commitment (i.e., affective commitment and continuance commitment) were tested (see Figure 3.3). The last regression model was tested to see the relationship between predictor variables and organizational commitment through job satisfaction (see Figure 3.4).

3. Path analyses were used to determine whether job satisfaction has a mediating effect between teleworkers' alternative officing experiences and employment characteristics to organizational commitment.
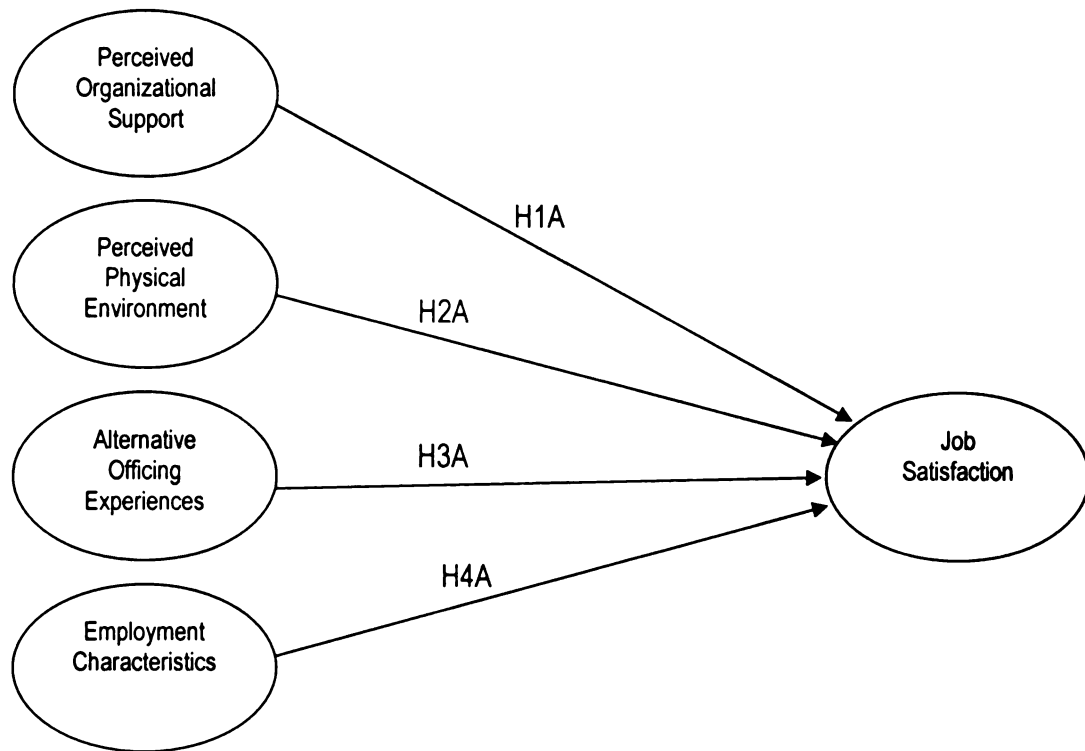
Figure 3-2. The Hypothesized Research Model 1:

The   relationship   between   alternative   officing   and   job   satisfaction

Figure 3-3. The Hypothesized Research Model 2:

The relationship between alternative officing and organizational commitment

(affective organizational commitment)

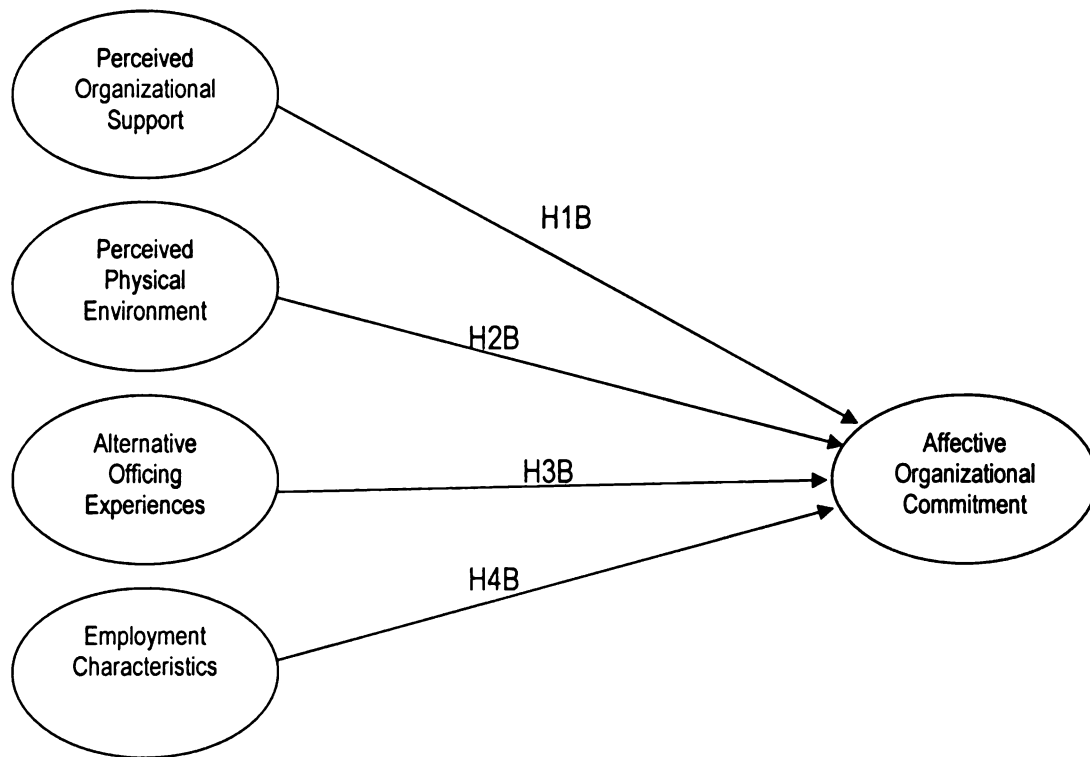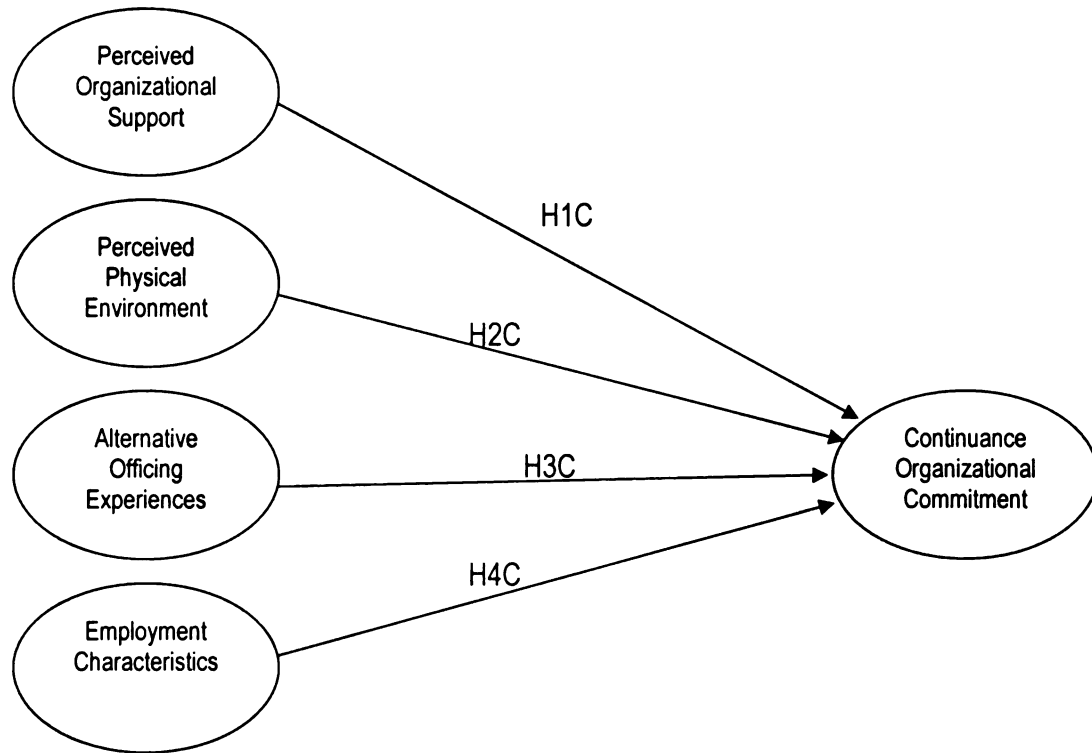*Figure 3-4.* The Hypothesized Research Model 3:

