AN INVESTIGATION OF THE RELATIONSHIPS BETWEEN SOCIAL CONTACT (TELEWORK), AND JOB SATISFACTION

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ABSTRACT

The present study aimed to examine the relationship between the social contact and job satisfaction of teleworkers. Telecommunications and computer technology has enabled the development of work arrangements that allow employees to perform their work at home. This is the basic premise of telework, that work can be conducted away from the office using computers and telecommunications technology to transmit and receive work. Although surveys and anecdotal evidence indicate that social isolation is one of the major reported drawbacks of telework especially for women, there have been no in-depth studies investigating this. It has also been speculated that personality, especially introversion, may be related to workers being satisfied with telework and that having a mentor reduces the social isolation of teleworkers but again, no investigation has been carried out to examine these claims. Seventy-six subjects (35 males and 41 females) answered a self-report questionnaire. Correlational analyses were carried out and findings suggest that the first hypothesis that telework involves low social contact and is not satisfying, was only partially supported. Results indicate that there is only a moderate relationship between job satisfaction and the quality of social contact. The second hypothesis that females would not be satisfied with telework because females have a greater affiliative need was not supported. In fact, it was reverse was found the relationship between social contact and job satisfaction was stronger for male teleworkers. The third hypothesis that extroverts will not be satisfied with telework was supported, the relationship between the quantity of all social contact and job satisfaction was stronger for extroverts than introverts. The fourth hypothesis that telework will be satisfying for those with a mentor could not be investigated due to lack of data. It was concluded that the relationship between social contact and job satisfaction was not as strong for teleworkers as speculated which means that social isolation may not be as great a problem as suggested. However, the small sample size limits the ability to generalise the results to the population and further research needs to be done to develop more sensitive measures for social contact and telework.

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CHAPTER ONE
INTRODUCTION

1.1 Technology and Work

Over the past two decades, computers and other forms of advanced technology have provided management with a mechanism with which to instigate alternative working arrangements to address growing work place complexities. As a result, arrangements, such as flexitime, compressed work weeks, job sharing, and part time employment have all been developed to address growing workforce diversity, greater attention to work-family conflict and changes in worker lifestyles (Hartman, Stoner, & Arora, 1992). Furthermore, the amalgamation of computer and telecommunications technologies has led to the development of work arrangements that allow employees to work from remote sites or 'Telework'.

Basically, telework can be thought of as using computers and telecommunications technology to transmit and receive work. Traditionally, employees go from their homes to offices to perform work, but with telework it is the work rather than the person that is moved. One formal definition of telework is "work that is performed remote from clients or employers, assisted by electronic communication facilities for example, telephone, fax, modem, networked computer" (Schoeffel, Loveridge & Davidson, 1991, p. 1).

1.2 Telework, Social Contact, and Job Satisfaction

The literature on social contact and work illustrates the crucial role that interpersonal relationships play in the working lives of employees. For example, It has been found that social contact, especially with peers, assists in the reduction of uncertainty for employees who have been transferred from one location to another (Jackson, 1992). In addition, perceptions of job characteristics have been found to be affected by social information provided by others in the organisation (Riley & Wrench, 1985).

It is important to note that job satisfaction and job dissatisfaction are not diametrically opposed, but can be attributed to different factors in the work sphere (Landy, 1985). The literature on job satisfaction suggests that there are 2 main components of job satisfaction: job content and job context (Landy, 1985). Job content, refers to factors such as recognition, responsibility and advancement. Job context, refers to factors such as working conditions and relationships with co-workers. Because social contact is a job context factor it will not produce job satisfaction in itself but it will help to make an individual feel less dissatisfied with their job (Herzberg, Mausner, & Snyderman, 1959).

In addition, for relationships to be satisfactory, interaction needs to be a "combination of frequent interaction plus persistent caring" (Baumeister & Leary, 1995, p. 497). Therefore, frequent contact with strangers and casual acquaintances not produce satisfactory relationships; neither will infrequent contact with close friends and intimates.

It would be reasonable to assume that the social isolation of teleworkers would be an obvious variable for analysis because the nature of teleworking reduces and nearly eliminates the need for face to face contact. However, there have been no in depth studies investigating the importance of social contact or communication to the job satisfaction of teleworkers.

Communications with peers or supervisors are more complex for teleworkers than for traditional office workers because face to face communication is often not possible. While teleworking technology can be used to facilitate sophisticated communication links with co-workers and supervisors there still are important differences between and Face to Face communication (FTF) and Computer Mediated Communication CMC.

