

Utah Valley University

From the Selected Works of Susan R. Madsen

Winter 2003

The Benefits, Challenges, and Implications of Teleworking: A Literature Review

Susan R. Madsen, *Utah Valley University*



SELECTEDWORKS™

Available at: http://works.bepress.com/susan_madsen/50/

Running head: TELEWORKING BENEFITS AND CHALLENGES

Published in the "Journal of Business for Entrepreneurs"

Volume 4, Pages 138-151, 2003

The Benefits, Challenges, and Implications of Teleworking: A Literature Review

Susan R. Madsen

Utah Valley State College

November 20, 2003
Business Management Department
800 West University Parkway, Mailstop 119
Orem, Utah 84058-5999
Phone: (801) 863-6176
Fax: (801) 863-7218
madsensu@uvsc.edu

Keywords: Teleworking, Telecommuting, Flexible working

Abstract

Flexible work arrangements are becoming more important to entrepreneurs today. However, effective new business owners are taking more time to consider the pros and cons of these arrangements. The purpose of this review is to explore the literature related to telework and its benefits, challenges, and implications for individuals, work groups, and organizations. It investigates the possible implications of telework to management theory and practice. It lists a number of theories/models and discusses concerns about the lack of researched theoretical frameworks. Finally, after the benefits and challenges are reviewed, recommendations and contributions are presented.

The Benefits, Challenges, and Implications of Teleworking: A Literature Review

According to a survey conducted for the International Telework Association and Council, 19.6 million people in the United States reported working as teleworkers in 1999 (Pratt, 1999). Even with some recent negative press, the number of teleworkers continues to rise. Numerous factors appear to be leading this growth, such as changes in technology, sociological trends, dual wage earner and single parent families, pressures to balance work and family life, worker values, pressures for environmental conservation, and pressures for organizations to be more competitive, reduce costs, and improve their ability to recruit and retain workers. Some literature, scholarly and non-scholarly, presented telework as one answer to improving the performance of individuals and workplace organizations while other literature reported neutral or opposing findings or views. However, the various conclusions seemed to be based upon limited scholarly research and extensive anecdotal evidence. The conflicting findings may be, in part, because of the ambiguity in telework definitions, the differences in organizational policies and practices, the wide variety of variations in samples and data collection methods, and the differences between perceived and actual results. It is no wonder that many organizations are implementing telework programs with ill-founded expectations.

A key issue in management is to identify and determine factors that influence the performance of employees and organizations. Telework initiatives/programs have been found to be one such factor. Currently, many new business owners are implementing programs without first taking the time to assess, design, develop, and evaluate their programs. Many entrepreneurs are allowing employees to telework without first addressing the benefits, challenges, and implications inherent in this type of intervention. As a result, programs have failed and the growth of telework has not increased as rapidly as predicted (Mokhtarian, Bagley, & Salomon,

1998). If designed and implemented effectively, telework benefits outweigh the challenges and problems that employees and employers may face. For management professionals to effectively recommend, develop, enhance, redesign, assess, or evaluate this potential performance-improving intervention, they must first have a better understanding of telework (e.g., benefits, challenges, implications) for employees, teams, and the organization as a whole.

Purpose, Research Questions, Design and Data Collection

The purpose of this review was to explore the literature related to teleworking, and formulate implications to management theory and practice. The following questions were investigated: 1) What are the theoretical frameworks for researching teleworking? 2) How do employees, employers, and society benefit from formal or informal telework programs? 3) What are the disadvantages and challenges of telework for employees and employers? and 4) What findings can assist practitioners in assessing, designing, developing, implementing, and evaluating telework interventions? This review is a content analysis of scholarly literature located in various business (e.g., ABI, General BusinessFile ASAP) and psychology databases (i.e., PsycINFO, Expanded Academic Index). The key words used for the search included: telework, teleworking, telecommute, and telecommuting. Because of the limited scholarly research published in peer-reviewed journals, all seventy-six of the abstracts or texts located from a search in the ProQuest Digital Dissertation Index from 1983 to 2001, were also reviewed. Among the numerous articles, abstracts, and dissertations located and reviewed, the ones that were most current and appeared to be most applicable to management theoretical frameworks and implications were subjectively chosen for this review.