The relationship between alternative officing and organizational commitment

(continuance organizational commitment)
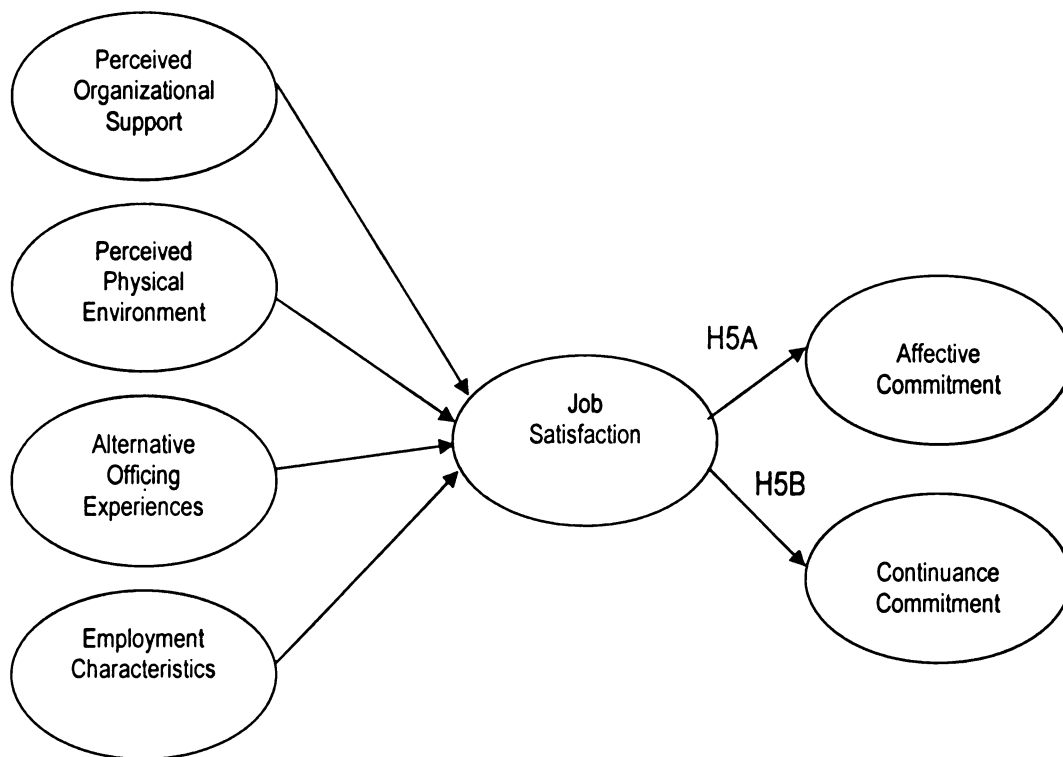
Figure 3-5. The Hypothesized Research Model 4:

The mediating effect of job satisfaction between alternative officing and

organizational commitment (affective commitment and continuance commitment)

CHAPTER 4

RESULTS

This chapter presents the results of the data analyses relevant to this investigation. All analyses were conducted using SPSS 11.5 for Windows. Prior to the statistical analyses, descriptive statistics, including the means and standard deviations, were calculated and reported to examine the data. Demographic information of the subjects were explored and reported also.

After the descriptive statistics, the hypothesis testing process began. First, correlations of all variables were conducted. Zero-order correlations were used to determine the bivariate relationships such as the strength and direction between each independent and dependent variable.

The independent variables that were correlated to any of the three dependent variables were entered into multiple regression analyses to explore the affect of alternative officing on organizational commitment and job satisfaction. For the relationship between alternative officing and organizational commitment, two kinds of organizational commitments were examined. Specifically, organizational commitment was divided into affective commitment and continuance commitment using factor analysis prior to the statistical analyses. In addition, the relationship between the predictor variables and job satisfaction was examined to explore the affect of alternative officing to job satisfaction. Path analyses, using multiple regression equations, were used to examine the direct and indirect effects of the predictor variables upon organizational commitment through job satisfaction.

Descriptive Statistics of all Variables

Descriptive statistics were calculated and reported in Table 4.1 for each independent and dependent variable. The means and standard deviations and the range of the data of all variables were explored.

Table 4-1

Descriptive Statistics for the Independent and Dependent Variables

Variables	Range	M	SD
Affective commitment	1- 5	3.68	.89
Continuance commitment	1- 5	3.27	.96
Job satisfaction	1.17- 4	3.36	.65
Perceived organizational support	1.22- 5	3.78	.79
Perceived physical environment	2.25- 5	4.31	.62
Primary alternative office type	1- 7	1.50	1.39
Having multiple alternative office locations	1- 2	1.27	.45
Voluntary participation in alternative officing	1- 2	1.88	.33
Work hours in alternative office	1- 5	2.85	1.67
Tenure with alternative officing	1- 4	2.44	1.04
Work hours	1- 5	3.79	1.01
Job type	1- 5	2.93	.84
Tenure with job	1- 5	3.08	1.31
Tenure with organization	1- 5	2.76	1.32

Demographic Statistics

Prior to analyzing the data on teleworkers in relation to alternative officing, their demographic data have been examined (see Table 4-2). The demographic information shows that this study's sample consists of more women (59.7%) than men (40.3%). In terms of age, the 41-50 years old category has highest percentage of the participants (29.1%). This study's participants have high educational level showing over 75% of the participants with college graduate or higher level of education. Salary range shows that the group of teleworkers' with $75,001 to $115,000 per year is the largest group of the participants followed by $35,001 to $75,000 (32.6%) category.

Table 4-2

Teleworkers' Demographic Information

Gender	Percentage
Female	59.7
Male	40.3

Age	Percentage
Less than 30 years old	8.1
31 – 40 years old	25.7
41 – 50 years old	29.1
Over 50 years old	26.4

Education level	Percentage
High school graduate	4.1
Some college	17.6
College Graduate	30.4
Post graduate	36.5

Salary	Percentage
$35,000 per year or less	11.6
$35,001 - $75,000 per year	32.6
$75,001 - $115,000 per year	38.8
$115,000 per year or more	17.1

Zero-Order Correlations

Zero-order correlations were used to examine the correlations of all variables. Prior to conducting the data analyses, dummy variables were created (see Cohen and Cohen, 1983) to assign a numeric value for primary alternative office type (other office type = 0; home office = 1) and job type (other job type = 0; professional = 1).

First, the correlations between the independent variables and dependent variables of this study were explored to test hypotheses 1, 2, 3, and 4 (see Figure 3-2, 3-3 and 3-4). The hypotheses1A and 1B were accepted from correlation analyses. The results indicated that perceived organizational support was significantly and positively correlated to both affective organizational commitment (see Table 4.3) and job satisfaction (see Table 4.5) while there was no evidence of correlation between perceived organizational support and continuance commitment. Hence, teleworkers who reported more perceived supports from their organizations reported higher affective organizational commitment and job satisfaction.

Table 4-3

Correlations between the Independent Variables and Affective Commitment

Variables	Pearson correlation
Perceived organizational support	.637***
Perceived physical environment	.067
Primary alternative office type	-.054
Having multiple alternative offices	.046
Voluntary participation in alternative officing	.009
Work hours in alternative office	.143
Tenure with alternative officing	.172*
Work hours	.179*
Job type	.049
Tenure with job	.156
Tenure with organization	.383***

*p < .05; **p < .01

Perceived physical environment was not significantly correlated to either organizational commitment or job satisfaction. Therefore, hypotheses 2A, 2B and 2C were rejected.

Several variables in teleworkers' alternative officing experiences showed significant correlations with the dependent variables of this study. Tenure with alternative officing showed a positive and significant relationship with affective commitment and hypothesis 3A was accepted (see Table 4.3); teleworkers who worked in alternative officing longer showed more affective commitment. Having multiple alternative office locations was negatively and significantly related to continuance commitment and hypothesis 3B was accepted (see Table 4.4); teleworkers with more than one alternative office location reported less continuance commitment to their organizations. Hours spent in alternative office showed a significant and positive correlation with job satisfaction; when teleworkers reported that they spent more time in alternative offices they reported more job satisfaction and hypothesis 3C was accepted (see Table 4.5).

Table 4-4

Correlations between the Independent Variables and Continuance Commitment

Variables	Pearson correlations
Perceived organizational support	.029
Perceived physical environment	.084
Primary alternative office type	-.116
Having multiple alternative offices	-.361***
Voluntary participation in alternative officing	.071
Work hours in alternative office	.070
Tenure with alternative officing	.041
Work hours	.031
Job type	-.056
Tenure with job	.001
Tenure with organization	.061

*$p < .05$; **$p < .01$; ***$p < .001$

Table 4-5

Correlations between the Independent Variables and Job Satisfaction

Variables	Pearson correlation
Perceived organizational support	.636***
Perceived physical environment	.060
Primary alternative office type	.146
Having multiple alternative offices	-.116
Voluntary participation in alternative officing	.055
Work hours in alternative office	.254*
Tenure with alternative officing	.123
Work hours	.066
Job type	.043
Tenure with job	.032
Tenure with organization	.221*

*p < .05; **p < .01

Variables in teleworkers' employment characteristics showed correlations with dependent variables in this study. Working hours per week showed a positive and significant correlation with affective commitment; teleworkers with longer working hours reported more affective commitment with their organizations (see Table 4.3). Tenure with organization was positively and significantly correlated with affective commitment and job satisfaction; the longer teleworkers were with their organizations the more they reported affective commitment and job satisfaction (see Table 4.3 and 4.5). Therefore, hypothesis 4A and 4C were accepted and hypothesis 4B was rejected.

In addition, correlations between dependent variables were examined. The results showed that job satisfaction was positively and significantly correlated with affective commitment; when teleworkers reported more satisfaction with their job they reported more affective commitment (see Table 4.6).

Table 4-6

Correlations among Dependent Variables

Variables	1	2	3
1. Affective commitment	1.00		
2. Continuance commitment	.093	1.00	
3. Job satisfaction	.634***	-.164	1.00

***$p < .001$

Demographic Variables and Other Variables

Although not part of the original hypotheses, additional correlational analyses were conducted to examine whether the demographic variables were significantly related to variables in this study. The significant and/or non significant findings might provide additional insight for future studies and or discussion of the results. The demographic variables that were examined are listed in Table 4-2.