The main differences between face to face contact and computer mediated contact are, frequency, interactivity and expressiveness (Fish, Kraut, Root, & Rice, 1993). The majority of CMC tools reduce the frequency and spontaneity of communication (Holland & Hogan, 1998). This can be attributed to the inability of common CMC tools used by teleworkers to capture many of the elements of FTF communication.

Because much of the communication available to teleworkers is text based it is cognitively different to simply leaning over and talking casually to work mates in an office setting and also demands a degree of planning and forethought which reduces the likelihood of spontaneous and frequent communication (Hamilton, 1987). For example, the composition of an E-mail or facsimile by a teleworker is a deliberate and purposeful act, which requires that thoughts are put into writing and that a reply be received before another response can be generated.

In addition, the "visual channel (in FTF interaction) allows individuals to identify a partner, topic and moment for conversation" (Fish et al., 1993, p. 2). Thus, in the absence of a visual channel, teleworkers are unable to judge if a co-worker or supervisor is available for comment, which further reduces the spontaneity of communication.

Strangely, although the Internet and other CMC facilitates communication between users it has been found that those using the Internet experience feelings of social isolation. This contradiction has been called the 'Internet paradox'. Studies investigating this phenomena have found that, Therefore, as a medium for communication, e-mail and other text based CMCs are socially impoverished and unable to convey the nuances of communication as found in face to face interactions (Kraut, Lundmark, Patterson, Kiesler, Mukopadhyay, & Scherlis, 1998).

When video and audio conferencing was trialled as a medium for communication there were mixed results. Because video conferencing captures the main features of FTF interaction it would be reasonable to expect that is a suitable medium for communication. However, contrary to expectations the perception of video conferencing and the frequency of its use were similar to that of intentional telephone calls rather than to the spontaneous and informal communication supported by FTF interaction. Also, while the system was successful in starting conversations, participants reported that it was still inadequate for accomplishing work when compared to FTF conversations (Fish et al., 1993).

The main criticisms of the studies investigating telework and job satisfaction lie in the lack of empirical data. For example, some studies purportedly investigate the job satisfaction of teleworkers but no indication is given about what job satisfaction

measure was used, or what the mean score was or even if there was a correlation between job satisfaction and telework.

Indeed many studies have supposedly investigated the job satisfaction of teleworkers but not reported any empirical data, for example, Hartman, Stoner, & Arora (1992) reported that "satisfaction with telecommuting was determined from a job satisfaction scale" (p.36). However, what the job satisfaction scale was or how it was derived was not mentioned in the study.

Other reports of job satisfaction and telework fail to analyse the qualitative data in any meaningful way. For example, interviews have been used to gather information about telework and job satisfaction but the investigators do not provide the reader with any information regarding whether the interviews were structured and what method if any, was used to analyse the interview data.

1.3 Telework, Mentors, and Job Satisfaction

One factor that has been found to effect job satisfaction is having mentor. Having a mentor has been associated with career advancement (Lunding, Clements, & Perkins, 1979; Scandura, 1992), increased levels of pay (Roche, 1979; Whitely, Dougherty, & Dreher, 1991) and higher job satisfaction (Burke, McKeen & McKenna, 1994; Riley & Wrench, 1985). The link between having a mentor and job satisfaction appears to particularly be true for females (Kanter, 1977; Morrison, White, & Van Velsor, 1987).

It is possible that mentors may provide teleworkers with a link to the organisation, someone to identify with within the organisation, thus reducing feelings of isolation. Again, while authors have speculated about this relationship, no studies could be found that investigated the relationship between satisfaction with telework and having a mentor.

1.4 Personality and Telework

Because the nature of telework is socially isolating, it has been suggested that some people maybe more suited to telework than others or that they "possess the necessary

personality characteristics to be productive in spite of the problems (of social isolation)" (Holland & Hogan, 1998, p. 2).

The scarcity of social contact for teleworkers may have a negative effect on certain personality types to satisfy their need for affiliation. For example, it would be expected that teleworkers who could be classified as extraverts (those who have a tendency to be sociable and warm to others) would be less satisfied with telework than introverts.

One other possibility is that individuals are self-selecting, that is, they choose the mode of work that suits their personality best. For example, those who are more extraverted will choose to work in the office environment rather than telework. Once again, although there has been much speculation there has been no research in this area.