Definitions

To date, there appears to be no clear consensus on an exact or precise definition of telework. The number and types of terms (e.g., telecommuting, networking, flexible working, homeworking, remote working, home-based working, mobile working, electronic cottage, virtual organization, virtual workplace, satellite centers, and neighborhood work centers) used in scholarly and popular literature, referring to teleworking in part or whole, can be confusing. Ellison (1999) explained that the definitions of these terms have been the "subject of substantial deliberation and little consensus for both academics and practitioners" (p. 340). The two most common terms used in the research are "teleworking" and "telecommuting". Some researchers use these terms interchangeably assuming that telework is preferred by Europeans while telecommuting is preferred in the United States.

Because of the wide variety of definitions, four of them will be presented for consideration. First, Fairweather (1999) explained that telecommuting uses information and communication technologies to bring work to the worker and that some, but not all, types of telework should be considered telecommuting. Second, Joice (1999) defined telework as a "work arrangement in which employees work at alternate worksites to conduct some or all of their officially assigned work during paid work hours" (p. 3). He also stipulated that the alternative worksite must reduce the employees' commute, and that the employee must average at least eight hours every two weeks. Third, Kurland and Bailey (1999) interpreted telework as including home-based telecommuting, satellite centers, neighborhood work centers, and mobile working. The commonality in terms is the transition from "in-person supervision to remote managing, from face-to-face communication to telecommunication-related communication, from on-site working to off-site or multiple-site work, and, in the case of groups, from side-by-side

collaboration to virtual teamwork" (p. 53). Finally, Jack Nilles, the "father" of telework, defined it as "any form of substitution of information technologies for work-related travel" (Ellison, 1999, p. 341). On the other hand, he defined telecommuting as "periodic work out of the principal office, one or more days per week, either at home, at a client's site, or in a telework center" (p. 341). These are just a few of the many differing definitions that appear to contribute to the blurred boundaries between terms. Questions revolving around why some research findings appear to be contradictory, why it is difficult to compare research findings, and why research and practitioner teleworking measurements are difficult to use remain unresolved. In this paper, telework and telecommute will be used interchangeably; the actual terms utilized in the cited source will be used.

Theoretical Frameworks

It appears that telework studies lack a common theoretical perspective to guide their research (Hyland, 1999). The frameworks utilized in the literature appear to have been taken from many fields (e.g., business, economics, management, psychology, sociology, communications, and family science). There is little consistency among researchers. The literature discussed a variety of models related to organizational telework adoption and implementation, teleworking intentions, technology acceptance, behavioral adjustment, teleworking withdrawal, and social information processing. The literature also discussed numerous theories. Some of the theories related to the decision to telework included planned behavior, reasoned action, expected utility, expectancy, prospect, agency, institutional, critical mass, job characteristic, economic, and job decision theories. Employee need theories included motivation, human relations, career development, career resilience, and the theory of required needs. Management and organizational theories discussed in the literature included motivation-

hygiene, Theory X & Y, situational leadership, innovation, organization and job design, systems, information systems, contingency, and agency theory. Telework communication and support theories included social exchange, social networking, interpersonal communication, and social interaction. Finally, theories related to work and family influences included spillover, segmentation, work adjustment, ecological, role conflict, role overload, and job strain theory. It was unusual, however, to find a specific theory or model mentioned more than a few times throughout the literature. In fact, many of the models presented were original to a dissertation and later critiques or replications were difficult to find.

Some common theoretical threads do appear to address the same three theoretical frameworks discussed in some human resource development (HRD) literature (Swanson, 1997). These three theoretical foundations--economic, psychological, and systems--can certainly provide a solid base for future teleworking research. First, recent telework research does appear to be linked more often to an economic theory than it has been in the past. This research has been (and should continue to be) focused on analysis, action, and measurement of economic outcomes. Unless teleworking expenditures contribute to the "viability and profitability of an organization" (Swanson, 1997, p. 8), directly or indirectly, they should be eliminated. Second, psychological theory can continue to add richness and depth to teleworking research. As with HRD in general, teleworking can draw upon "theories of learning, human motivation, information processing, group dynamics, and psychology-based theories of how we make decisions and behavior in organizations" (p. 9). Third, systems theory has been, and can continue to be, beneficial as a framework for telework. Studying the system, its parts, its interactions and processes can be invaluable. Some of the current literature begins to utilize the elements of this theory even though it may not be noted as such. Overall, it appears that the narrow focus of

research on teleworkers and the lack of a common theoretical foundation have inhibited the broad understanding of telework. As telework becomes utilized by HRD professionals as a performance-improving intervention, researchers may begin to use these theories and begin to create theoretical consistency in the teleworking research arena.

Literature Review

Scholarly research has been conducted on a variety of telework topics and issues. The topics reviewed in this paper include: utilization demographics and characteristics, productivity, job and organization satisfaction, organizational commitment, recruitment and retention, cost savings, work and family balance and conflict, communication and isolation, career promotion and development, program adoption, organizational culture, and teleworker management.

There appear to be common demographic similarities of individuals who telework. These include married employees, women, parents with children at home, mothers of young children, well-educated employees, and managers or professionals (Mokhtarian et al., 1998; Pratt, 1999). Mokhtarian et al. (1998) reported that women, on average, rated the advantages of telecommuting more highly than did men. Women were more likely than men to have specific motivations for telecommuting (i.e., family, personal benefits, and stress reduction), but, were also more likely to possess various teleworking constraints (i.e., supervisor unwillingness, risk aversion, and concern about lack of visibility to management). In addition, respondents with children rated the stress reduction and family benefits of telecommuting more highly than did those with no children at home.

Many researchers have suggested that only certain individuals are suited to telecommute. They have proposed characteristics as crucial to telecommuter success. Many of these characteristics, however, are based upon speculation or anecdotal evidence. Loverde's (1997)

research revealed that the performance of most employees, regardless of personality characteristics, is positively impacted by telecommuting. It is commonly assumed and reported, however, that teleworkers must be self-starters, motivated, focused, self-reliant, and organized.

Many studies (e.g., Bernardino, 1996; Gainey, Kelley, & Hill, 1999; Ross, 1990) have reported productivity and performance improvements with telecommuting. Pratt (1999) found that an employee's productivity was the same or higher when they teleworked. Belanger (1997) discovered that workers perceived productivity and performance were influenced by information system technology, the availability of communication technologies, and the communication patterns of telecommuters within their work groups. Researchers do admit, however, that it is difficult to calculate productivity with the differences in the type and amount of telework, the work environment, and even the family situation of the employee.

One claim often made in citing the advantages of telework is increased employee satisfaction. Studies have reported higher levels of job satisfaction with teleworkers (De Lay, 1995; Pratt, 1999). Coveyduck (1997) found that telecommuters derived relatively high job satisfaction, work autonomy, commitment to the organization and feelings support by the organization. Welchans (1996) agreed that perceived organizational support strongly influenced job satisfaction. However, he added that this perceived support was stronger for those employees who spent some time in their employers' offices. Sturgill (1998) reported that employees who felt their organizations were not supportive of telecommuting, were not as satisfied as those who did. One reason employee satisfaction may improve is because of increased autonomy. Researchers (e.g., Coveyduck, 1997; McCloskey, 1998) have claimed that teleworking enhances employee autonomy by giving them greater control over their work situation. This autonomy appears to be a key determinant for the quality of work. According to Thompson, Vivien, and Wai, (1999),

satisfied teleworkers reported "higher productivity, satisfaction with the organization's performance appraisal system, technical and emotional support from management, lack of family interruptions and greater loyalty to the organizations" (p. 34).