Gender (female=1; male=2) was significantly related to perceived physical environment ($r = -.26$, $p < .01$), voluntary participation with alternative officing ($r = -.17$, $p < .05$), work hours in alternative offices ($r = -.22$, $p < .05$), continuance commitment ($r = -.24$, $p < .01$), and tenure with job ($r = .21$, $p < .05$), indicating that females reported significantly higher perceived physical environment, voluntary participation with alternative officing, hours spent in alternative office and continuance commitment and shorter tenure with job. Also, results on primary alternative office type showed female respondents had a higher likelihood of having a home office as their primary alternative office (1=home office; 2=other types) in comparison to male respondents.

Age was significantly and positively related to tenure with alternative office ($r = .22$, $p < .05$), work hours ($r = .19$, $p < .05$), tenure with job ($r = .32$, $p < .01$) and organization ($r = .43$, $p < .01$), and affective commitment ($r = .27$, $p < .01$). Older teleworkers in this study showed longer tenure with alternative office, work

hours, tenure with job and organization and more affective commitment with their organizations.

The education level was significantly related to continuance commitment ($r = -.21$, $p < .01$) and perceived physical environment ($r = -.20$, $p < .05$). When teleworkers have more education they showed less continuance commitment and less perceived physical environment. Also, Results on the education level showed that more educated teleworkers have more work hours ($r = .22$, $p < .05$) and tend to have professional job type (professional=1; others=2).

The salary level was significantly and positively related to affective commitment ($r = .25$, $p < .01$) and work hours ($r = .42$, $p < .01$). Teleworkers with higher salary showed higher likelihood of having multiple alternative offices ($r = .22$, $p < .05$) and longer tenure with alternative officing ($r = .34$, $p < .01$), job ($r = .35$, $p < .01$) and organization ($r = .36$, $p < .01$).

Multiple Regression Analyses and Path Analyses

The affect of alternative officing to teleworkers' behavioral outcomes were examined with multiple regression analyses. The predictor variables that were significantly related to any of the dependent variables in any of the correlations were entered into the multiple regression analyses. Hence, perceived physical environment, primary alternative office type, voluntary participation with alternative officing, tenure with job and job type were not entered into any of the regression equations. Separate analyses were conducted for each dependent variable.

Consistent with Baron and Kenny (1986), job satisfaction serves as a mediating variable between predictor variables in alternative officing and affective commitment variable when: (a) the predictor variables are significantly related to affective commitment variable when job satisfaction is not in the model; (b) when job satisfaction is added to the model, it is significantly related to affective commitment; and (c) the previously significant relationships between the predictor variables and affective commitment variable are no longer significant. Hence, path analyses using a series of multiple regression equations (as outlined in Cohen & Cohen, 1983) were used to test job satisfaction as a possible mediator (as stated in hypotheses 5A and 5B).

Model 1: Multiple Regression Analysis: Alternative officing to job satisfaction

A multiple regression analysis with job satisfaction as the criterion variable was conducted to examine (1) the contributions of the set of predictor variables (i.e., alternative officing) in explaining the variance in job satisfaction, and (2) the significance level of the beta coefficients within the regression model (Pedhazur, 1982). In the regression analysis, only perceived organizational support was significantly and positively related to job satisfaction (see Table 4.7). Although work hours in alternative officing and tenure with organization were correlated to job satisfaction in bivariate correlations, those variables were no longer significant once entered into the multiple regression analysis. None of the other predictor variables were significantly related to job satisfaction.

Table 4-7

Summary of Multiple Regression Analysis on Job Satisfaction

Predictor Variables	b	SE	ß
Perceived organizational support	.49	.07	.60***
Having multiple alternative offices	.10	.13	.07
Work hours in alternative office	.05	.03	.14
Tenure with alternative office	.07	.06	.11
Work hours	-.01	.06	-.01
Tenure with organization	.04	.04	.08

Multiple R = .67

$R^2 = .45$

Adjusted R^2 = .41

F-Value = 11.40***

Notes: *b*=unstandardized betas; SE=standard error; ß = standardized betas

***$p < .001$

Model 2: Direct model - Alternative officing to affective commitment

A multiple regression analysis with affective commitment as the criterion variable was conducted to examine (1) the contributions of the set of predictor variables (i.e., alternative officing) in explaining the variance in affective commitment, and (2) the significance level of the beta coefficients within the regression model (Pedhazur, 1982). In the regression analysis with affective commitment, perceived organizational support was significantly and positively related to affective commitment (see Table 4.8 and Figure 4.1). In addition, tenure with organization was significantly and positively related to affective commitment. None of the other predictor variables (e.g., having multiple alternative office locations, work hours in alternative officing, work hours and tenure with organization) were significantly related. The predictor variables in the model with alternative officing accounted for 50% of variance in affective commitment (see Table 4.8 and Figure 4.1).

Table 4-8

Summary of Multiple Regression Analysis on Affective Commitment (Without Job

Satisfaction in the model)

Predictor Variables	b	SE	ß
Perceived organizational support	.68	.09	.60***
Having multiple alternative offices	.02	.17	.01
Work hours in alternative office	-.01	.04	-.01
Tenure with alternative office	.08	.07	.10
Work hours	.08	.07	.09
Tenure with organization	.15	.06	.23**

Multiple R = .71

R^2 = .50

Adjusted R^2 = .47

F-Value = 14.41***

Notes: *b*=unstandardized betas; SE=standard error; ß = standardized betas

**p < .01; ***p < .001

Figure 4-1 shows five ovals on the left labeled "Perceived Organizational Support", "Other Alternative Office", "Work Hours in Alternative Office", "Work Hours", and "Tenure With The Organization". An oval on the right is labeled "Affective Commitment". An arrow from Perceived Organizational Support to Affective Commitment is labeled $\beta=.60$***. An arrow from Tenure With The Organization to Affective Commitment is labeled $\beta=.23$**.

$R^2 = .50, F = 14.14$***

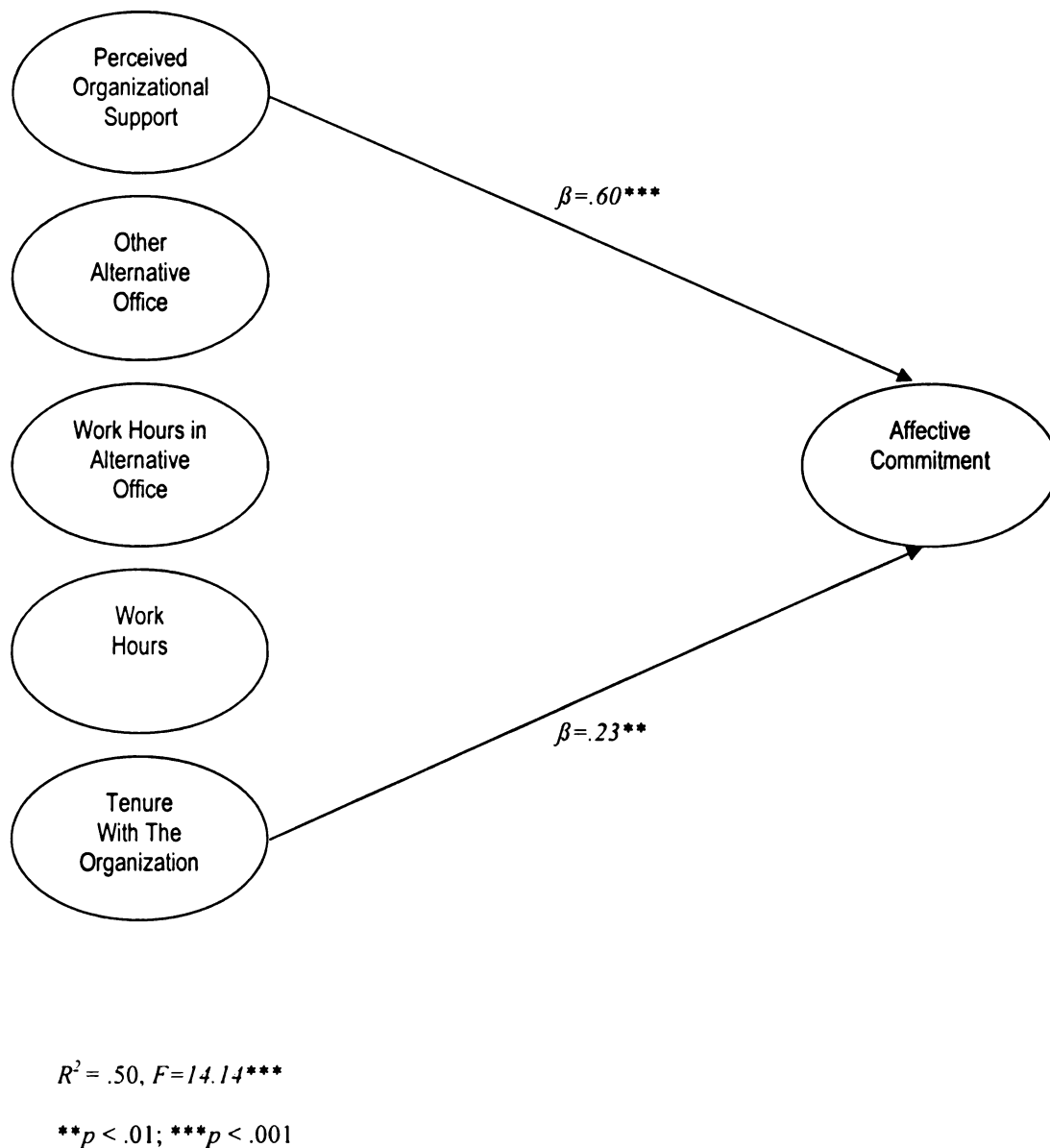**$p < .01$; ***$p < .001$

Figure 4-1. The Regression Model on Affective Commitment

(without job satisfaction in the model)

Model 3: Indirect model –

Alternative officing to affective commitment through job satisfaction

The third research model included job satisfaction as a potential mediating variable between predictor variables in alternative officing and affective commitment (see Table 4.9 and Figure 4.2). Results of the path analyses yielded one significant path coefficient in relation to affective commitment (see Tables 4.9 and Figure 4.2). Therefore, hypothesis 5A was accepted. Specifically, tenure with organization, perceived organizational support, and job satisfaction showed direct positive path coefficients to affective commitment. Perceived organizational support also showed an indirect relationship to affective commitment through job satisfaction. However, a true mediating relationship was not indicated since perceived organizational support was still significantly related to affective commitment when job satisfaction was included in the model (see Baron and Kenney, 1986). Yet, a partial mediating effect was found since the beta and the significance level from perceived organizational support to affective commitment were smaller in the final model (with job satisfaction) than in the first model (without job satisfaction).