1.5 Telework, Gender and Job Satisfaction

As a variable in analysis, gender has generated a legion of investigations concerned with gender differences in innumerable personality traits and dispositions (Deaux, 1985). In many studies, the term 'sex' has been used in place of 'gender' and in other studies the terms appear to be interchangeable (Mason, 1995; Lefkowitz, 1994). There is however, a theoretical difference between the two terms.

Deaux (1985) has provided a clarification of both terms: 'sex' refers to the biological based distinction of male and female, whereas 'gender' refers to the psychological features often (but not always) corresponding to the biological categories.

In studies of telework, the term 'gender' is most commonly used however, the distinction is not made between 'sex' (biology) or 'gender' (psychology). Because questionnaires are the most common data collection technique in telework studies, it is assumed that participants would have identified themselves as male or female based on intellectual self-identification thus, the psychological 'gender' is likely to be the most appropriate term.

The potential for telework to address many of the issues related to work and family conflict, has resulted in it being simultaneously heralded as both an opportunity for equality between the sexes and at the same time, oppressing and exploiting women

(Huws, 1991). On the surface, telework appears to be a solution for childcare issues and other family commitments, but closer inspection reveals that it may not be the panacea it first appears to be. Qualitative data reveals that male teleworkers often have a specially designated area of the house to work - a home office set up - away from disruptions (Monod, 1985). However, women who work from home must often combine work and childcare responsibilities. As Monod (1985) states, "when the woman works from home, she does so in the dining room surrounded by all her household equipment, including the children; when a man works from home, he takes over one specific room and turns it into an office. In the home context the woman loses her professional status, whereas the man holds on to his" (p. 139).

Comparisons of male and female teleworkers have found large discrepancies in pay, employment status and working hours (Huws, 1998). In addition, research indicates that when compared with men, women are less satisfied with their jobs (Hulin & Smith, 1964; Voydanoff, 1979), and value intrinsic job factors less (Herzberg, Mausner, Peterson, & Capwell, 1957).

Furthermore, it has been found that women value their co-workers and the affiliative features of their jobs more than men (Centers & Bugental, 1966; Manhardt, 1972). These findings do little to dispel traditional stereotypes of women as being warmer, more expressive and caring greater for others than men (Deaux & Major, 1987).

However, it is possible that these results are misleading because it is not clear if these variances are the result of gender differences or factors such as education level, occupation level or type of occupation. As Hulin and Smith (1964) state, "it is...the entire constellation of variables that covary with sex, for example, pay, promotion opportunities, societal norms, etc., that is likely causing the sex differences in job satisfaction" (p. 9).

Summary

To sum up, although telework has generated much speculation and discussion, there is a definite lack of in-depth research or assessment into the consequences related to this alternative working arrangement.

What little research does exist, indicates that one of the foremost concerns of researchers and teleworkers is social isolation (Forester, 1988). However, exactly how social isolation affects work behaviour is an issue that remains to be addressed.

In the next chapter, the literature on telework is examined from a theoretical and methodological viewpoint in an attempt to understand the concept of telework and its relation to work behaviour. From this a theoretical framework is proposed which provides constructs for the conceptualisation of the research problem

CHAPTER TWO
LITERATURE REVIEW

2.1 Different Approaches to Telework

In developing new ideas and methods of analysis it is important to first identify the conceptual, methodological and theoretical strengths and weaknesses encountered in previous research. Overall, there is a surprising lack of empirical investigation evaluating the effects of telework on organisational effectiveness or employee satisfaction. Holland & Hogan (1998) go as far as to state that there are "NO empirical studies in the mainstream literature" (p. 2).

Discussion on telework is abundant and can be categorised as either survey data or anecdotal evidence. Although this type of data is useful for assessing the spread and individual experience of telework, it does not provide enough detailed information for developing telework as a conceptual construct.

Most surveys are organisation specific, meaning that surveys are designed for a specific company with certain goals in mind. At best the findings may not be applicable to other situations, and at worst the survey may produce biased results. For example, studies examining the impact of teleworking on productivity are usually conducted by one organisation at a time. These studies lack a stated definition of telework and do no use control groups (Feldman & Gainey, 1997).

Moreover, discussions of telework lack conceptual clarity and frustrate attempts at cross-study comparisons for two main reasons. Firstly, because interest groups and organisations have looked into telework using a multitude of definitions. And secondly, very few studies actually state what their definition for telework was (Kraut, 1987; Huws, Korte, & Robinson, 1990).

A few surveys have been conducted across organisations and these give researchers an indication as to the general trend, feelings and nature of telework (KPMG, 1997). But

even with this type of survey there is no evidence provided as to how telework was defined or how the data was analysed.