Another cited advantage of telework is that it increases organizational commitment. The research in this area appears to have produced conflicting findings. It is sometimes assumed that telework may actually reduce organizational commitment. Tucker (1997) reported that teleworkers had high levels of job satisfaction but relatively neutral levels of commitment. Ellison (1999) explained that when an organization assists employees in solving child care and other family concerns, organizational commitment may be increased. Hill (1995) found that productivity, morale, and organizational commitment were perceived to have been positively influenced by telework. It is important to note, however, that research samples, organizations, and instruments appeared to be very different in each of the studies cited.

In today's competitive job market, management continues to look for ways to improve both recruitment and retention of employees. Various reports (e.g., Pratt, 1999) have noted that teleworking and other family-friendly programs are valuable tools in recruiting new employees and retaining existing ones. Interestingly, Bolin (1995) found that the offer to telecommute by manufacturing firms attracted individuals who are characteristically less likely to participate in teleworking. With the option of teleworking, individuals who may not have been considered in the past (e.g., parents of young children, the disabled) are now possible candidates for job openings (Gainey et al., 1999). With regard to retention, Callaghan (1996) found that companies employing logistics professionals increased employee retention rates by offering telecommuting as a benefit. Hyland (1999), however, reported mixed results and noted that the availability, preferences, and actual use of flexibility were related to intentions to leave an organization.

Another common claim is that teleworking can save an organization money. AT&T, IBM, and other companies have reported huge savings in real estate expenses as a result of telecommuting (Kurland & Bailey, 1999). The International Telework Association & Council (1999) reported that teleworking employees can save their employers \$10,006 each in job retention costs and reduced absenteeism. Another study (Bernardino, 1996) found that teleworking cost saving were perceived to be limited. She suggested that the expected perceived savings and the actual savings may be different. Most research in this area does support the finding that teleworking can reduce costs for both the employer and the employee.

An assumption commonly held by employees and employers is that teleworking will help employees balance their work and family lives more effectively. Chomiak (1998) examined the relationship between hours spent teleworking, reports of flexibility, and work and personal/family life balance. She found that teleworking was a significant predictor of flexibility, but individuals who engaged in teleworking did not report higher levels of balance. It appeared that as many individuals spend more time teleworking, they also spent more time working overall. Hill (1995) reported similar findings and noted that blurred boundaries between work and family can be difficult for many employees. Pratt (1999) disagreed as she found strong support that work-family balance can be improved with teleworking. Cree (1998) also reported that as telecommuting frequency increased, so did work-family balance, flexibility, job satisfaction, and organizational satisfaction. This study, however, was based on the total hours worked per week being kept constant. The key to telecommuter work-family balance may lie in the ability of an employee to maintain the same number of hours as in-office employees.

One aspect of this balance is that of work-family conflict (WFC). Balance is typically determined by the absence of stress or conflict. Stressful factors include work time, schedule

incompatibility, quality of the supervisory relationship, job autonomy and demands, family division of labor, and child care. Common to many of these factors is the lack of time. Ellison (1999) explained that dismantling temporal and geographical barriers that separate home and work roles may actually expose employees to the possibility of role conflict. Schreiber (1999) did find, however, that telecommuting reduced role conflict and Coveyduck (1997) concluded that only low to moderate levels of inter-role conflict were identified in a sample of telecommuters. One study (De Lay, 1995) reported that male teleworkers had lower levels of WFC than non teleworker males and that women who telecommuted had higher levels of WFC than males who telecommuted. After six months of telecommuting, the women's WFC levels had decreased. The age of the youngest child living at home was a factor in the women's level of WFC, most likely because many women do feel the pressure of household chores and child care responsibilities. McCloskey (1998) summed up her research by explaining that telecommuting did not appear to be a magical work arrangement that allowed employees to balance both work and family commitments, but neither was it the oppressive work structure that will interfere with family relationships and cause employees to work long hours.