Table 4-9

Summary of Multiple Regression Analysis on Affective Commitment (with Job Satisfaction in the Model)

Predictor Variables	b	SE	ß
Perceived organizational support	.45	.11	.40***
Having multiple alternative offices	-.02	.16	-.01
Work hours in alternative office	-.03	.04	-.05
Tenure with alternative officing	.05	.07	-.06
Work hours	.09	.07	.10
Tenure with organization	.14	.54	.20**
Job satisfaction	.46	.13	.33***

Multiple R = .75

R^2 = .51

Adjusted R^2 = .56

F-Value = 15.33***

Notes: *b*=unstandardized betas; SE=standard error; ß = standardized betas
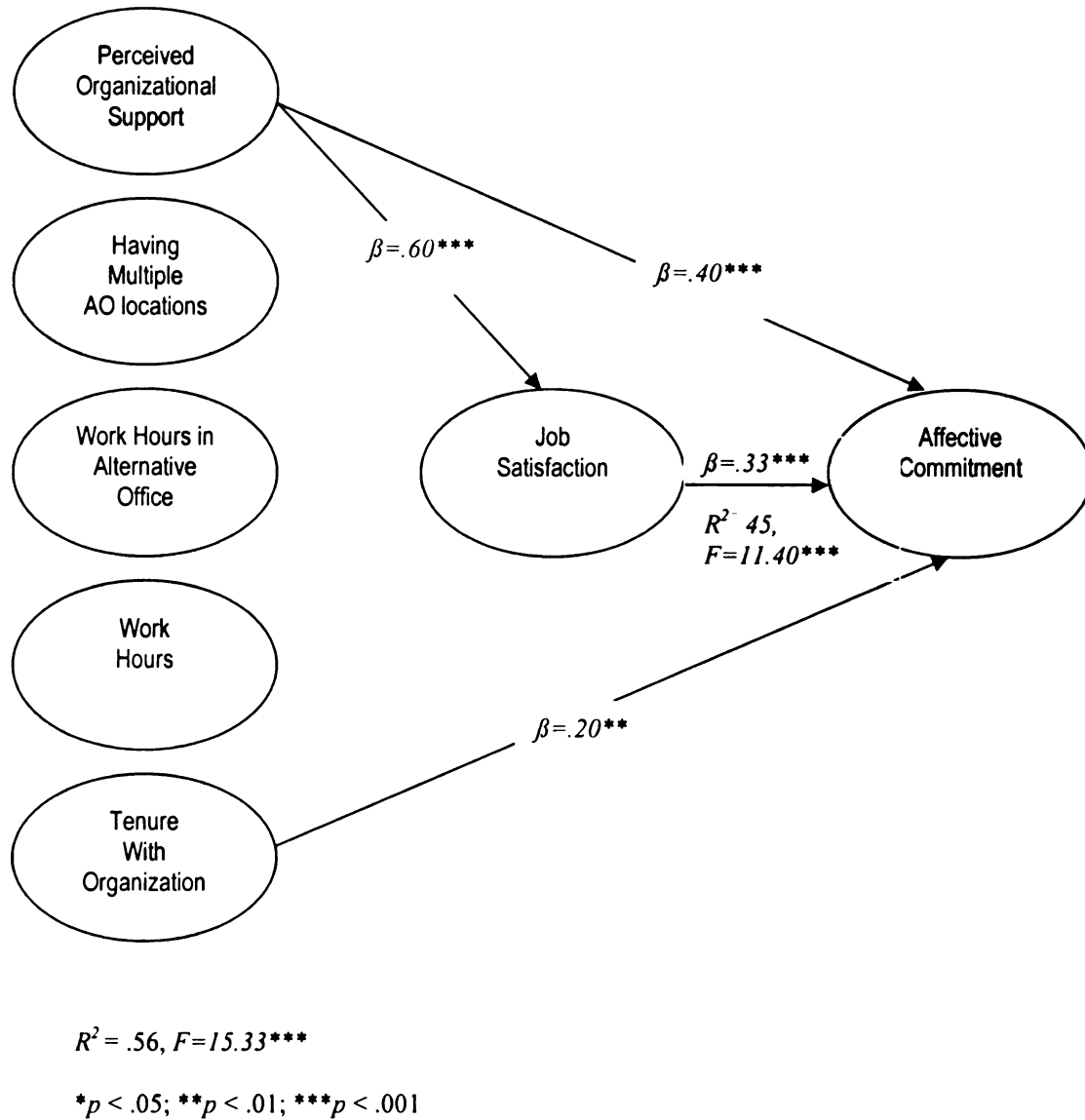
*$p < .05$; **$p < .01$; ***$p < .001$

Figure 4-2. The Regression Model on Affective Commitment

(with job satisfaction in the model)

As can be seen in Table 4-9, the results indicated that teleworkers' tenure

with their organizations affected their affective commitment to their organizations

positively. The results also showed that perceived organizational support was significantly related to affective commitment directly as well as through job satisfaction. When teleworkers perceived more supports from their organizations it affected their job satisfaction and affective commitment positively. In addition, results showed that some teleworkers reported that once they felt more job satisfaction they reported increased affective commitment.

The predictor variables in model 3 accounted for 56% of the variance in affective commitment (see Table 4.9 and Figure 4.2). In addition, the predictor variables accounted for 45% of job satisfaction (see Table 4.7).

Model 4: Direct model - Alternative officing to continuance commitment

A multiple regression analysis with continuance commitment as the criterion variable was conducted to examine (1) the contributions of the set of predictor variables (i.e., alternative officing) in explaining the variance in continuance commitment, and (2) the significance level of the beta coefficients within the regression model (Pedhazur, 1982). In the regression analysis with continuance commitment, only one predictor variable (having multiple alternative office locations) was significantly and negatively related to continuance commitment (see Table 4.10 and Figure 4.3). The other predictor variables (e.g., perceived organizational support, work hours, and tenure with organization) were not significantly related to continuance commitment in this regression analysis. The predictor variables in the model accounted for 16% of variance in continuance commitment. (see Table 4.10 and Figure 4.3).

Table 4-10

Summary of Multiple Regression Analysis on Continuance Commitment (without Job Satisfaction in the model)

Predictor Variables	b	SE	ß
Perceived organizational support	.06	.13	.05
Having multiple alternative offices	-.87	.23	-.40***
Work hours in alternative office	-.03	.06	-.05
Tenure with alternative office	.10	.10	.10
Work hours	.06	.10	.07
Tenure with organization	-.01	.08	-.01