2.2 Theoretical Perspectives

Originally, the driving force behind the concept of telework was the supposition that technology could be used to bridge the distance between the main centres of business and a geographically dispersed labour force. Teleworking (or telecommuting, the American synonym) was seen as the answer to reducing the levels of energy consumption - in particular the high levels of petroleum consumption incurred by commuters during the 1970's oil crisis (Nilles, Carlson, Gray, & Hanneman, 1976).

Research into Telework aimed to give public policy makers technology supported solutions for many societal problems, for instance, over crowding in urban areas, environmental pollution, energy shortages and the peripheralisation of economic regions. Telework could therefore, address these issues by enabling employees to work from remote locations thus, significantly reducing the volume of daily commuters.

In "The Third Wave", Toffler (1980) transformed the idea of telework into the 'electronic cottage' where information technology was seen as the fundamental element through which the economy and the emerging information economy would be developed. The 'electronic cottage' became an important icon in revolutionary (post-industrial) predictions about the birth of the 'information society' (Jackson & van der Wielen, 1998).

The 'electronic cottage' highlights a departure from previous patterns of working and living. It is a forecast for a future where information technology facilitates the re-integration of work, family and community. Toffler (1980) predicts that work will be conducted from home offices that are linked electronically to the offices of employers and clients.

However, Toffler's (1980) conceptualisation of telework as a vision of the future does little to advance the cause of telework as a viable work arrangement with practical merits for the present situation. Toffler's (1980) focus is not on the practical usefulness

of telework or the technology that supports but on symbollic issues much like (although in contrast to) Orwell's '1984'.

The uptake of information technology is a social and political process where individuals do not passively adapt to new technology but actively shape it for their own purposes as well as transforming and configuring it as ideas evolve (McLoughlin & Harris, 1997). However, technological development is often mistakenly seen as a unique, isolated and independent determinant of social change because changes in organisation and productivity have been closely associated with technological advances.

Many advocates of telework have underestimated the social and organisational changes that are necessary for the successful implementation of a telework programme (Forester, 1988; Durrenberger, 1989; Gordon, 1988; Olson, 1988; Jackson, 1992; Van der Wielen & Taillieu, 1995). This is especially apparent when teleworking has been promoted based on the idea that it is a simple and economically desirable solution – that is, merely to work at home, reduce office space and curtail commuting difficulties.

In a similar vein, organisations have failed to appreciate that the workplace is not merely a physical location but the centre of collaborative enterprise. This over emphasis on the shift in the physical workplace - from the office to the home has resulted in many pilot programmes reporting unsatisfactory results where the advantages of telework failed to outweigh the - unexpected - social and organisational problems (Jackson, 1992; Gillespie & Feng, 1994). However, there is still a lingering emphasis on the idea that telework just a shift from the physical work environment. Telecommute America still considers telework as "the substitution of computing and telecommunications technology for the traditional automobile or bus commute" (Telecommute America website, 1999).

Telecottages have been developed in an attempt to combine teleworking and an office environment. Telecottages are best thought of as a 'half way house'. Workers go to a central workplace but unlike a traditional office, workers may be from many different organisations and have different occupations. Thus, workers are exposed to a more traditional working environment that allows for face to face interaction which may reduce feelings of social isolation. (Horner & Reeve, 1991).

Urban drift is a topical issue in New Zealand and while teleworking has failed to ignite the interest of New Zealand organisations, telecottages may be the answer. Previous surveys of teleworkers in New Zealand have found that employees are interested in telework but organisations have been slow to show enthusiasm for it (Bray, 1994). The first telecottage was set up in 1995 in Sweeden to curb the drift of workers from rural areas to more densely populated cities (Horner & Reeve, 1991). Since then telecottages have been created in many countries with positive results reported (Horner & Reeve, 1991). However, as with other forms of telework empirical data is scarce.

Another breed of teleworker is the mobile or flexi-worker. This strain of teleworker has no fixed location and can conduct everyday business using mobile technology for example, laptop computers, mobile telephones and facsimiles. Once again, there has been no in depth study about this type of telework.

2.3 Telework: The Need for a Definition

There is currently no standard or stable definition of telework. Although there has been much discussion of telework it is unclear exactly what is being talked about because few studies have a stated definition. This lack of clarity has led to claims that telework "has become...distorted and so lacking in conceptual meaning so as to defy serious investigation" (Holti & Stern, 1986, p. 7).

The lack of a widely accepted definition for Telework also frustrates attempts to forecast or estimate the extent of Teleworking. Some estimates are based on the use of technology as the defining feature, while others use the home as the defining attribute of Telework (Kraut, 1997; Stanworth & Stanworth, 1991).

Although there is no official definition of telework, there are three dominant terms in the telework literature – 'electronic homeworking', 'telecommuting' and 'flexiwork'. It must be noted that these three terms by no means span the spectrum of possible meanings for telework, they are just the most common terms used.
'Electronic homeworking' has dual and conflicting connotations. On one hand it conjures up images of Toffler's (1980) idealised 'electronic cottage' while on the other there is the traditional idea of home work as being industrialised, exploitative and

isolating. This term was popular during the 1980's but appears to have fallen out of favour since then and is not often found in more recent discussions.

'Telecommuting' focuses on travel and commuting difficulties. Furthermore, its rationale is centred on the reduction of transportation problems, energy consumption and environmental pollution (Nilles, et al., 1976). The connotations of telecommuting are of the separation of the worker from a centralised working environment, a situation that is planned and for the public good.

'Flexiwork' is a term that describes those who work anywhere at any time (Qvortrup, 1992). It reflects the trend of current organisational change – a shift from traditional rigid organisational structures to a more flexible, flatter 'matrix' type organisation. Flexiworkers may be ordinary office workers who use telecommunications technology extensively, consider the employee who is contactable via e-mail, facsimile or mobile telephone 24 hours a day.

Just as it is imprudent to venture into telework without considering the social aspects of technological change, it is equally inappropriate to define telework based a single dimension – for example, technology or place of work. To do so would be to underestimate the complexities of telework because such a definition fails to capture the dynamic nature of telework (Korte, 1988; Steinle, 1988; Huws et al., 1990).

Huws, Korte & Robinson (1990) contend that a definition of telework should include 3 dimensions: a) the location of work – home, satellite or mobile; b) evidence of a communications link to an employer or contractor; c) use of electronic equipment. In other words, telework is: "work the location of which is independent of the location of the employer or contractor and can be changed according to the wishes of the individual teleworker and/or the organisation for which he or she is working. It is work, which relies primarily on the use of electronic equipment, the results of which are communicated remotely to the employer or contractor. The remote communications link need not be a direct telecommunications link but could include the use of mail or courier services" (Huws, et al., 1990; p. 10).

Huws et al., (1990) argue strongly that telework is not the same as home work because telework is a much broader term that encompasses remote work that is organised in many other ways, for example, satellite offices or telecottages and neighbourhood work centres can also be categorised as telework. Telework is also different and distinct from telecommuting because the term telecommuting implies the simple substitution of telecommunications technology for commuting to work.

This definition may be problematic because it assumes that researcher and subject are on the same wavelength. Thus it is possible that researchers may discuss issues in terms that teleworkers themselves would not use. For example, the Huws, et al., (1990) definition may be interpreted to include branch offices, decentralised offices and call centres but it is unlikely that branch workers would consider themselves to be teleworkers.

Another problem with the Huws et al., (1990) definition is the inclusion of work that is not electronically distributed. It is important to note that it is not the content of the work which is the main focus for defining telework but the "organisational and technical context of work" (Qvotrup, 1998, p. 24). This distinction is highlighted when one considers the case of an architect who uses a computer at home to assist with his designs and transmits his plans to his employer or contractor via e-mail. Now, consider again the same architect who transmits the same plans using a postal service or courier. While there is no difference between the actual work of the architect, the same work can be considered telework in one technical context but not in another.

While the Huws et al., (1990) definition may be considered too wide-ranging, it is typical of recent definitions of telework. An examination of recent studies reveals that the current definitions of telework are very broad and, if anything they are becoming less exact and more inclusive. By far the most dynamic and broad definition of telework comes from Britton (1994) where telework is simply "a range of new ways of working, using telecommunications as a tool, and (the worker spends) at least a part of the time outside a traditional office" (p. 23).

Some authors have defined Teleworking as *any* work that is conducted away from the office using communications technology (Hartman, Stoner, & Arora, 1992). However,

this definition would also include an - ordinarily office based - employee logging in to their company network from home to meet a deadline for a project. The distinction therefore needs to be made between occasional work done via telecommunication links and teleworking.

While this trend towards broad and encompassing definitions of telework may complement the organisational and social impact of the working environment, a conceptual chasm still remains because these new definitions may be too broad and inclusive to be useful. