Telecommuting: Manager Control and Employee Development in One Public and Two Private Organizations

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ABSTRACT
This study compared the impact telecommuting has on public and private employees’ perceptions of managerial control strategies (behavior, output, and clan) and employee development concerns (interpersonal networking, informal learning, and mentoring). It relied on semi-structured interviews with telecommuters, non-telecommuters, and their respective supervisors in two high technology firms and one city government. We found few differences between our respondents in these two types of organizations with respect to managerial control strategies. By contrast, public respondents commented less about interpersonal networking, informal learning, and mentoring concerns compared to private respondents.

Introduction
Recent advances in telecommunications and computer technology make working at home technologically possible for countless American workers. Yet, surprisingly few workers actually take advantage of this opportunity. Estimates show that currently between three and nine million people in the U.S. work from home at least one to two days per month of their normal work schedule (Weiss, 1994; Korzeniowski, 1997; Piskurich, 1996). Although this figure is expected to rise (Russell, 1996; Edwards and Field-Hendrey, 1996; Handy and Mokhtarian, 1995), perhaps reaching 44 million by the year 2000 (Langhoff, 1997), few people included in these estimates telecommute a substantial percentage of their total working time. For example, in a sample of 809 employees from 3 public agencies with formal, established telecommuting programs, Manner and Mokhtarian (1995) found only 4 individuals who telecommuted 5 days a week and only 7 more who telecommuted at least 3 days a week. Nationally, estimates indicate that only 16% of all telecommuters work away from the office full-time (U.S. Department of Transportation, 1993). Thus, telecommuting appears to provide an example of how ever-advancing digital telecommunications technologies that have the potential for radically transforming work may fail to do so.

Telecommuting (or, in Great Britain, teleworking) includes more than just working at home and communicating with the office via telecommunications or computer-based technology; it also can include working at neighborhood work centers or satellite centers (Nilles, 1994; Olson, 1982). In satellite work centers, the employee works both outside the home and away from the conventional workplace in a location convenient to the employees and/or customers. The neighborhood work center is essentially identical to the satellite work center with one major difference. Unlike the satellite work center that houses only one company’s employee(s), the neighborhood work center houses more than one company’s employees. The telecommunications technology employed at any location may be as simple as a phone or as complex as a network of computers, phones, and faxes connected to an ISDN line.

Employees may desire to telecommute to decrease work-related stress, to reduce lengthy commutes, to balance work and family responsibilities, to work longer hours but in more comfortable environments, or to provide uninterrupted time to focus on their work (Mokhtarian and Salomon, 1997, 1996a; Hartman, Stoner, and Arora, 1992; Hill, Hawkins, and Miller, 1996; Venkatesh and Vitalari, 1992; Becker, 1986). Organizations may favor telecommuting to increase productivity, to improve employee morale, to save real estate costs, and to accord with legislation such as the Americans with Disabilities Act and the Clean Air Act (Khan, Tung, Turban, 1997; Egan, 1997; Ramsey, 1997; Korzeniowski, 1997; Tomaskovic-Devey and Risman, 1993). Hence, telecommuting, as an alternative organizational work form, presents a wide array of advantages for both employees and employers (Olmsted
and Smith, 1997). We raise the question then, why do not more employees telecommute and telecommute more frequently?

In a series of articles that build predictive models for employee's choice or desire to telecommute, Mokhtarian and her colleagues attempted to answer this question (Mokhtarian and Salomon, 1997; Mokhtarian, Bagley, and Salomon, 1997; Mokhtarian and Salomon, 1996a, b). Their research demonstrated that work-related variables were more predictive of an employee's choice of telecommuting frequency than household, personal, or transportation-related variables. They also identified variables, which facilitated and constrained an employee's preference to telecommute. Employees preferred telecommuting if they perceived that their job allowed it, representing a facilitator. Constraints included workplace interaction, representing the constraint for social and professional interaction; household distractions, representing the household interaction constraint; and commuting benefit, representing the benefit of commute constraint. In related studies, the researchers found that additional constraints to telecommuting included: (1) an employee's lack of awareness that telecommuting was an option, (2) the employee's perception that her/his job was unsuitable for telecommuting, and (3) the employee's perception that her/his direct supervisor did not support telecommuting.

Seemingly, one of the biggest factors that would drive individuals to telecommute is a long, tiring physical commute to work. If telecommuting has not boomed, perhaps the reason lies in the manageability of our commutes. Mokhtarian and her colleagues consistently found the objective length of the commute (whether measured in miles or minutes) to be insignificant (Manning and Mokhtarian, 1995; Mokhtarian and Salomon, 1996a, 1996b, 1997). People with long commutes did not telecommute more than did workers with short ones. However, commute stress (a subjective assessment of the downside of the trip to work) did predict the choice to commute (Mokhtarian and Salomon, 1996): individuals who perceived their commute as more stressful were more likely to telecommute. Recent research indicates that commute stress carries with it physiological and psychological consequences (Novaco, Kliewer, and Broquet, 1991), with "road rage" being one of the more obvious manifestations (Howard and Joint, 1994). So although the extent to which we perceive our commute as stressful may.

A better explanation for the dearth of telecommuters may be that many jobs simply must be performed at the workplace. Clearly, a physical presence in the workplace is key for employees in a substantial number of service positions (e.g., waitresses, barbers, and post office workers), and most manufacturing ones. But many other jobs are, in fact, ideally suited for telecommuting. Data-entry and data-processing positions are clear candidates from the clerical field, while computer programmers and sales and marketing people offer strong possibilities in the professional realm (Nilles, 1994). Even colleges and universities are experimenting with distance education and online courses that could allow both students and professors to operate from their homes (e.g., McConnell, 1994, Dwyer, Barbieri, and Doerr, 1995). So, although not every job is suited for telecommuting, certainly many are, and clearly far more than the number of practicing telecommuters.

Research on telecommuting, although limited, suggests that two other factors may constitute key obstacles to telecommuting. First, managers appear unwilling to allow their subordinates to telecommute for fear of losing control over the subordinate and the subordinate's work (Olson and Prims, 1984; Tomaskovic-Devey and Risman, 1993). In their study of 538 employees of the City of San Diego (which has a formal telecommuting program), Mokhtarian, Bagley, and Salomon (1997) found that supervisor's resistance to telecommuting was a prominent constraint to telecommuting for clerical workers.
Second, employees may fear that working at home will increase their professional and social isolation. Professionally, employees fear that being “out of sight” means being “out of mind” for promotions and other organizational rewards. Socially, employees comment that they miss the informal interaction they garner by being around colleagues and friends. In the study by Mokhtarian et al. (1997), both clerical and professional workers expressed concern that telecommuting reduced their social interaction. Similarly, professional workers in the same study were concerned that telecommuting would reduce their professional interaction. Professional isolation may limit their ability to learn on the job as well as decrease their promotional opportunities. In other words, working away from the main office may impede an employee’s professional development.