Multiple R = .39

R^2 = .16

Adjusted R^2 = .10

F-Value = 2.47*

Notes: *b*=unstandardized betas; SE=standard error; *ß* = standardized betas

*$p < .05$; **$p < .01$; ***$p < .001$

Perceived
Organizational
Support

Work Hours in
Alternative
Office

Work
Hours

Tenure
With
Organization

Having
Multiple
AO locations

$\beta = -.41$***

Continuance
commitment
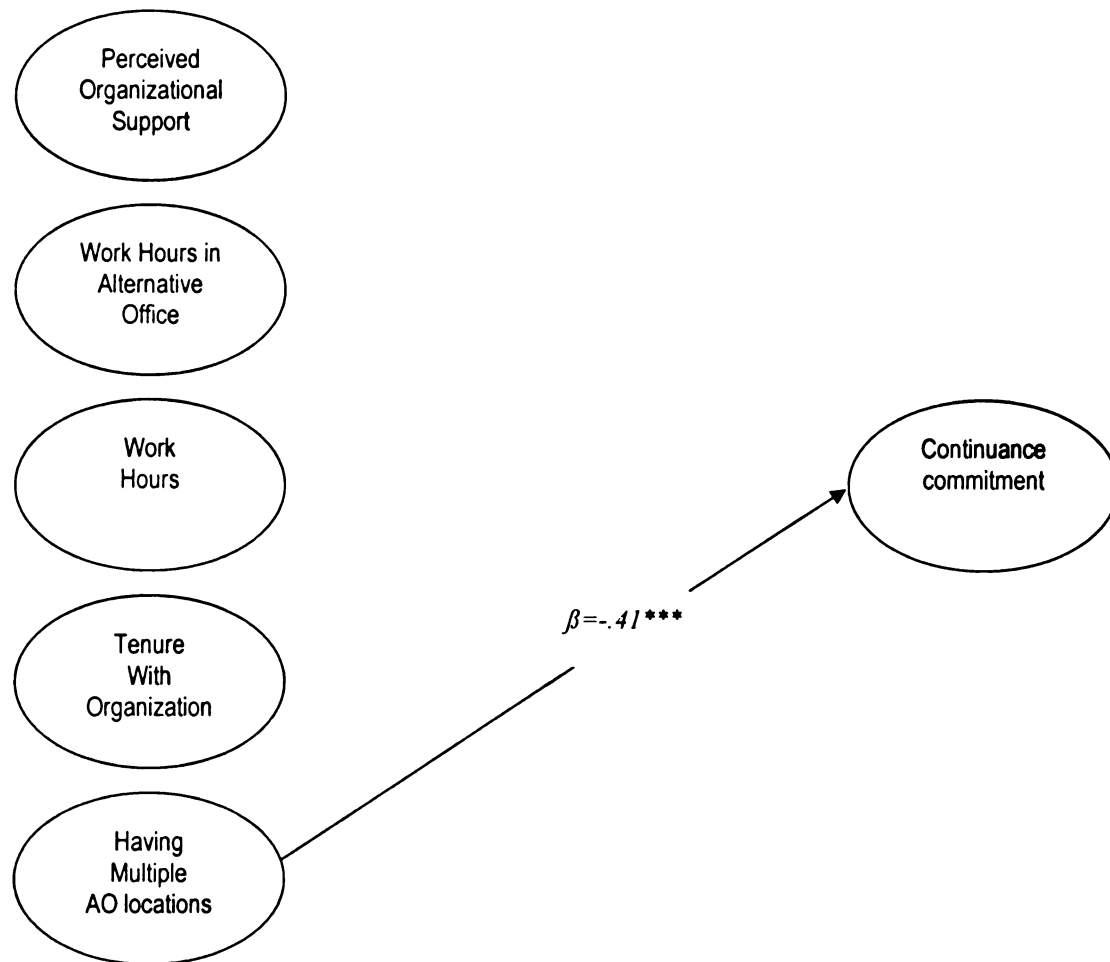
$R^2 = .16, F = 3.92$**

*$p < .05$; **$p < .01$; ***$p < .001$

Figure 4-3. The Regression Model on Continuance Commitment

(without job satisfaction in the model)

Model 5: Indirect model –

Alternative officing to continuance commitment through job satisfaction

Next, a path analyses was conducted to examine the indirect model of continuance commitment with job satisfaction as a potential mediating variable between alternative officing and continuance commitment (see Table 4.11 and Figure 4.4). The results of the path analyses yielded two significant path coefficient in relation to continuance commitment. Specifically, having multiple alternative office locations showed a direct negative path coefficient to continuance commitment (see Tables 4.11 and Figure 4.4). In addition, job satisfaction showed a significant and negative path to continuance commitment. Therefore, hypothesis 5B was accepted.

The results indicated that teleworkers who have two or more alternative office locations reported less continuance commitment to their organizations. The results with perceived organizational support indicated that when teleworkers perceived more supports from their organizations they reported increased job satisfaction and when teleworkers reported more job satisfaction they reported decreased continuance commitment. The predictor variables in model 5 with job satisfaction accounted for 21% of the variance in continuance commitment (see Table 4.11 and Figure 4.4). In addition, the predictor variables accounted for 45% of job satisfaction (see Table 4.7).

Table 4-11

Summary of Multiple Regression Analysis on Continuance Commitment (with Job Satisfaction in the model)

Predictor Variables	b	SE	ß
Perceived organizational support	.30	.16	.24
Having multiple alternative offices	-.82	.23	-.38***
Work hours in alternative office	-.01	.06	-.01
Tenure with alternative office	-.13	.10	.14
Work hours	-.06	.10	.07
Tenure with organization	.01	.08	.02
Job satisfaction	-.47	.20	-.32*

Multiple R = .45

R^2 = .21

Adjusted R^2 = .14

F-Value = 3.08**

Notes: *b*=unstandardized betas; SE=standard error; ß = standardized betas

*$p < .05$; **$p < .01$; ***$p < .001$

$\beta=.60$***

$\beta=-.32$*
R^2 .45, $F=11.40$***

$\beta=-.38$***
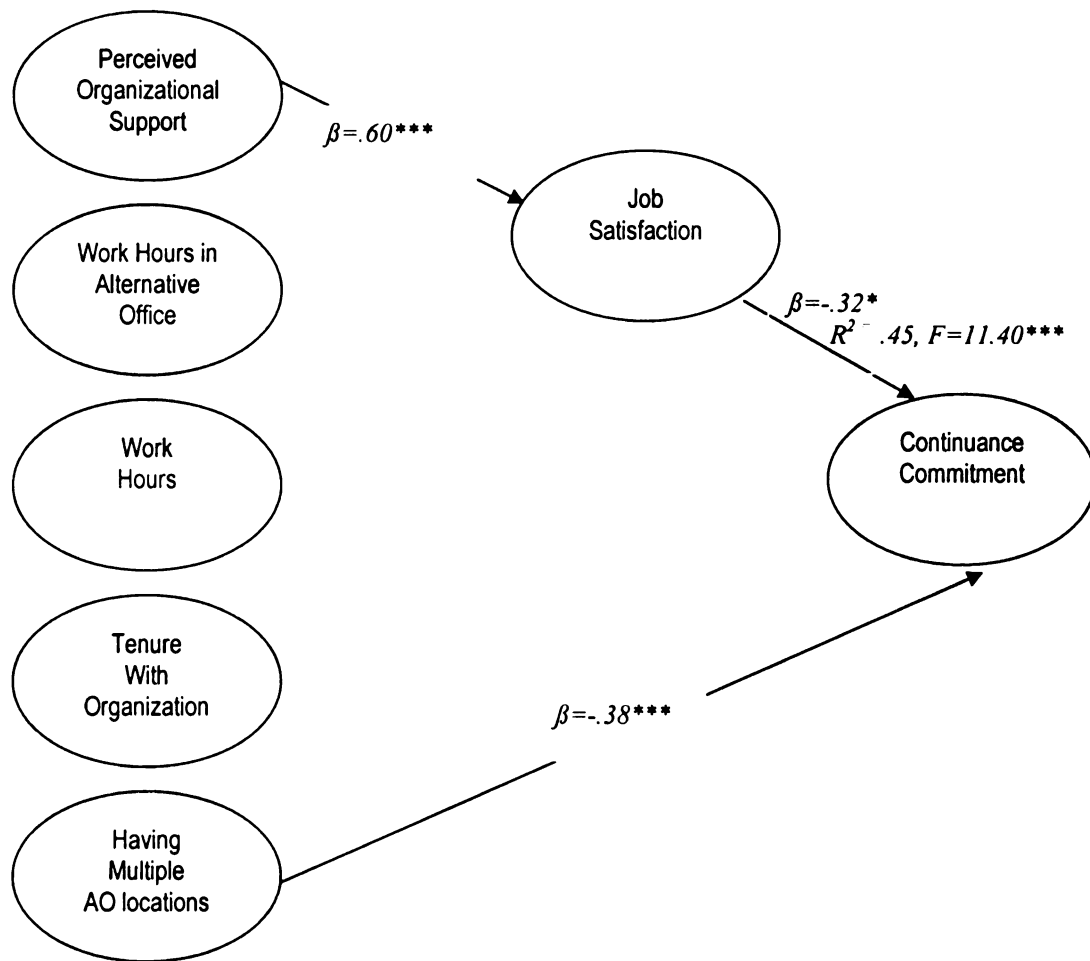
$R^2 = .21$, $F=4.59$***

*$p < .05$; **$p < .01$; ***$p < .001$

Figure 4-4. The Regression Model on Continuance Commitment

(with job satisfaction in the model)

Job Satisfaction as a Mediating Variable

Limited support was found for the inclusion of job satisfaction as a mediating variable between teleworkers' perceived organizational support in alternative officing and teleworkers' organizational commitment. In Model 2, variations in perceived organizational support and tenure with organization significantly accounted for variations in affective commitment to organization. In Model 3, job satisfaction was identified as a partial mediator in the relation between perceived organizational support and affective commitment. In other words, significant standardized beta coefficients were found directly between perceived organizational support and affective organizational commitment in the direct model (see figure 4-1). In addition, significant standardized beta coefficients were found between perceived organizational support and job satisfaction as well as job satisfaction and affective organizational commitment in the indirect model (see Figure 4-2.). After inclusion of job satisfaction, the significant standardized beta coefficient was decreased from .60 to .40 with the same significance ($p<.001$) in the relation between perceived organizational support and affective commitment. In addition, the significant standardized beta coefficient between tenure with organization and affective commitment was decreased from .23 in Model 2 to .20 in Model 3 with the significance decreasing from $p < .001$ in Model 2 to $p < .01$ in Model 3 after the inclusion of job satisfaction.

In Model 4, only the variable of having multiple alternative office locations was related to continuance commitment. In Model 5, after the inclusion of job

satisfaction in the relation between tenure with organization and continuance commitment, the standardized beta coefficient was slightly decreased from -.41 to -.38. In addition, in Model 5 after the inclusion of job satisfaction, perceived organizational support showed significant and positive relationship with continuance commitment through job satisfaction. Different from the regression model of affective commitment, perceived organizational commitment did not show direct effect on continuance commitment and affected it only through job satisfaction.

CHAPTER 5

DISCUSSION, IMPLICATIONS, AND FUTURE DIRECTIONS

The implementation of alternative officing has increased steadily since it was first put into practice in the 1970s, and this increase is expected to continue (JALA International, INC., 2003). The fast and wide spread of alternative officing implementation has been expedited by technological advances and economic and social changes (Whiting, 1996).

It is estimated that 10% of the U.S. workforces are teleworkers who work in alternative offices (Van Horn and Storen, 2000). Studies on alternative officing suggest that alternative officing benefits employees and their organizations with high morale, productivity, flexibility and low turnover rate (Kurland and Bailey, 1999; O'Connell, 1995; Whiting, 1997; Gittleman et al., 1998; Richards, 1996; Lovelace, 2000; Van Horn and Storen, 2000; Canadian Telework Association, 2001; Wilkes et al., 1994; Cascio, 2000; Hill et al., 1998; Venkatesh and Speier, 2000).

In addition to the benefits, studies suggested that there are challenges to implement alternative officing including management resistance to support alternative officing and employees' resistance to change (Cascio, 2000; Joice, 2000; Ellison, 1999; Davenport and Pearson, 1998; Frogatt, 1998; Wilkes et al., 1994). Also, Bresnahan (2003) reports that not all organizations who implement alternative officing are successful. Hence, it is important to find information on which factors in alternative officing are the most influential in affecting

teleworkers' behavioral outcomes such as job satisfaction and organizational commitment. There is also a need to have information on alternative officing based on empirical research because the majority of evidence supporting this belief is anecdotal.

Alternative officing may yield an indirect relationship to affective commitment and continuance commitment through job satisfaction. Further, because anecdotal research indicated that alternative officing affects job satisfaction as well as organizational commitment, it is important to also consider how alternative officing directly relates to affective commitment and continuance commitment.

Discussion

The purpose of this research was to empirically examine the relationship between alternative officing characteristics and teleworkers' organizational attitudes of organizational commitment and job satisfaction in an effort to test the anecdotal assumption that such a relationship exists. To achieve this purpose, this study examined alternative officing characteristics such as teleworkers' perceptions regarding organizational support, their perceptions of their physical environment (primary alternative office), their experiences with alternative officing, and their employment characteristics and their effect on teleworkers' behavioral outcomes.

More specifically, the study explored

(1)   How perceived organizational support, perceived physical environment, teleworkers' alternative officing experience, and teleworkers' employment characteristics affect teleworkers' job satisfaction;

(2)   How perceived organizational support, perceived physical environment, teleworkers' alternative officing experience, and teleworkers' employment characteristics affect teleworkers' affective and continuance commitment ;

(3)   Whether job satisfaction has a mediating effect on the relationship between predictors in alternative officing and teleworkers' affective commitment and continuance commitment.

This study tested the hypotheses to explore the research purposes. The findings related to each hypothesis and its explanations are discussed here. Also, discussions from related studies are presented.

The relationship between perceived organizational support and teleworkers' organizational commitment and job satisfaction

The results showed that perceived organizational support is a significant predictor explaining affective commitment, continuance commitment, and job satisfaction (Hypothesis 1). The findings suggested that teleworkers' perceived organizational support was a significant predictor of job satisfaction. Similar findings were reported in a study by Allen, et al. (2003) on department store salespeople and insurance agents. It was suggested from previous research that

organizational support is one of the most important factors for successful alternative officing (Gittleman et al., 1998; Bergsman, 1995; Frogatt, 1998). Although the organizations recognize the importance of organizational level support for the successful implementation of alternative officing, getting managerial support for teleworkers is a challenge in most organizations (Davenport and Pearlson, 1998; Ellison, 1999; Frogatt, 1998). Due to these reasons, teleworkers may consider the opportunity to be in alternative officing as their organizations' efforts to support them, and this perception will make them feel satisfied with their job because they may assume that the benefit comes from having the job.

When employees perceive more organizational support, they may feel a stronger connection to their jobs. Thus, it was not surprising that the current results showed that teleworkers' perceived organizational support was significantly and positively related to their affective commitment. This result from teleworkers group is consistent with prior research that suggested organizational support is positively related to affective organizational commitment (Eisenberger et al., 1990; Wayne, Shore & Liden, 1997; Casper et al., 2002).

The mediating effect of job satisfaction from predictor variables to affective commitment

The results from the regression models support the notion that job satisfaction is partially mediating the relationship between perceived organizational support and affective organizational commitment (Hypothesis 5).

More specifically, the findings from this study showed that when teleworkers perceive organizational support more they will feel more emotionally attached to their organizations. In addition, sometimes when they feel more organizational support it increases their job satisfaction and when they are more satisfied with their job they feel more affective commitment. Yousef (2002) showed similar results from his research on the mediating effect of job satisfaction from job stressors to affective organizational commitment. Several studies also suggested the role of job satisfaction as a predictor of organizational commitment (Brown and Peterson, 1993; Williams and Hazer, 1986; Good et al., 1996; Yousef, 2002).

In the regression model on perceived organizational support including job satisfaction, the perceived organizational support showed a direct and positive effect on affective commitment. This direct effect indicates that job satisfaction does not completely mediate the relationship between perceived organizational support and affective organizational commitment. In other words, teleworkers' greater perceptions of organizational support resulted in their stronger affective attachment to their organizations. In addition, teleworkers who perceived more supports from their organizations also felt more satisfaction with their jobs, and this satisfaction eventually leads to loyalty and attachment to their organizations.

One explanation is that when teleworkers are offered the flexible option for where they work (alternative office location), they may recognize their organizations' care about their well-being and feel a strong sense of belonging and attachment to their organizations. Sometimes when they perceive their

organizations care about them, they feel satisfied with their organizations, and it leads to proud and personal attachments to their organizations.

The results showed that perceived organizational support showed significant and negative affect to continuance commitment through job satisfaction. These results indicate that when teleworkers perceive more supports from their organizations they feel more satisfied with their jobs, and it reduces teleworkers' feeling of entrapment to their organizations (Shore and Tetrick, 1991). The results on this indirect effect of job satisfaction from a predictor variable to continuance organizational commitment were also consistent with Yousef (2002). His study found that job satisfaction was mediating the negative affect from predictor variables to continuance commitment.

In summary, teleworkers often perceive alternative officing opportunity as support and care from their organizations, and this perception may come from the flexibility that alternative officing can offer. This perceived support has the potential to make the teleworkers feel satisfied with their jobs. Satisfied teleworkers stay with their organizations because they are satisfied and attached, not necessarily because they do not have any other option when they leave the job. Also, teleworkers who perceive supports from their organizations, but do not feel satisfied with their jobs, are more likely to feel obligated because they received benefits and supports from their organizations in terms of flexible options for the physical environment in which they work. This obligation may

make teleworkers feel committed and entrapped, and hence, can also lead to commitment.

The relationship between perceived physical environment and teleworkers' organizational commitment and job satisfaction

Results from this research showed that teleworkers' perceptions with physical environment (their primary alternative office) were unrelated to their affective commitment, continuance commitment, and job satisfaction (supported Hypothesis 2). Even though the results did not show any evidence of relationship between teleworkers' perceived physical environment and organizational commitment and job satisfaction, there was an interesting finding. Teleworkers' perception with their physical environment was very positive, and the deviation was very narrow (see Table 4-1), which means that the majority of the respondents reported their physical environment positively.

One explanation may be that since the majority of the respondents have home office as their primary alternative office, they have them more control over their office. The ability to control may make them perceive their alternative office's physical environment very positively. Another explanation may be suggested from the finding that the distribution of teleworkers' work time in alternative office showed two extremes. More specifically, teleworkers in this study spend little time in alternative office (more than 30% of teleworkers spend less than 20% of work time in their alternative offices) or most of their time in their alternative offices (30% of teleworkers spend more than 80% of their work time in their alternative offices). Thus, some of this study's respondents may not

have much concern about their alternative office's physical environment because they do not stay there long. Conversely, many of the teleworkers might have adjusted their physical environment (alternative office) already for their own needs. An alternative explanation may be that they have their alternative office as an extra location, and having an alternative option for their physical working environment may make them report positively. A final explanation may be that the workers merely perceive the condition of their alternative office as attributable to themselves rather than the organization, or merely a cost of having the associated freedom of the alternative office.

Even though the results showed that no independent variable had a relation with perceived physical environment two demographic variables including gender and education showed significant relationship with perceived physical environment. Females and the respondents with less education reported higher perceived physical environment.

The relationship between alternative officing experiences and teleworkers' organizational commitment and job satisfaction

This research project hypothesized that each aspect of teleworkers' alternative officing experiences is significantly related to organizational commitment and job satisfaction (hypothesis 3). In fact, in this investigation, having multiple alternative offices was unrelated to affective commitment showing no emotional attachment to their organizations. However, it was negatively related to continuance commitment. One explanation is that having

more than one alternative office locations reduces the feeling of entrapment with their organizations (continuance commitment) because it gave them confidence with themselves. On the other hand, it did not affect teleworkers' emotional attachment to their organizations (affective commitment).

This result is not consistent with Hughes (1994) who warned that the addition of too many alternative office locations decreases efficiency. As a matter of fact, in this study, having multiple alternative office locations did not have an impact on teleworkers' job satisfaction or affective organizational commitment. Teleworkers who have multiple alternative office locations may feel more empowered and perceive trust from their organizations. This confidence may reduce their feeling of entrapment with their organizations. In addition, the relationship between salary and having multiple alternative office location showed positive3 correlation. This explains that teleworkers who have multiple alternative offices are more likely to have higher salary.

In addition, work hours in alternative offices were positively related to job satisfaction in its correlation. It indicates that the longer teleworkers work in alternative offices the more they are satisfied with their jobs. It is explained that when teleworkers work more in their alternative offices they may experience more flexibility and feel satisfied with their jobs. It is also possible that more job satisfaction predicts teleworkers working longer hours in alternative offices. Hence, these two variables may have a reciprocal effect. Also, female teleworkers showed longer work hours in alternative offices. Considering that this study has more female than male respondents, female teleworkers who work

more hours in alternative offices felt satisfied with their job due to the opportunity that they can work from alternative offices.

Primary alternative office type was not found to be related to affective commitment, continuance commitment and job satisfaction. It is possible that even though it is important to determine the right alternative office type before organizations implement alternative officing (Hawkins, 1999; Hughes, 1994; Paret, 2001) once they are in alternative officing or in the right type of alternative office, the primary alternative office type does not affect organizational commitment and job satisfaction. Although this study did not show any evidence for the relationship between primary alternative office type and the criterion variables, demographic data analyses showed that female teleworkers had more likelihood to have home office as their primary alternative office.

The findings did not show any evidence for the relationship between voluntary participation in alternative officing and teleworkers' behavioral outcomes. It is possible that the statistical analysis did not show any relationship because the majority of the respondents in this study voluntarily participated in alternative officing (90% of respondents participated alternative officing voluntarily).

Tenure with alternative officing was found to be positively related to affective organizational commitment. It indicates that when the experience teleworkers have with alternative officing is longer the more they have affective attachment to their organizations. It may be because the longer teleworkers work in alternative officing, the more they may feel that their organizations support and

trust them due to the flexibility and autonomy they could have in alternative offices. The results showed it was more likely that teleworkers who are older and have higher salary have longer tenure with alternative officing.

The relationship between employment characteristics and teleworkers' organizational commitment and job satisfaction

This research hypothesized that teleworkers' employment characteristics such as work hours, job type, tenure with job and organization would be significant predictors of organizational commitment and job satisfaction (hypothesis 4). Support for the hypotheses was found for work hours and tenure with organization.

Work hours were positively and significantly related to affective organizational commitment. Findings on work hours indicated that teleworkers who work more hours feel more committed to their organizations. Work hours in this study's respondents were relatively long. Fifty percent of respondents worked between 40 hours and 50 hours a week, and almost 20% of respondents worked more than 50 hours per week. In addition, results showed that older and more educated teleworkers with higher salary had more work hours and older teleworkers with higher salary had more likelihood to have more affective commitment with their organizations.

The finding is consistent with MacMorrow (1991) and Richards (1996) who suggested that teleworkers spent more time at work. The result is explained that when teleworkers work more for their organizations they feel a stronger sense of belonging to their organizations and their organizations become more personally

meaningful to them because of the time they spent for their organizations. It is also likely that more organizational commitment leads to working more hours.

Job types did not show any relationship with criterion variables in this study. In this study, professional job type had highest percentage of 55.4% followed by managerial job type (17.6%). It indicates professional and managerial teleworkers are major job types in this study. Only educational level was related to job type. More educated teleworkers had more likelihood to have professional job type.

Tenure with organization was positively and significantly related to both of affective commitment and job satisfaction. In other words, the longer teleworkers worked in their organizations, the more they felt attached to their organizations and satisfied with their jobs. It may be because teleworkers who worked at their organizations for longer time stayed with their organizations because they are satisfied with their jobs and attached with their organizations. In addition, older teleworkers with higher salary showed longer tenure with organizations and more affective commitment with their organizations.

Tenure with job did not show any evidence for the relationship with any of criterion variables. However, demographic analysis showed that male teleworkers who are older and have higher salary had longer tenure with their job.

Limitations of Study

Although the results of this study provide additional information in understanding the relationship between alternative officing factors and

teleworkers' behavioral outcomes, several limitations of the study are noted. First, a targeted sample of teleworkers from the Internet survey is not necessarily representative of all teleworkers. Hence, the findings obtained are clearly preliminary and need replication –especially with larger samples from a more diverse setting in terms of different industrial types, alternative officing types, and geographic locations. In addition, a different method could be used to collect data from more diverse samples such as mail surveys, interviews, or telephone surveys to reduce bias due to limitations from the Internet survey method that did not include teleworkers who chose not to participate in an electronic survey.

Next, this study uses teleworkers' self-reports to measure both the independent and dependent variables which increases the risk of shared-method variance. Hence, future studies may want to consider using multiple sources for data collection (e.g., company records of job tenure, or employer reports of organizations support). Also, the use of a cross-sectional design limits assertions of causality between the independent and dependent variables, hence, longitudinal studies are recommended.

Managerial Implications

Despite the limitations, professionals interested in promoting teleworkers' organizational commitment and job satisfaction are encouraged to consider the following suggestions emerging from this study. First, alternative officing can offer many benefits for organizations, employees, and the society. Previous literature has suggested that cost savings and increased effectiveness are

benefits for the organizations who allow teleworking from alternative offices. These benefits come from increased flexibility by the teleworkers for organizations that allow them to control their schedule and work environment. The benefits can be increased by understanding the teleworkers' behavior in alternative officing.

This research examined which aspects affect the teleworkers' behavioral outcomes. Organizational support is an important factor for a successful alternative officing. However, it is considered a challenge in alternative officing to get organizational level support. This study demonstrated that when teleworkers perceive more organizational support it increases their job satisfaction. It is also important for organizations to know that satisfied teleworkers have greater attachment to their organizations. Thus, organizations need to be aware of teleworkers' needs and support them.

In addition, this study demonstrates that when teleworkers perceive that their organizations support them, they feel committed and want to stay with their organizations, not because they do not have any other option but because they feel emotionally attached to their organizations. Organizational functions such as facilities management, human resources, and information technology need to incorporate support for teleworkers because those three functions are the most relevant departments in alternative officing.

Teleworkers who worked in alternative officing situations for a shorter period of time felt less emotionally committed to their organizations. Thus, organizations should have a training program that focuses specifically on new

teleworkers' own needs. Facilities management, information technology, and human resources departments need to have training programs to serve teleworkers so they can adjust to alternative officing more effectively.

Teleworkers who worked for their organizations for a longer period of time felt more committed to their organizations and more satisfied with their jobs. It is important for organizations to retain those teleworkers with the long tenure with organizations because they are more committed and satisfied employees and should have much more knowledge of their work also.

Future Research Directions

The implications of this study can contribute to academic researchers as well as business managers. There are several directions future research might take. The first direction would be to repeat this study with a larger number of employed teleworkers. This study's sample did not have diversity in terms of primary alternative officing types. The larger sample might have enough subjects to examine differences between various alternative officing types. Also, various industrial types and geographic locations can be explored and analyzed with a larger sample.

The Internet survey in this study might have excluded some teleworkers who are reluctant to participate with an electronic survey method. Hence, future research should be conducted with different data collection methods to compare and contrast the findings. This study found that tenure with organizations and alternative officing affect teleworkers' behavioral outcomes including

organizational commitment and job satisfaction. Thus, comparing each teleworker's organizational commitment and job satisfaction over different time periods would provide important information for professionals and researchers. Hence, longitudinal research studies are recommended.

This study collected data based on teleworkers' self-reports only. Future research may need to use reports of teleworkers' managers to evaluate teleworkers' commitment to their organizations so as to have various viewpoints on teleworkers' behavioral outcomes. Also, company records could be used to examine some of the predictor variables (e.g., tenure).

This study used five-point Likert scale to measure teleworkers' perceived physical environment. The data from the measurement scale did not much of variance. Thus, Likert scale with more points such as seven-point scale may be more effective to collect more variations.

Teleworkers in this study showed that their perceived organizational support significantly related to their organizational commitment and job satisfaction. Future research need to concentrate on each support function in organizations related to alternative officing including facility management, information technology, and human resources to find out which function is more important to teleworkers' organizational commitment and job satisfaction. This type of study would provide important information on how to spend the organizations' resources effectively.

Because selected demographic variables were related to job satisfaction, affective organizational commitment, continuance organizational commitment,

and perceived physical environment, future studies may want to consider using age, gender, salary, and education level as possible moderating variables. For example, future studies might want to examine whether gender and education level moderate the relationship between perceived physical environment and job satisfaction, affective organizational commitment, and/or continuance organizational commitment.

In addition, it is recommended that future research explore new variables such as teleworkers' turnover rate and absenteeism in relation to organizational commitment.

Conclusion

In conclusion, it is clear that teleworkers' perceived organizational support plays an important role in the commitment process, helping to explain how teleworkers' perceived organizational support influence job satisfaction and eventually, affective commitment and continuance commitment. Also, the results indicated that teleworkers' tenure with alternative officing and their work hours were positively related to affective commitment. Having multiple alternative office locations was negatively related to continuance commitment. Tenure with organizations was positively related to affective commitment and job satisfaction.

The results not only contribute to understanding of the organizational commitment process based on the empirical study but also provide practical implications for managers. Future research designed to address the limitations of

this study should provide even greater understanding of the organizational commitment.

APPENDICES

APPENDIX A

CONSENT FORM

Organizational Commitment and Job Satisfaction: The effect of alternative officing strategies on teleworkers' organizational behavior

This study focuses only on teleworkers who work for organizations or companies, not on self-employed teleworkers.

Dear Employed Teleworkers:

This survey invites employed teleworkers who work one or more days per week in an alternative office. Alternative offices include home office, hoteling, satellite office, telework center, shared office, and free address. This questionnaire is designed to determine the impact of alternative officing on your organizational commitment and job satisfaction.

If this questionnaire is to be useful, it is important that you answer each question frankly and honestly. There are no right or wrong answers to these questions. I am interested in what you think and feel about your present situation within your present organization.

Your participation is entirely voluntary and you may discontinue participating at any time by closing the survey window. If you do not want to answer certain questions, you may leave the response section blank. Your participation involves no potential risks. Your answers to these questions are completely confidential. All completed questionnaires will be received by the Human Environment & Design Department at Michigan State University for analysis and safekeeping. Your privacy will be protected to the maximum extent allowable by law.

It will take approximately 20 minutes to complete the survey. You will indicate your voluntary agreement to participate by completing and clicking on the submit button. One person will be drawn from among the respondents who completed surveys and awarded $100.00 after the data collection is done. Please type your email address after you finish the survey only if you want to enter for the draw.

If you have any questions or concerns that may be raised by participating in the study, please contact the investigator (Seunghae Lee, 2945 Magnolia Bend, Charlottesville, Virginia, 22911, 434-295-3340, and leeseun3@msu.edu). If you have questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact – anonymously, if you wish – Ashir Kumar, M.D., Chair of the University Committee on Research Involving Human Subjects (UCRIHS) by phone: (517) 355-2180, fax: (517) 432-4503, e-mail: ucrihs@msu.edu, or regular mail: 202 Olds Hall, East Lansing, MI 48824.

Thank you in advance for your cooperation and assistance. I hope to provide valuable information to organizations who implement alternative officing, thus enabling them to determine the effectiveness of alternative officing strategies and to make improvements to them.

Sincerely,

Seunghae Lee
Doctoral Candidate
Michigan State University
Tel: 434-295-3340   Email: leeseun3@msu.edu

APPENDIX B

QUESTIONNAIRE

How many hours do you USUALLY work per week?

_____ Less than 20 hours per week

_____ 20 hours to 30 hours per week

_____ 31 hours to 40 hours per week

_____ 41 hours to 50 hours per week

_____ Over 50 hours per week

Where do you USUALLY work (other than a traditional office)?

_____ Home office (an office at home)

_____ Hoteling   (a specific workspace reserved in advance in corporate location)

_____ Satellite office (an office away from primary corporate locations and outside of homes)

_____ Telework center (an office leased by several companies)

_____ Shared office (a single full-functioned work station or office assigned by 2 or more employees at differently scheduled time in corporate location)

_____ Free address office (an unassigned individual workstation or office on first-come first-served basis in corporate location)

_____ Other

When you started to work in this alternative office, was your decision to work in an alternative office VOLUNTARY?

_____ Yes

_____ No

How long have you been working in this alternative office?

_____ Less than 1 year

_____ 1 year to 2 years

_____ 3 years to 5 years

_____ Over 5 years

Perceived physical environment

The following questions are about the alternative office type you USUALLY work as you checked above. Please indicate the extent of your agreement by clicking the appropriate button.

My work area is	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. :adequately lighted for me.	1	2	3	4	5
2. : large enough for my needs.	1	2	3	4	5
3. : adequately equipped for my work.	1	2	3	4	5
4. : kept at a comfortable temperature.	1	2	3	4	5
5. : located near personal facilities (e.g., bathrooms, eating area, etc.).	1	2	3	4	5
6. : furnished safely and effectively for my job.	1	2	3	4	5
7. I can control noise and distraction in my work area	1	2	3	4	5
8. My work area provides enough storage space for my work needs	1	2	3	4	5

Alternative officing experiences

Do you also work in another alternative office(s)? If no, skip the next question.

_____ Yes
_____ No

If you work in another alternative office(s), choose the office type(s), as many as you have.
_____ Home office (an office at home)
_____ Hoteling   (a specific workspace reserved in advance in corporate location)
_____ Satellite office (an office away from primary corporate locations and outside of homes)
_____ Telework center (an office leased by several companies)
_____ Shared office (a single full-functioned work station or office assigned by 2 or more employees at differently scheduled time in corporate location)
_____ Free address office (an unassigned individual workstation or office on first-come first-served basis in corporate location)
_____ Other

What percentage of your average work time do you work in alternative offices (including ALL alternative offices you have)?

_____ 1-20% of average work time per week

_____ 21-40% of average work time per week

_____ 41-60% of average work time per week

_____ 61-80% of average work time per week

_____ 81-100% of average work time per week

Perceived organizational support

Following questions are about the support you have from your organization. Please indicate the extent of your agreement by clicking the appropriate button.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. My organization really cares about my well-being.	1	2	3	4	5
2. My organization strongly considers my goals and values.	1	2	3	4	5
3. My organization shows little concern for me.	1	2	3	4	5
4. My organization cares about my opinion.	1	2	3	4	5
5. My organization is willing to help me if I need a special favor.	1	2	3	4	5
6. Help is available from my organization when I have a problem.	1	2	3	4	5
7. My organization could forgive an honest mistake on my part.	1	2	3	4	5
8. If given the opportunity, my organization would take advantage of me.	1	2	3	4	5
9. My organization gives enough flexibility for my work schedule.	1	2	3	4	5

Organizational Commitment

Please indicate the extent of your agreement with following questions by clicking the appropriate button.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I feel a strong sense of belonging to my organization	1	2	3	4	5
2. I feel personally attached to my organization.	1	2	3	4	5
3. I am proud to tell others I work at my organization.	1	2	3	4	5
4. Working at my organization has a great deal of personal meaning to me.	1	2	3	4	5
5. I would be happy to work at my organization until I retire.	1	2	3	4	5
6. I really feel that problems faced by my organization are also my problem.	1	2	3	4	5
7. I am afraid of what might happen if I quit my job without having another one lined up.	1	2	3	4	5
8. It would be very hard for me to leave my organization right now, even if I wanted to.	1	2	3	4	5
9. Too much in my life would be disrupted if I decided to leave my organization now.	1	2	3	4	5
10. It would be too costly for me to leave my organization now.	1	2	3	4	5
11. Right now, staying with my organization is a matter of necessity.	1	2	3	4	5
12. I feel that I have too few other options for me to consider leaving this organization.	1	2	3	4	5
13. One of the few serious consequences of leaving this organization would be the scarcity of available alternatives.	1	2	3	4	5
14. One of the major reasons I continue to work for this organization is that leaving would require considerable personal sacrifice.	1	2	3	4	5

Job satisfaction

Please answer each of the questions below by clicking the button next to the description which best fits you.

1. All in all, how satisfied would you say you are with your current job?
_____ 1. Not at all satisfied
_____ 2. Not too satisfied
_____ 3. Neutral
_____ 4. Somewhat satisfied
_____ 5. Very satisfied

2. If you were free right now to go into any job you wanted, what would your choice be? I would...
_____ 1. Take the same job as now I have
_____ 2. Take a same job with a different employer
_____ 3. Take a different job with the same employer
_____ 4. Take a different job with a different employer
_____ 5. Not want to work

3. Knowing what you know now, if you had to decide all over again whether to take the job you have, what would you decide? I would...
_____ 1. Definitely decide not to take this job
_____ 2. Have some second thoughts
_____ 3. Decide without hesitation to take the same job

4. In general how well would you say that your job measures up to the job you wanted when you took it? It is...
_____ 1. Not very much like the job I wanted
_____ 2. Somewhat like the job I wanted
_____ 3. Very much like the job I wanted

5. If a friend of yours told you he/she was interested working in a job like yours and was qualified, would you...
_____ 1. Advise him/her against it?
_____ 2. Have doubts about recommending it?
_____ 3. Strongly recommend it?

6. How do you feel about coming to work?
_____ 1. Very bad
_____ 2. Somewhat bad
_____ 3. Neutral
_____ 4. Somewhat good
_____ 5. Very good

7. How satisfied are you with the type of work you are doing now?
_____ 1. Not at all satisfied
_____ 2. Not too satisfied
_____ 3. Neutral
_____ 4. Somewhat satisfied
_____ 5. Very satisfied

Employment characteristics

Please answer each of the questions below by pulling down the menu and clicking the description which best fits you.

1. What is your job type? (Check one)

_____ Clerical

_____ Managerial

_____ Professional

_____ Sales

_____ Other

2. How long have you been employed by your organization?

_____ Less than 2 years

_____ 2 - 5 years

_____ 6 – 10 years

_____ 11 – 20 years

_____ Over 20 years

3. How long have you been working in the kind of job you are doing now?

_____ Less than 2 years

_____ 2 - 5 years

_____ 6 – 10 years

_____ 11 – 20 years

_____ Over 20 years

Background information

Please answer each of the questions below by pulling down the menu and clicking the description which best fits you or by writing in the correct information.

1. You are

_____ Female

_____ Male

2. How old are you?

_____ Less than 30 years old

_____ 30 – 40 years old

_____ 41 – 50 years old

_____ Over 50 years old

3. What is your education level?

_____ Some high school

_____ High school graduate

_____ Some college

_____ College graduate

_____ Post graduate

4. What is your salary?

_____ $35,000 per year or less

_____ $35,001 - $75,000 per year

_____ $75,001 - $115,000 per year

_____ $115,001 per year or more

5. How many dependents do you currently have living at home under these age categories?

_____ Age 0 – 4
_____ Age 5 – 10
_____ Age 11 – 15
_____ Age 16 – 18

Please type your email address if you want to enter $100.00 drawing. _____

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