One of the greatest teleworking challenges is that employees may feel isolated. Informal communication in the workplace can provide social support as well as the ideas and information needed to perform a job more effectively. Gainey et al. (1999) found that individuals' levels of comfort, satisfaction, and commitment, as well as high turnover levels, were related to employee isolation. Many telecommuters feel they are making some sacrifices in terms of close involvement with coworkers. Spending work time at the office seemed to improve organizational communication (Sturgill, 1998). Email and richer communication media assist in maintaining the frequency of interactions and the feeling of social support. Fireman (1999) reported that the lack

of office social interactions and the lack of supervisor and/or organizational support were reasons employees either reduced or stopped teleworking. Interestingly, Lowry (1996) found that neither the quality nor quantity of communication between a supervisor and employee is related to the distance between the two. Even though the communication seemed to be the same, employees in non-traditional distance jobs felt as if they were more isolated and communicated less with their supervisor. This suggests that teleworkers may actually require more communication with their supervisors than in-office employees. Again, it is difficult to compare research findings in this area because of the differences in the researchers' teleworking definitions. Some samples included full-time teleworkers, as opposed to individuals who spend only two of five days in a remote location.

Popular literature often cites career opportunities, development, and satisfaction as negative implications of teleworking. Many women and men make choices that reduce career opportunities and development but, because of personal priorities, are satisfied with those choices. Teleworking can be a major advantage to those who do not want to put their full career on hold, but have made the choice to give their primary time and energies to their families. Many employees, however, have reported concern that career development might be negatively effected with teleworking (Khaifa & Davidson, 2000). Schreiber (1999) studied the role of telecommuting in supporting career aspirations for women. Women teleworkers in this study measured their success based on their productivity, their ability to remain visible to managers, co-workers, and clients, and on their initiative in seeking and taking advantage of developmental opportunities. For women that felt success in these areas, telecommuting did not appear to hinder job success.

Research has also been conducted in areas related to teleworking adoption, organizational culture, and telework management. Ruppel (1995) looked at variables between organizations that adopt telework programs and those that do not. Variables common to adopters include a globalized marketplace, a competitive marketplace, the existence of regulatory legislation, a high degree of professionalism among staff, centralized decision-making, managerial attitude towards telework, a high administrative intensity ration, the availability of rich communication media, managers trained in the benefits of telework, the existence of perceived adequate security measures, the existence of a champion, and top management support. One variable common to organizations that do not adopt, is their concern about the negative implications telework may have on existing organizational culture. Taveras (1998) explored the impact of telecommuting on various attitudinal and behavioral components of corporate culture. He found that telecommuting had no statistically significant effect on perceived organizational support, perceived value congruence, job satisfaction and commitment, and other behavioral cultural variables.

Telework management research is sparse. Because it is uncommon to find more than one study based on a specific management research question or topic, instrument validity and reliability concerns abound. However, the studies for this review did report a number of interesting findings. Conner (1986) found that management style alone did not determine success or failure of a telecommuting program, and that management satisfaction was more an indicator of perpetuating a telecommuting program than was management style. Speeth (1992) reported that the level of experience, effectiveness, and training of managers directly contributed to the success ratings of the programs in the study. Successful managers appeared to be experienced, effective, well-educated, and show high levels of personal achievement. Reinsch (1999) explained that interpersonal factors can make or break a telecommuting project. He found that

employees want managers who share negative information promptly, who react to negative feedback constructively, and who display a high degree of loyalty to subordinates. Klayton (1994) explained that managers used the same methods of performance appraisal as in-office employees and held performance reviews at the same frequency. Even though additional management studies are available for future review, it is common knowledge among teleworking researchers and practitioners that more sound research is needed in this area.

Recommendations for Management

Academic research has not provided enough rich theoretical and empirical support for the planning and implementation of telework in organizations (Shin, 1997). As with many other management interventions, theory, problem statements, and research questions are being developed after observing and experiencing trial and error in the workplace. The information presented in this review can be used as broad guidelines for consideration by practitioners who are assessing and designing customized telework programs for organizations. Each telework situation is influenced by many factors (e.g., organizational culture, the type of work being done, the skills and unique situation experienced by each employee, management). If designed, implemented and managed effectively, teleworking programs can be successful and can reap numerous benefits (see Figure 1). There are, however, individual and organizational challenges that should be considered. Analyzing these benefits, challenges, and their implications for each company can help provide a well-rounded assessment of predicted invention success.

Figure 1. Possible Advantages and Challenges for Organizations and Employees.

ADVANTAGES FOR ORGANIZATIONS	ADVANTAGES FOR INDIVIDUALS
Adherence to government regulations Improved employee recruitment Improved employee retention Improved productivity Improved quality Improved satisfaction Increased morale Increased organizational commitment Opportunities for better service Promoted diversity Reduced absenteeism Reduced expenses Reduced office space requirements	Avoidance of office politics Better work/family balance Can work with disabilities/health problems Child care issues less stressful Flexibility to relocate Improved morale Improved productivity Improved quality of life and work life Increased autonomy Increased family and leisure time Increased job satisfaction Increased technical skills Less distractions Less spillover Lower stress level More community ties More flexibility Reduced commute time Saves money on gas and parking
CHALLENGES FOR ORGANIZATIONS	CHALLENGES FOR INDIVIDUALS
Alignment with organization goals and mission Attitudes of in-office employees Career promotions Clear common aims and procedures Communication concerns Compensation and benefit packages Consistent policies and contracts Coordinating work Corporate buy-in Creating synergy Disruptions in work teams Employee accountability Initial financial investment Management control and trust Management and staff training Measuring productivity Organizational culture Redesign of processes Reduced informal mentoring Reduced networking Security issues Technical support Thorough organizational and individual assessment Union concerns Unrealistic expectations	Accessibility to others Career development and promotions Development of interpersonal skills Handling expenses Interruptions from home Intrinsic motivation Isolation and social satisfaction Lack of management or improper management Reduced informal communication Reduced informal mentoring Reduced informal training and development Reduced social networking Remaining "visible" Self-efficacy Shared work space in office Tendency to work more hours Unrealistic expectations Work space in remote locations Work/personal time blurred

Recommendations for entrepreneurs and business owners in working with teleworking interventions include the following: 1) be prepared to design new approaches to evaluate, educate, organize, and inform workers; 2) access and include intervention elements related to:

formal guidelines and policies, infrastructure (technical tools, training), job design, availability, communication, task scheduling, meeting scheduling, performance measurement, suitability of work, non-teleworker buy-in, cultural change, and more; 3) because managing remotely requires new skills and attitudes on the parts of both managers and employees, design appropriate training and development interventions; 4) assist managers in designing an appropriate amount of social interaction required to maintain effectiveness and reduce unanticipated problems; 5) train workers to adapt to a new environment and cope with the challenges it poses; 6) design or utilize existing assessment instruments and procedures that can assist companies ensuring that workers and managers can be successful in this new relationship; 7) train managers to monitor telecommuting programs carefully and react in an expedient manner to correct any undesirable consequences; and 8) ensure that any telework intervention is first supported by top management and then strategically aligned with the organization's goals and objectives.

This literature review has provided information that can be helpful for new business owners interested in pursuing teleworking work arrangements for themselves and other employees. Because many elements of telework are different from the traditional work setting, many unique variables need to be considered. This review was also designed to introduce telework as an important and meaningful area for future management research. It is clear that current and expected advances in telecommunications technology will facilitate a continued increase in the number of teleworkers throughout the world. Thompson et al., (1999) purported that

Teleworking may yield many substantial advantages to organizations and individuals, and that the widespread adoption of teleworking may produce significant economic, environmental and societal benefits. Teleworking has great potential in improving the

living and working status of employees as well as allowing organizations to increase their efficiency and competitive advantage. (p. 46)

If designed and implemented effectively, telework benefits do outweigh the challenges and problems that employees and employers may confront. As growth in telework accelerates, organizations of all sizes will face exciting new changes and challenges. Management and entrepreneur researchers and practitioners should be prepared to meet and accept these challenges. Teleworking can be effective in improving both individual and organizational performance.

References

- Belanger, F. (1997). *Distributed work arrangements: Impacts of advanced information technologies, coordination mechanisms, and communication patterns*. Unpublished doctoral dissertation, University of South Florida, Tampa.
- Bernardino, A. T. (1996). *Telecommuting: Modeling the employer's and the employee's decision-making process*. New York: Garland Publishing.
- Bolin, D. J. (1995). *The economics of telecommuting, with an application to the manufacturing sector* [Abstract] (Doctoral Dissertation, Purdue University, 1995). ProQuest Digital Dissertation, AAT 9601471.
- Callaghan, W. J. (1996). *Utilization of telecommuting as a tool for retaining logistics professionals* [Abstract] (Master's Thesis, Baker College, 1996). ProQuest Digital Dissertation, AAT 1382163.
- Chomiak, A. A. (1998). *Work/life balance and job flexibility: Does teleworking make a difference?* Unpublished doctoral dissertation, Rutgers The State University of New Jersey, New Brunswick.
- Conner, C. C. (1986). *The effect of management style on manager's satisfaction with telecommuting*. Unpublished doctoral dissertation, University of Tennessee, Knoxville.
- Coveyduck, D. H. (1997). *Investigation of selected factors on job satisfaction among telecommuters* [Abstract] (Master's Thesis, Carleton University, 1997). ProQuest Digital Dissertation, AAT MQ22069.
- Cree, L. H. (1998). *Work/family balance of telecommuters* [Abstract] (Doctoral Dissertation, California School of Professional Psychology, 1998). ProQuest Digital Dissertation, AAT 9913262.

- De Lay, N. L. (1995). *The effects of telecommuting and gender on work-family conflict and satisfaction*. Unpublished doctoral dissertation, Illinois Institute of Technology, Chicago.
- Ellison, N. B. (1999). Social impacts: New perspectives on telework. *Social Science Computer Review*, 17(3), 338-356.
- Fairweather, N. B. (1999). Surveillance in employment: The case of teleworking. *Journal of Business Ethics*, 22(1), 39-49.
- Fireman, S. M. (1999). *A model of telecommuting withdrawal: Employee perceptions predicting the reduction or stopping of telework*. Unpublished doctoral dissertation, University of Washington, Seattle.
- Gainey, T. W., Kelley, D. E., & Hill, J. A. (1999). Telecommuting's impact on corporate culture and individual workers: Examining the effect of employee isolation. *SAM Advanced Management Journal*, 64(4), 4.
- Hill, E. J. (1995). *The perceived influence of mobile telework on aspects of work life and family life: An exploratory study* [Abstract] (Doctoral Dissertation, Utah State University, 1995). ProQuest Digital Dissertation, AAT 9603489.
- Hyland, M. M. (1999). *Flexibility in work arrangements: How availability, preferences and use affect business outcomes* [Abstract] (Doctoral Dissertation, Rutgers The State University of New Jersey, 1999). ProQuest Digital Dissertation, AAT 9947883.
- International Telework Association & Council. (1999, October 27). *1999 telework research results*. International Telework Association & Council. Available: <http://www.telecommute.org> [2000, September 20].
- Joice, W. (1999). *Workshop 1: Getting educated*. International Telework Association & Council. Available: <http://www.telecommute.org/twa/workshop1> [2000, September 20].

- Khaifa, M., & Davidson, R. (2000). Exploring the telecommuting paradox. *Communications of the ACM*, 43(3), 29-32.
- Klayton, M. A. (1994). *The impact of telecommuting on the supervisory performance appraisal process*. Unpublished doctoral dissertation, Virginia Commonwealth University, Richmond.
- Kurland, N. B., & Bailey, D. E. (1999). Telework: The advantages and challenges of working here, there, anywhere, and anytime. *Organizational Dynamics*, 53.
- Loverde, M. A. (1997). *The effects of individual's psychological needs on telecommuting's impact on job performance* [Abstract] (Doctoral Dissertation, Illinois Institute of Technology, 1997). ProQuest Digital Dissertation, AAT 9817248.
- Lowry, T. (1996). *Alternative work arrangements: The effects of distance and media use on the supervisor-subordinate relationship*. Unpublished doctoral dissertation, Rice University, Houston.
- McCloskey, D. W. (1998). *The impact of telecommuting on the work outcomes of professionals*. Unpublished doctoral dissertation, Drexel University, Philadelphia.
- Mokhtarian, P. L., Bagley, M. N., & Salomon, I. (1998). The impact of gender, occupation, and presence of children on telecommuting motivations and constraints. *Journal of the American Society for Information Science*, 49(12), 1115-1134.
- Pratt, J. H. (1999). *1999 telework America national telework survey: Cost/benefits of teleworking to manage work/life responsibilities*: The International Telework Association & Council.
- Reinsch, N. L. (1999). Selected communication variables and telecommuting participation decisions: Data from telecommuting workers. *The Journal of Business Communication*, 36(3), 247-254.

- Ross, K. A. (1990). *Personality and work style characteristics of the telecommuter* [Abstract] (Master's Thesis, San Jose State University, 1990). ProQuest Digital Dissertation, AAT 1341696.
- Ruppel, C. P. (1995). *Correlates of the adoption and implementation of programmer/analyst telework: An organizational perspective*. Unpublished doctoral dissertation, Kent State University, Kent, Ohio.
- Schreiber, P. J. (1999). *The nature of career development for women who telecommute*. Unpublished doctoral dissertation, University of Georgia, Athens.
- Shin, B. (1997). *The implication of information technology in telework: Adoption model and influencing factors of communication media choice among teleworkers*. Unpublished doctoral dissertation, The University of Arizona, Tucson.
- Speeth, L. M. (1992). *The attributes of successful managers of telecommuters and successful telecommuting programs* [Abstract] (Doctoral Dissertation, Golden Gate University, 1992). ProQuest Digital Dissertation, AAT 9302887.
- Sturgill, A. F. C. (1998). *Relationship of telecommuting to organizational communication: A preliminary study of group process and communication satisfaction*. Unpublished doctoral dissertation, Cornell University, Ithaca.
- Swanson, R. A. (1997). *The theory of HRD*. St. Paul: University of Minnesota, Human Resource Development Research Center.
- Taveras, L. E. (1998). *The effects of telecommuting on attitudinal and behavioral characteristics of organizational culture*. Unpublished doctoral dissertation, University of Sarasota, Sarasota, FL.

- Thompson, S. H., Vivien, K. G. L., & Wai, S. H. (1999). Assessing attitudes towards teleworking among information technology (IT) personnel. *Singapore Management Review*, 21(1), 33-48.
- Tucker, D. M. (1997). *More and less: Perceptions and experience of the professional part-time employee* [Abstract] (Doctoral Dissertation, Virginia Polytechnic Institute and State University, 1997). ProQuest Digital Dissertation, AAT 9823192.
- Welchans, T. D. (1996). *The effects of telecommuting and communication media on perceived value congruence, organizational support and job satisfaction* [Abstract] (Doctoral Dissertation, Ohio State University, 1996). ProQuest Digital Dissertation, AAT 9620088.