The purpose of the present study is fourfold. First, we focus on the two most commonly cited challenges to telecommuting-managerial control (or resistance) and employees’ isolation concerns—discussed above. Second, we elicit insights from three perspectives: the telecommuter, a non-telecommuting colleague, and their respective supervisor. With few exceptions, research on telecommuting has concentrated only on the telecommuter’s perspective, ignoring managers’ and non-telecommuters’ perspectives—both of which may provide a more complete understanding of how telecommuting, as an alternative work form, will challenge managerial control and affect employee professional development in the twenty-first century workplace.

Third, we interview respondents. Again, with few exceptions, most data on telecommuting has been gathered via surveys (e.g., Hartman et al., 1991, 1992; Tomaskovic-Devey and Risman, 1993; Mokhtarian and Salomon, 1996a,b, 1997; Kurland and Egan, forthcoming). Although surveys can document the extent of control and development concerns, they cannot provide explanations for how or why these concerns affect an employee’s decision to telecommute, or capture the nature of the telecommuting arrangement, itself.

And, fourth, we interview public employees and compare their responses to those previously collected from two private organizations (Kurland, unpub. manus.). Comparative research of this type is critical to generalizing and building theory and to ensuring that organization theory remains relevant as new organizational practices and forms emerge (Daft and Lewin, 1993).

Defining Control and Development

Manager Control

Research has shown that managers fear they lose control over employees’ behavior as employees gain autonomy by telecommuting (Tomaskovic-Devey and Risman, 1993; Kugelmass, 1995). Telecommuting can diminish a manager’s perceived control as it physically removes the employee from the conventional work environment. For example, Bailyn (1988:151) observed that telecommuting changes the way work has been traditionally organized, “represent[ing] a delegation of authority from management to the working or productive level.” Since managers believe they lose direct control over telecommuters, they disapprove of telecommuting and resist its adoption (Mokhtarian and Salomon, 1996a, 1996b; Hartman, Stoner, and Arora, 1991; Olson, 1988; Gordon and Kelly, 1986). They ask, “If I can’t see my employees, how do I know they’re working?”

One way to assess the degree to which managers’ retain or lose control over employees who telecommute would be to examine managers’ use of human resource management (micro) control strategies (Snell, 1992). Control strategies help align employees’ actions with firms’ interests (Tannenbaum, 1968; Snell, 1992: 293). Prior research has identified three categories of control, which tend to overlap in practice: behavioral, output, and clan.
(Rowe and Wright, 1997; Snell, 1992; Eisenhardt, 1985; Mintzberg, 1979; Ouchi, 1979; Ouchi and Maguire, 1975).

Behavior control specifies how something is to be accomplished and embodies centralization, articulated procedures, close supervision, and behavioral appraisal (Ouchi, 1979; Eisenhardt, 1985; Snell, 1992; Rowe and Wright, 1997). It is most appropriate when a clear cause-effect exists between activities and output, and when results are hard to measure. Behavior control is typically initiated top-down; superiors closely monitor and evaluate subordinate’s actions over time. For example, managers have frequent meetings to discuss performance. They provide subjective evaluations and use feedback as a remedial tool to correct deviations when they occur (Snell, 1992, 294). And employees are accountable for their actions regardless of results.

When it is difficult to standardize actions a priori or when means-end relationships are not well understood, behavior control is not effective because appropriate work behavior is unknown (Snell, 1992). In these cases, supervisors can use output control strategies. Output control specifies what is to be accomplished; it enables decentralization and encompasses results criteria and performance-reward links (Ouchi, 1979; Eisenhardt, 1985; Snell, 1992; Wheelen and Hunger, 1995). Output control requires agreed upon, measurable goals (Ouchi and Maguire, 1975), and is an important source of information to communicate performance to others in larger organizations (Ouchi and Maguire, 1975).

Clan control embraces selective staffing, training, development, and extensive socialization, creating shared values and beliefs (Ouchi, 1979, 1980). Formal clan-like strategies, such as selection and training, can prevent performance problems, although they can only manage potential (Snell, 1992). Formal and informal clan controls require high levels of commitment from each individual to adhere to socially prescribed behaviors. They rely on common agreement, shared beliefs, and values transmitted by rituals, stories, and ceremonies.

Table 1 provides a summary of the three types of control strategies. In short, behavior control regulates the transformation process, output control regulates results, and clan control regulates knowledge, skills, abilities, and values (Snell, 1992: 292).

All three strategies can potentially provide managers options to control telecommuting employees. For example, to monitor telecommuters’ behavior, managers have used strategies that are behavioral in nature and include formalizing job requirements and communication. In two separate studies, Zuboff (1982: 147) and Olson (1982) found that performance evaluation, when monitored remotely, became increasingly formalized through greater institutionalization of rules. As the ability to supervise employees physically declined, clearly specified job descriptions and performance standards ensured subordinates’ capacity to perform well. Similarly, the greater the physical distance between supervisor and subordinate, the less likely the supervisor will rely on informal, spontaneous communication patterns to convey information (e.g., Katz and Kahn, 1978).

Additionally, when telecommuters are physically out of sight, some organizations have resorted to output controls (e.g., Olson, 1982; Benhamous et al., undated; Hamblin, 1995; Turban & Wang, 1995). For example, Olson (1982:83) found that monitoring of telecommuters’ performance tended to be “based on results, the quality and timeliness of completed work, rather than observation” for more effective supervision. Telecommuters can report results (outputs) by way of written documentation, monthly accounting by fax or email, or frequent communication (written, phone, periodic face-to-face meetings) (Campagna, 1996). While some organizations have adopted output controls (Turban & Wang, 1995), managers have found them challenging to implement (Christenson, 1988). Nevertheless, those who did were more amenable to telecommuting (e.g., Zeytinoglu, 1995).
In particular, following Kurland’s (unpub. manus.) earlier research, we focus on the following general research questions to guide our inquiry:

1. What type of micro control strategies (behavior, output, and clan) do public managers use to monitor employees’ behavior when they telecommute?
2. Do public managers use different strategies for telecommuters than for non-telecommuters?
3. How do public managers compare to private managers in their use of these three control strategies?

Answers to these questions will serve two purposes. First, they will inform practitioners and researchers about how well founded are managers’ concerns that they lose control over employees who telecommute. Second, they will contribute to the ongoing debate regarding the extent to which public and private organizations actually differ (e.g., Perry and Porter, 1982).

Employee Development

A second challenge to the adoption of telecommuting concerns the professional development of telecommuting employees. In the previous study, Kurland had concluded, in part, that telecommuters miss out on three types of development activities that occur frequently in the conventional workplace: (1) interpersonal networking with others in the organization (2) informal learning that enhances work-related skills and information distribution, and (3) mentoring from colleagues and superiors. We discuss each of these below.

Interpersonal Networking - When employees work off-site, they miss informal interactions that occur in the workplace (Kugelraas, 1995; Piskurich, 1996). Interpersonal networking exists in various forms, including office gossip and work-related, spontaneous discussions. For example, in a study of a government agency, Sutton and Porter (1968) found an active grapevine fostered information flows through the organization. Elsewhere, research has demonstrated that managers used the grapevine to disseminate information informally that they could not, for organizational reasons, do so formally (Davis, 1953).

Also, interpersonal networks in organizations benefit employees because they allow people to establish relationships and gain access to information that can advance their professional careers. When Luthans and his associates studied more than 450 managers, they found that managers who advanced up the corporate ladder most quickly networked the most. (Luthans, 1988; Luthans, Hodgetts, and Rosenkrantz, 1988). Repeated face-to-face interactions build trust, build relationships (e.g., Zucker, 1986; Kurland and Egan, 1996; Calton and Kurland, 1996), and can build careers— and the lack of which may not.

Informal Learning - Where interpersonal networking can contribute to professional advancement, informal learning can contribute to professional development. When employees work off-site, they miss the learning that occurs, informally, and spontaneously—learning that could not be scheduled. Informal communication happens spontaneously, is very often face-to-face, and facilitates data exchange, helping to build one’s knowledge base (e.g., Dunbar, 1996; Code, 1994; Fine and Rosnow, 1978; Paine, 1967; Kurland and Pelled, unpub. manus.). In the same research cited earlier, Luthans and his colleagues found that more effective managers communicated more often. When telecommuters are not in the office, they communicate less often and less often informally, and thus run the risk of not receiving information that can support them in their professional tasks and development. Even if employees telecommute less than full-time, a lack of continuous connection to the office information network may
potentially impede their professional development. Telecommuters are likely to miss impromptu meetings and work-related discussions with colleagues (e.g., Piskurich, 1996).

Telecommuters are especially at risk of missing out on implicit informal learning opportunities, much of which occurs within the work group. People in the workplace often learn skills vicariously by being in close proximity to and observing other co-workers (Brown and Duguid, 1991). Moreover, a substantial amount of work-based learning is context-dependent (Raelin, 1997), and thus has been labeled “in place career development” by numerous scholars (Hall and Richter, 1990; see also Becker, 1986; Brown and Duguid, 1991; Kraut et al., 1990, Becker et al., 1993; Parker, 1994; Becker and Tennesen, 1995). People work and learn collaboratively in informal work groups whose membership is continually changing (Brown and Druid, 1991). Research has shown that informal interaction in groups enhances their productivity (Argote, 1993; Kraut et al., 1990). Obviously, work performed alone and at home rarely will provide such implicit learning opportunities. As a result, telecommuters’ opportunities for informal learning are greatly diminished.

Mentoring — Whereas informal interaction enables employees to negotiate an organization’s political infrastructure and informal learning further develops the employee’s expertise, mentoring does both. A mentor is an experienced, productive manager who relates well to a less-experienced employee and facilitates his or her personal development for the benefit of the individual as well as that of the organization (Kram, 1985). Mentors provide feedback, access (to official and unofficial organization networks, departments, and external networks), and emotional support (Altmeyer, Prather, and Thombs, 1994). They advance the protégé’s career through sponsorship, exposure and visibility, coaching, protection, and delegating challenging work assignments. They act as role models, encourage new behaviors, provide feedback, counsel, and facilitate informal exchanges of information about work and non-work experiences (Kram, 1983, 1985).

Most mentoring relationships are informal (Kram, 1985). Informal channels and alliances help employees develop strategies and improve their organizational power (Hill, Bahniuk, Dobos, and Rouner, 1989). For example, in one study, protégés in informal mentorships reported more career-related support from their mentors and higher salaries than did protégés in formal mentorships and nonmentored individuals (Chao, Walz, and Gardner, 1992). Other research has demonstrated that mentoring is related to promotions (Dresher and Ash, 1990), career mobility (Scandura, 1992), career satisfaction (Fagenson, 1990), and positional power in the protégé’s organization (Ragins, 1997).

Alternative mentoring relationships involve peer interactions through which colleagues learn from one another, enhancing personal and professional growth (Kram and Isabella, 1985). For example, Argote (1993) found that groups of interdependent individuals learn faster (perform better) than do individuals acting independently. Group mentoring also provides psychosocial support, inclusion, networking, role modeling, and higher job attainment (i.e., job title) (Dansky, 1996). Even long-tenured employees benefit from mentors. Mentors provide advice to help continually improve work practices and can coach seasoned employees for even higher positions in the organization.

Mentoring from a distance is more challenging because mentors are unable to observe telecommuting employees in action. Consequently, they are less able to coach and to counsel telecommuters, and to develop them for longer-term organizational success. The professional development and advancement of telecommuters may be inhibited by the absence of or reduction in mentoring activities.
The degree to which telecommuters miss the three types of professionally enhancing interactions described here may depend largely on their telecommuting location (Kurland and Egan, forthcoming). If they work at home or in a neighborhood work center, where other employees from their organization will likely not be present, they will miss these types of interactions. However, if their remote location is a satellite office, they may be able to benefit somewhat from interactions with other members of their organization. However, the other employees in the satellite office may not be members of the same area within their organization. Therefore, the interactions will still be of less value than in the conventional workplace. In the present study, employees only telecommuted from home. Thus, we leave specific questions regarding neighborhood work centers and satellite offices for future research.

In short, we focus on the following five questions regarding employee professional isolation to guide our inquiry:

1. How does telecommuting affect an employee’s interpersonal networking opportunities?
2. How does telecommuting affect an employee’s informal learning?
3. How does telecommuting affect the nature of the employee’s mentoring?
4. Overall, how does telecommuting affect an employee’s professional development?
5. Do we observe differences in professional isolation concerns between the public and private organizations?

Answers to these questions will provide additional insights into the current nature of the telecommuting’s impact on employee professional isolation.

**Methods**

This research is intended to be exploratory in nature. The former study, on which the current work builds (Kurland, unpub. manus.), relied on informants from two high-technology firms, while the present one adds the city government agency described below. All three organizations had active telecommuting programs and a strong interest in making telecommuting a successful work option. As such, they provided an opportunity to investigate challenges to telecommuting that existed even within friendly environments. In the present study, we interviewed seventeen employees from the city government agency. In the previous study, we had interviewed fifty-six employees from two publicly traded companies. All interviews were recorded and transcribed.

**Data Collection**

Settng–IntelliDat was the largest subsidiary of a $36 billion computer, communications and microelectronics firm with more than 160,000 employees worldwide. This subsidiary analyzed, designed, implemented, and managed intelligently integrated voice, data, and video network solutions that helped customers optimize communications with their customers, employees, and suppliers. During the course of the study, this company was actively developing services and products targeted at the home telecommuter, hoping to take advantage of the growing number of home-based workers.

CompuDat designed, manufactured, and serviced electronic products and systems for measurement, computing, and communication used by people in industry, business, engineering, science, medicine, and education.
It had long been heralded for its family friendly policies and commitment to achieving a healthy work-family balance—values instilled by its founders. The company had over 100,000 employees worldwide and $38 billion in revenues.

CityGov managed and governed a large, Southern California city. It employed nearly 10,000 people including civil engineers, chemists, biologists, and data systems technicians. It offered a formal telecommuting program citywide in 1991 after a successful pilot in 1990 and in response to a California state mandate to reduce pollution and traffic congestion.

One additional point is noteworthy. Compared to IntelliDat and CompuDat, CityGov relies on taxes to fund its activities. Whereas customers to the two high technology firms are primarily those entities which purchase products, customers to CityGov are public citizens. CityGov’s former telecommuting director informed us that, unlike the two high technology firms, CityGov does not purchase for, or reimburse its employees for, home-based work-related equipment of any kind. Reimbursing home expenses or purchasing equipment for telecommuters would tax citizens twice.

Semi-structured interviews - We used a semi-structured interview format to collect focused data from CityGov employees during three months from three types of individuals: telecommuters, non-telecommuters, and supervisors of each. Triangulating the data gathering process in this manner (Eisenhardt, 1989; Glaser and Strauss, 1967) provided input from three perspectives about, as well as a validity check on, each telecommuter’s and manager’s experience. The interview questions were grouped into several categories: current job responsibilities, the telecommuting arrangement, manager control strategies, perceptions of professional isolation, and demographics (see Appendix 1). At the end of each interview, respondents were asked to pinpoint specific challenges of telecommuting that they experienced. Interviews were conducted by phone, were recorded and transcribed, and lasted between 20 and 60 minutes.

Study Informants

Private Organizations - Kurland (unpub. manus.) interviewed five female and twenty male supervisors. Their job areas included information and data systems, manufacturing, consulting, sales, operations, research and development, financial operations, project managers, procurement managers, human resources, product marketing, environmental planning review, and general, regional manager. They ranged in age from thirty-five to fifty-seven years, and all but two had earned at least a bachelors degree (the other two had had two years of college). They had been in their current jobs from one month to twenty-five years, and with their organizations for eight to thirty-one years.

Nineteen female and twelve male telecommuters participated, while thirteen men and four women represented non-telecommuters. Their job titles consisted of plan review specialist, accounting, business analyst, business development, buyer, consulting, financial analyst, operations assistant, personnel, proposal specialist, sales, plan review specialist, assistant chemist, and software engineer. Telecommuters’ ages ranged from thirty-one to sixty. They had been in their current jobs from three months to twelve years, and with the organization from three months to thirty-five years. Many employees telecommuted full-time; others telecommuted only an hour or two per day several days a week. Telecommuters and non-telecommuters all reported that they had had at least some college education. Non-telecommuters’ ages ranged from
thirty-one to sixty-two. They had been employed with their organization from one to thirty-nine years. Half of these non-telecommuters had telecommuted at some point in their professional careers, albeit usually for short periods and informally (not formally organizationally sanctioned).

Public Organization - We interviewed six male and two female supervisors, four male and three female telecommuters, and four male and two female non-telecommuters. Except for age, all three groups were identical with respect to the range of their job tenure, organizational tenure, and job type. In particular, all supervisors were at least forty years of age, while telecommuters and non-telecommuters were at least thirty years old. Otherwise, all study participants had been employed with CityGov from two to more than twenty-one years, had held their jobs from less than two years to as long as fifteen years. Job categories represented included civil engineers, environmental review, support services, data systems coordination and technicians, chemists, and planners. In general, employees telecommuted either one day every one or two weeks.

Data Analysis - The interviews yielded several hundred pages of data. Using Atlas® software, a qualitative data analysis package, we coded the interviews for the three types of managers’ control strategies (behavior, output, and clan) and for employees’ professional isolation concerns. We followed the methods of Snell (1992) to distinguish specific strategies. The entire coding process yielded distinct similarities and differences in the telecommuting tactics and concerns of the private and public organizations in the sample.

Findings

Manager Control

Managers in the private firms and the public organization employed a variety of behavior, output, and clan strategies to control behavior. They used these strategies with both telecommuters and non-telecommuters. Yet, distinct differences exist in the manner by which managers in each organization type used them.

Behavior Controls - The behavior controls managers used included audio conference meetings, scheduled face-to-face interaction, behavior appraised through observation and close supervision, casual conversation and other informal actions, and defined tasks and job formalization. These specific strategies allowed managers to influence the work transformation process, as well as to monitor outputs. (Refer to Table 1)

Audio Conference Meetings - Although CityGov did not use them, audio conference meetings were the most popular medium for the private sector firms to gather team and/or staff members together to converse in one forum. Supervisors used audio conferencing technology, enabling employees to call in from multiple locations, including international sites, to meet vocally. “This forgoes the need to find people,” said one manager, “they can phone in from anywhere.” Managers set specific times for these weekly conference calls. They used these meetings both to distribute and receive information from employees. Audio conference meetings may have been especially popular among these two firms since both developed and manufactured
related technology.

Scheduled face-to-face interaction – Supervisors in all three firms scheduled face-to-face interaction between telecommuters and non-telecommuters. For example, one manager held a weekly staff meeting in which “attendance is required”. A second manager scheduled weekly sales meetings “on Mondays that lasts about 2 hours.” Some CityGov employees were not allowed to telecommute on days on which their section had a weekly meeting. Recognizing the need for face-to-face interaction in the early phases of a software design project, a private-sector manager commented that, “We only meet on Mondays now that we’re past the design phase.” A remote manager at CompuDat held weekly video conferences. Still others met consistently, although less frequently, such as once per month or quarter.

Behavioral Appraisal and Close Supervision – In CompuDat and IntelliDat, managers closely supervised and appraised telecommuters’ and non-telecommuters’ behavior through means other than physical observation. They evaluated employees’ work based not so much on what they did, but on “how well they did it,” and on “accuracy, quality, and [customer] responsiveness,” rather than on how long it took them to complete a particular project. Some managers relied on their instincts, as described by a manager from CompuDat: “[I rely on] a gut feel thing where you work with these people for quite some period of time and over a number of different projects. And you can guess that under one set of circumstances somebody might have gotten a certain amount of work done at a certain time, while working at home they got it done a little bit faster than that.” Still others required telecommuters to submit written updates of their daily work activities on telecommute days or visited telecommuters’ homes to ensure that telecommuters maintained a conducive home working environment.

CityGov used many of the same behavior controls as these firms, but were much more stringent in their reporting requirements and deadlines. Almost all telecommuting employees were required to turn in an agenda before their telecommuting day in which they outlined the tasks they would complete while telecommuting. Also, upon their return to the office, the telecommuters had to turn in another document stating exactly what they had accomplish and how long it had taken them. These formal reporting procedures existed so that CityGov could justify its operations to the taxpayers to which they remained accountable. Extensive rules and regulations of this type often exist in government organizations to ensure that government programs reflect public will (Baldwin, 1990). Non-telecommuting employees were not required to complete such reporting, presumably because their managers could directly observe their work behavior.

Casual conversation and other informal actions – Supervisors in the private sector firms exercised control through casual conversation and/or other types of informal interactions. For example, one manager casually asked his telecommuters, “Where are you gonna work at home? How are you gonna get this [project] done?” Another spent considerable time on the phone with her people, “We just phone when we need to talk to the other about something.” While still another managed his telecommuters by “walking around” and he said that he could do that “within the time that they’re here [at the site].”
Similarly, one CityGov supervisor who is also a telecommuter used casual conversation to find out what her employees did while she was on her telecommute day. She asked questions like “What happened yesterday?” and “How did you handle it?” Then, she would give them feedback about what she thought. Another supervisor used e-mail as the medium for most of his informal communication “We do communicate a good deal via e-mail, and I communicate with her and she communicates with me. We keep each other informed in those things that we need to know. I always have a feeling like I know what’s going on.” Later, he generalized this statement by saying, “I do it with others (non-telecommuters) as well. I probably get and receive and send out I guess 80 e-mails a day.”

Defined tasks, job formalization - To control behavior, managers also used defined tasks and/or formalized job requirements. As one IntelliDat manager commented about a telecommuter: “[He] can telecommute because [programmers] have very detailed, defined set[s] of tasks that [need] to be done with specific due dates.” Similarly, two other managers remarked: “[Telecommuters] have a 2 page document with 35 things on it specifying their job responsibilities, most critical is revenue generation”; and, “We have a list of specific objectives (and) tasks they need to accomplish.” Although the tasks for CityGov employees were very different than in the high tech firms, a good portion of their work was also independent in nature and very formalized. The projects they completed at home included technical reports writing, reviewing land development plans, and preparing training programs. The expectations regarding their performance on these projects were well understood, and they had specific deadlines.

Output Controls - In addition to behavior controls, managers relied on two types of output controls: management by objectives (MBOs) and performance-linked rewards. (Refer to Table 1) Supervisors in the private sector companies held both sales and non sales (e.g., engineers), as well as telecommuting and non-telecommuting personnel, to pre-set performance expectations. They matched these expectations to actual performance to determine employees’ task performance, skill level, and pay and promotion opportunities. Other private-sector managers quantified behavior by monitoring computer use or on-line action-information which the supervisor could access without the employee’s knowledge. Only the supervisor who managed union employees did not use output controls because he had limited power to promote and/or fire.

CityGov used very similar output control strategies as IntelliDat and CompuDat, but it was not as clearly a case of management by objectives. Although the expectations of the telecommuters and non-telecommuters were based on specific assigned tasks that had to be completed, the evaluation of some of those tasks was very subjective in nature, especially for customer service representatives. Supervisors evaluated service employees on customer service skills, how well they dealt with people, and their technical knowledge.

By contrast, one CityGov employee in the plan review department emphasized that she was evaluated based more on objective measures of her performance. She described the evaluation system as based on how many plans she reviewed and the quality of the review. “If you take plans home, you bring them back, they know you did them. They’re not coming back full of errors, so they can monitor what you do. They know whether you’re doing a quality job or not.”

In addition, the timeliness of the completed work was very important. CityGov employees frequently
emphasized deadlines they had to meet for a project. Moreover, while private sector employees linked quality task performance to organizational promotions, few city employees linked goal completion to promotional opportunities. These findings contribute to previous research which found that government managers perceived a weak relationship between pay and performance (Rainey, 1979, 1983; Buchanan 1974, 1975). As such, individuals at CityGov seemed motivated to play within the rules (e.g., meet deadlines), but not exceed expectations.

Clan Controls - Clan controls managers used included selecting employees who had the potential to telecommute successfully and providing some degree of telecommuting training or guidance.

All three organizations specified that telecommuting was an opportunity open to all employees, subject to supervisor approval. Supervisors approved telecommuting for those individuals who both requested it and displayed personal and/or job characteristics such as dependability, ability to work independently, maturity, and experience. The private sector firms usually restricted telecommuting to employees who did not need to interact with internal or external clients. However, CityGov and IntelliDat supervisors, on rare occasions, approved telecommuting even for these employees. When these employees telecommuted, CityGov implemented an employee rotation system for those working the customer counter. By contrast, other CityGov managers felt that they were just a rubber stamp since upper management had mandated that any employee who requested it be allowed to telecommute.

In CityGov, employees who opted to work at home attended a four-hour telecommuting training course. Some formal training also existed for the supervisors to help them manage telecommuters more effectively. Neither IntelliDat nor CompuDat held formal training to this extent. However, some private managers provided elements of telecommuting training. In one case, the supervisor talked through the implications of telecommuting with the incipient telecommuter and his would-be non-telecommuting colleagues. In another case, as part of the application process, managers talked with prospective telecommuters about expectations and responsibilities they would be accountable for while telecommuting.

In general, though, telecommuting training for the private firms appeared sparse and dependent on the individual supervisor, despite a contrary belief by Human Resource personnel at both IntelliDat and CompuDat that they provided telecommuters with both training and guidelines to foster effective telecommuting. Moreover, many private employees believed their company and supervisor took a “sink or swim” attitude towards telecommuting.

In short, the two private companies supplied technology for use in employees’ home offices, but they stopped short of training both telecommuting and non-telecommuting employees about expectations, responsibilities, and common challenges they might encounter. Conversely, CityGov did not supply employees’ home-office equipment, but they offered training for both telecommuters and supervisors of telecommuters. However, they, too, stopped short of training non-telecommuting employees who worked with telecommuters.

In sum, managers in both public and private organizations used behavior, output, and clan strategies. Yet, the public organization seemed to emphasize behavioral control and clan control strategies to a greater extent than the private firms, as evident from their strict reporting procedures and formalized training program. However, except for telecommuting-specific strategies such as telecommuting training and selection and detailed accounts of work activities on telecommute days, managers did not seem to use different control strategies for telecommuters compared to non-telecommuters.
Employee Development
Compared to our findings regarding managerial control concerns, the findings for employee development were even more pronounced. The data showed that under certain conditions telecommuting could definitely hinder the professional development of employees. Distinct differences also emerged with regard to how private and public organizations perceive these developmental hurdles. The comments in the following section are representative of the interviewees’ perspectives.

Interpersonal Networking - Important clan controls are shared values and trust which contribute to interpersonal networking. Private sector managers noted that face-to-face contact was critical to creating such mutuality. One IntelliDat manager required her employees to go to their local office for monthly meetings, to chat with people, to pick up their mail, and so on, just to learn names and meet the people.

Many private sector managers found that reduced face-to-face interaction impeded trust and that fractured trust negatively affected productivity. One IntelliDat manager commented:

> There’s tremendous value in having people spend social time together. People will ultimately talk about work. But when people telecommute, you don’t have those idle conversations in the hallway, in the break room. It’s harder for people to go have lunch together or go out after work together...That lack of morale and camaraderie really impact people’s performance...

In addition, some private sector telecommuters felt out of the loop and voiced these concerns to supervisors. One manager at CompuDat commented:

> “I’d say there is a downside for the telecommuters and that’s not being here...I guess you get a little unplugged from what’s going on, you know? If nothing else you’re out of reach of the rumor mill. It goes a little bit beyond that; people aren’t here to see what you’re doing and watch you doing it on a day-to-day basis and you kind of tend to get out of sight out of mind a little bit—this becomes a problem especially when it comes time to rank them.”

A CompuDat non-telecommuter voiced a similar concern:

> So, a big part of the job experience is the social interaction. And if you’re not here, then you could miss out on that. And frankly, unless you’re a real superior performer, I think that if you had two people—one that was present and involved in social small talk versus one who is at home more, and they are equal performers in a supervisor’s eyes—I think that they would tend to lean towards the people who are here. That’s what I would guess.

Private sector telecommuters also complained that they did not have ready access to people—to ask questions of—and to information—which they would otherwise have gathered through casual conversations. Indeed, several telecommuters recommended against telecommuting if the employee was or wanted to be active politically and maintain high visibility.
By comparison, CityGov supervisors and employees seemed less concerned that telecommuting might impede interpersonal networking opportunities. Two telecommuters stated that they did not have access to the organizational grapevine and did not care. Another non-telecommuter who had recently been hired stated that he was not keyed in to the grapevine because he did not expect to be promoted in the short-term. Still others, telecommuters, non-telecommuters, and supervisors alike stated that the grapevine was not that important.

But opinions did differ. In stark contrast to the previous comments, a non-telecommuter believed the grapevine helped her to be more productive. Two supervisors urged that people needed to have access to the grapevine in order to get ahead—although, one of these same supervisors believed that if one was working, then one was not talking.

Overall, though, supervisors and employees seemed to perceive that the grapevine and interpersonal networking seemed to play a much less vital role in employee advancement and organizational effectiveness than in the private sector companies.

Informal Learning - The public and private organizations were similar in that they both acknowledged the importance of informal learning. One non-telecommuting employee in CityGov, who was relatively new in his position, described the importance of such learning for himself, “...for the most part I’ll roam around...[get] a little bit of feedback here, a little bit of feedback there. I don’t think I could go eight hours without needing anybody else’s input.” A private sector manager’s comment reflects a similar sentiment, “Most communication here tends to be informal communication, not meetings, not memos, or things like that.”

Differences between the public and private organizations emerged in relation to how they perceived telecommuting in relation to informal learning. The private sector managers complained that telecommuters missed out on these learning opportunities. The second individual quoted above affirmed that participating in formal, scheduled meetings was not enough to compensate for the loss of interaction. In the private sector, team members often served as role models who learned from one another, as the following CompuDat non-telecommuter and IntelliDat manager separately observed.

I find that if [telecommuters aren’t] there just when I happen to be...[L]et’s say we’re in another building. We’re working on a project and we need [my telecommuting co-worker] over here who’s...a key part of this project and we look over [at his cubicle]—just to jump in on this two minute conversation—and he’s not there and we’ve got a group of people gathered, I think that often that piece of the puzzle [that he would bring] gets left out.

I’m going to sound terrible and very backward because we work for a company that provides all this stuff that we’re going to sell telecommuting. Personally, I do not like it. I would prefer my people not telecommute. I like having them here. I like having them work together on projects, or just in their daily work. [The telecommuter] may be working on one thing and [another employee] may be working on something entirely different. And [the telecommuter] has got a problem and can’t figure out how to do this. And I know when I was back there doing what they are doing, to have those other people who are doing the same kind of work, just to sit down and say, “[Another employee] could you take a look at this? Have you got any ideas on how I might solve this prob-
lem?” Or maybe there is some work to do, “Do you see any bugs in this thing?” And you miss all of it if you’re telecommuting. And I watch my people, this kind of working together, they like each other; they’re friends. They go out to lunch together. They enjoy each other. And they all pull together when we’re under pressure to get something done. And if you have them telecommuting and each one of them is sitting in an office in their own home, they may be damn good programmers, but they’re not getting that interaction. Especially with the technologies progressing so rapidly, it’s important to have the ability to bounce ideas off of somebody else. “Hey, did you try this? Look what happens when you do [this]...” Do you know what I mean? They don’t have any of that. So I think they stimulate each other and help each other learn. That’s all missing when you’re telecommuting.

Alternatively, individuals in CityGov did not perceive that their telecommuting employees missed enough interactions for it to have negative consequences. They reasoned that telecommuting only one day a week did not cause employees to become isolated in any way. The following supervisors’ comments illustrate this point.

But keep in mind that, at least in our organization, we only do it once a week...some people once every two weeks. So I would say even if there are some concerns in that area it would be minimal, and they probably can make up for it by maybe attending other seminars or things of that nature.

[There are some days when there’s nothing new even when I’m there. And telecommuting doesn’t...it does take me out of that loop, but I don’t think a day really impacts.

Overall, private sector employees were more likely to perceive telecommuting as negatively affecting informal learning than were public sector ones.

Mentoring - Private sector managers commented that because they were unable to observe telecommuters in action, they were less able to coach and counsel these employees to develop them for longer-term organizational success:

In our business, it’s probably true in a lot of people’s business, the coaching and counseling that you do with people is really, really critical. And it’s a constant process as a manager. And as a manager’s manager, that’s a constant process for me. So that’s one of the challenges. How do you develop your people? How do you have enough face to face, or enough time in a professional environment with them to be able to see the things they need to improve on? And to be able to then spend that coaching and counseling time with them? If you do everything remotely, it’s really hard to get a sense at the end of the quarter, at the end of the half. How do you do somebody’s review? And how do you assess their performance, skills...? It’s easy to identify their performance based upon activity and, you know, the results. But how about those personal development, or [skill] development issues, that you really need to focus on? So there’s got to be a balance there.

In this passage, an upper-level sales manager expressed frustration about effectively mentoring employees in
virtual environments. As a sales manager, he relied heavily on output controls to monitor performance. Yet, he still lamented, “How do you develop your people? How do you have enough time face-to-face ... to be able to see the things they need to improve on?”

The following manager felt similarly frustrated:

There are certain things that you just don’t tend to talk about [on the phone]. You know, there may be things that bother you about your job, you feel like you either don’t have enough work or you don’t have enough direction. And people just don’t think about picking up the phone to call me and tell me those challenges. For example, this week I had to go to Dallas for a totally different reason and I was able to meet up with one of my employees and we just went out and spent the evening together just talking. And a whole bunch of stuff came out that he would’ve never told me on a phone call. You know, I asked him, “Well are you happy here?” You know, “What are some of the challenges you have? Do you feel like you have enough work?” And I suppose I could certainly ask those questions on the phone. But when we’re on the phone we are so focused on day-to-day tasks and job opportunities that are coming up. We’re strategizing on new accounts, and we’re very focused on performing a specific job and we don’t spend very much time just shooting the breeze. You know, when you’re having casual conversation and you’re relaxed and you have more time, you just start getting feelings out and thinking about things that otherwise you don’t talk about on the phone because you’re so regimented. If thirty seconds goes by and nobody talks, you hang up. I don’t know what they’re thinking and feeling when I don’t see them.

In this case, a manager felt frustrated because she could not communicate on a deeper level with her employees to better understand how they were doing. She believed that the type of information and personal connection she sought was difficult to achieve without frequent face-to-face interaction.

Compared to the private sector, CityGov managers did not find mentoring telecommuters challenging for several reasons. First, as one supervisor observed, in the private sector a manager can hire someone for a particular job. “In the city, a lot of times someone’s on a list, and their skills may not be those of the job that you want because they were on a list, ... So, it’s really important to me to make sure that in their current job, they do some stuff that’s in the next step up...” Therefore, it appeared critical that the supervisor, who also telecommuted, train her employees “for one level up.” She believed she could effectively mentor her employees in the aforementioned manner through computer-mediated communication.

Second, employees did not telecommute frequently enough that remote mentoring became an issue. Rather employees and supervisors continued to informally mentor when employees were on-site. For example, one employee stated that, “Usually [my supervisor] will answer a question, or I’ll wander around and get feedback from...[an]other 40 or 50 people, no one in particular though.”

Third, supervisors mentored employees through formal communication channels. For example, one non-telecommuter stated that her supervisor, who telecommuted, mentored her through email by asking her to do something and telling her how to go about doing it. Others found they were mentored through staff meetings during which the supervisor would go over what everyone was doing and any problems they were experiencing. Another supervisor stated that he mentored by allowing individuals to attend professional and personal growth
meetings.

Lastly, supervisors and employees believed they did not mentor, were not mentored, or were generally unclear on what the process of mentoring meant. In one case, a supervisor stated that he kept his people informed but he did not “really mentor them in the classic sense of taking someone aside and saying I’m going to train you.” Employees seemed to concur. Two telecommuters believed they received no mentoring. Indeed, they believed that supervisors did not mentor unless someone was brand new at which time the person received some initial training. Moreover, in contrast to the telecommuting supervisor referenced earlier, one non-telecommuter believed that employees had to come to the job with their own skills and, thus, should not expect to be mentored.

Discussion, Limitations, and Future Research

In short, CityGov supervisors and employees were less likely to perceive that telecommuting affected, negatively (or positively), informal learning, interpersonal networking, and mentoring than were IntelliDat and CompuDat supervisors and employees.

Overall, public supervisors and employees seemed to perceive that the grapevine and interpersonal networking seemed to play a much less vital role in employee advancement and organizational effectiveness than it did in the private sector companies. In part, we can attribute this difference to the promotion process in the two types of organizations. In the private sector, promotion seemed to depend, not only on individual performance, but also on the breadth of the employees’ contacts throughout the organization. One supervisor’s comment is instructive: “I think the fact that they’re not around as much and they don’t get to hear what’s going on and they don’t get to interact with as many people, [it may affect their chance for promotion.]”

By contrast, the bureaucratic nature of the public organization seemed to dictate who was promoted and who received which assignments more than did individual merit or interpersonal networking. The following comments, one from a supervisor and the second from a non-telecommuter, illustrate this difference. A supervisor, who also telecommuted, stated, “As far as promotions, government promotions are not done by the reward method; they are done by time and grade or application for an open position.” A non telecommuter opined, “[T]here’s more of a hierarchical structure around here where, depending on how complex a project is, that often dictates who gets what project more than any kind of political pull…”

Many individuals in CityGov stressed the importance of informal learning, but believed that it was not a problem, because of the infrequency of the telecommuting. More frequent telecommuting may negatively affect informal learning. One supervisor’s comment reflects this idea, “There’s a lot of cross fertilization and interface that goes on and learning that goes on in the office environment that would not be as available if they were to be telecommuting…if they could do something like that on a full time basis…”

Noticeably, both types of organizations perceived informal learning as important. They differed because private organizational members perceived that telecommuting employees suffered because they missed out on this type of learning. Yet, we might attribute this difference to the fact that employees in the public sector organization telecommuted less frequently than employees in the private firms. Future research must then contend with the following question: If both public and private employees telecommute equally as frequent will opinions continue to differ regarding the impact telecommuting has on informal learning?
Moreover, on the whole, the interviews documented herein viewed as critical spontaneous, informal interac-
tion. Yet, it seemed to be of greater importance in the private sector firms. Employees in the private sector had tasks 
that were more interrelated, compared to the tasks of employees in CityGov. In addition, private sector employees 
were more likely to have spontaneous meetings and more likely to make impromptu decisions regarding their group 
work. As such, we can hypothesize that the concerns of the private firm regarding missed learning opportunities 
will be greater than that of the public firm at any level of telecommuting frequency.

Lastly, we might attribute the above differences in spontaneous learning between public and private em-
ployees to the nature of the work in each organization. The primary business of IntelliDat and CompuDat was very 
different from that of CityGov. Therefore, future research should also compare individuals in public and private 
firms that not only telecommuted at the same frequency, but were also involved in similar tasks.

We found stark differences between public and private managers’ concerns about (career-related) mentoring. 
Specifically, private managers were more likely to mentor through project assignments, coaching, and protecting, 
and more concerned than public managers when telecommuting precluded their ability to.

Only one public manager explicitly stated that she actively mentored her employees. She primarily mentored 
through task assignment and instruction designed to develop and empower the employees for more advanced 
positions. By contrast, several private managers mentored their employees using project assignments, assigning 
goals, and management by objectives.

However, public and private respondents appeared as likely to mentor through coaching. Private supervi-
sors would coach employees via phone, email, in staff meetings, going into the field to work with the employee, and 
pulling the employee into the office. Public supervisors and employees relied primarily on formal staff meetings in 
which they shared information and provided feedback.

Private managers seemed to mentor by protecting more than did public managers. Several private supervi-
sors talked about filling in their telecommuters on information they may have missed while working off-site. Others 
mentioned taking long-term perspectives to develop their people and sponsor their advancement. Only one public 
manager spoke of the need to train and develop her employees. Lastly, peers in private organizations raised more 
mentoring-related concerns when telecommuting affected their ability to offer friendship, counsel, and support.

In large part, both private and public respondents evaluated, or intimated at, their ability to mentor or the 
extent to which they received mentoring as contingent on face-to-face interaction. Private supervisors expressed the 
greatest frustration when telecommuting forced them to mentor their employees remotely. Public employees relied 
largely on formal meetings to coach and counsel employees. Nevertheless, many private respondents and one public 
supervisor mentored through phone and email. Future research can examine the degree to which mentoring re-
motely affects the employee; the degree to which telecommuting frequency impacts a supervisor’s ability to effec-
tively mentor; the degree to which computer-mediated communication replaces the need for face-to-face interac-
tion; and the factors which preclude or facilitate mentoring in public, compared to private, organizations.
Conclusions

This study provided a comparative look at the impact telecommuting has on public and private organizations with respect to manager control strategies (behavior, output, and clan) and employee development concerns (interpersonal networking, informal learning, and mentoring). We found few differences between our respondents in these two types of organizations with respect to manager control strategies. By contrast, public respondents commented less about telecommuting’s impact (negative or positive) on interpersonal networking, informal learning, and mentoring concerns compared to private respondents. These latter differences may be due in large part to five factors: (1) the nature of the promotion process, (2) the frequency of telecommuting, (3) the nature of the industries and job tasks, (4) the availability of technology for off-site use, and (5) the overall comfort of using technology. Future research should examine these factors in greater detail.
Appendix I: Interview Questions

The questions presented below guided interviews with telecommuters. Questions were altered appropriately for supervisors and non-telecommuters.

I. WORK ISSUES

1. Tell me about your job: job title, what your job responsibilities are, and so on.
2. How often do you telecommute? How many months or years have you been telecommuting?
3. Describe some benefits you experience because you telecommute.
4. Describe some of the drawbacks of telecommuting.
5. Are you happy you’re telecommuting? How is it going?
6. Because you’re telecommuting now, do you have any expectations about your:
   • performance?
   • how often you communicate with your supervisor,
   • how often you communicate with your colleagues?
   • how often you communicate with customers?
   • how much training and mentoring you receive?
7. How independent are you in your work? Do you rely on any other people to complete your tasks? If so, on whom do you rely? Can you describe in what ways and how often you rely on them?
8. Would you categorize yourself as a member of a work group or team? If so, who are the other members? Who is the leader? How do you complete your team-related work? Are the other members collocated, etc.?
9. Has your relationship with colleagues, supervisors, customers, etc. changed since you started telecommuting? That is, do you notice any loss of synergy or camaraderie between yourself and the other people in your work group/department since you began telecommuting? If so, does it worry or concern you? Are you making any efforts to address the loss?
10. How do your colleagues and work friends feel about you telecommuting?
11. Telecommuters sometimes complain that they feel isolated from the social network at work. Do you experience this sense of isolation? If so, why? How do you address your isolation?
12. Do you have access to information through the office grapevine when you’re telecommuting? If so, how?
13. How important is the grapevine to you and your career?
14. Why type of information do you tend to miss? And how do you know that you’ve missed it?
15. Does telecommuting impact your ability to be creative in your work? If so, how?
16. Does telecommuting impact your intellectual activity? If so, how?
   • E.g., does it enable freedom?
   • keep your thinking sharp?
   • Dull your thinking because you don’t have constant intellectual stimulation from those around you?)
17. Do you feel you are learning as much in your job as you did before you began telecommuting? How do you learn new things (e.g., about work, clients, technology, etc.) now? Also, how are you mentored now that you are telecommuting? Is it any different from before?

18. Do you have colleagues and/or friends with whom you hash out ideas or brainstorm with? If so, how often do you interact with these people? And what type of communication media do you use (email? telephone? face-to-face?)? Who do you communicate with mostly?

19. Did you volunteer to telecommute or were you assigned to it? If you volunteered, why? Do you see the option to telecommute as a reward?

20. How does your supervisor feel about you telecommuting?

21. Do you communicate any differently with colleagues and your supervisor now that you’re telecommuting? If so, how?

22. How is your performance evaluated? Has this changed since you started telecommuting? E.g., is it:
   • more results-oriented?
   • more formal job guidelines?
   • more formal communication?

23. One fear telecommuters have is that when they’re out of sight, they’re out of mind for rewards, such as promotions or being assigned good projects. Do you believe that telecommuting affects you in that way? Do you think it prevents you from receiving rewards you believe you deserve (e.g., promotions)? Why or why not?

24. Do you believe your supervisor treats you fairly? Why?

25. Do you believe your supervisor treats you with respect? Why?

26. Since you’ve been telecommuting, do you find it easier or more difficult to talk with your supervisor and/or colleagues about issues that are important to you, either personal and work-related? Why or why not?

**FAMILY ISSUES**

1. How has telecommuting affected your family life?
   • Are you able to spend more quality time, more time in general with your family?
   • Do family needs distract you from your work?
   • Have you had to assume a greater amount of family responsibilities because you telecommute?

**COMMUNITY ISSUES**

1. How has telecommuting affected your life in the community?
   • Are you able to spend more time developing community ties?
   • Do you spend more time in the community because you are telecommuting? Explain.
SELF ISSUES

1. Demographic data
   - years telecommuting
   - years with current company
   - years in current job
   - sex
   - age
   - children, ages:
   - children living at home
   - marital status
   - spouse’s occupation; does spouse also telecommute?
   - estimated family income (a: less than $25 K; b: $25,001 to $40,000; c: $40,001 to $60,000; d: $60,001 to $90,000; e: $90,001 to $125,000; or f: $125,001 to $175,000, or g: greater than $175,000.
   - your occupation
   - highest level of education
   - other relevant information you’d like to share?

GENERAL:

1. If you could change anything, what would you change to improve your telecommuting experience?
2. What about telecommuting do you find most challenging?
3. What did we miss?
4. What about the practice of telecommuting would you like to know?
Table 1: Three Types of Control Strategies

<table>
<thead>
<tr>
<th>Control Strategy</th>
<th>When Used</th>
<th>Examples</th>
<th>Benefits</th>
<th>Data Excerpts</th>
</tr>
</thead>
</table>
| Behavior Control | • Clear cause-effect exists between activities and output  

  • Results are hard to measure  
| Standard Operating Procedures  

  • Job formalization  

  • Meetings  

  • Other scheduled interaction  

  • Close supervision  
| On going feedback to correct deviations as they occur.  

  • Control is a task design problem.  

  • Centralizes power in immediate hierarchy (e.g., direct supervisor)  
| • Job requirements are clear.  

  • We have meetings once a month in the branch office.  

  • We have weekly Wednesday morning audio meetings.  

  • My supervisor will call me certain times during the day. And if we’re not working, it’s obvious. |
| Output Control | • Clear cause-effect does not exist between activities and output  

  • Results are easily measured  
| Specified result  

  • Performance-reward links  

  • Pre-established targets linked to performance evaluation  
| Distributes power throughout organization  

  • Tool to communicate employee performance throughout large organizations.  

  • Tangible evidence of results  

  • Provides employees discretion over means to achieve organizationally-determined ends  
| • I get rewarded for making sales—base plus commission.  

  • Evaluated by my supervisor’s observation of my results.  

  • We have an annual quota.  

  • Any given month I provide some statistics, errors, etc. and I’m evaluated in part on that information. |
| Clan Control | • Acculturate new employees  

  • Prevent performance problems  

  • Manage employee potential  
| Company rituals  

  • Training  

  • Selection/Hiring criteria  
| Creates shared values  

  • Prevents performance problems  
| • We do team building; once in a while our whole team will go and play golf or something like that  

  • The company takes a “sink or swim” attitude (re: the lack of telecommuting training)  

  • We required that people talk about the potential issues with their bosses as part of the application process to telecommute. |
References


US Department of Transportation, Transportation Implications of Telecommuting, 1993 (http://www.bts.gov/NTL/DOC/telecommute.html)


This study relied predominately on Snell’s (1992) typology: behavior, output, and input control strategies. Snell focused only on two elements of clan strategies—training and selection—and therefore, labeled the latter strategies “input.” In the present study, we took into account more than training and selection and thus used the broader term “clan” rather than “input” strategies.

Kurland had focused on group synergy, informal, interactive learning, and mentoring.

We use pseudonyms for the three organizations and all the individuals in our sample.

Several employees we interviewed both supervised telecommuters and either telecommuted or did not telecommute. In these cases, we analyzed their interviews from the two relevant perspectives.

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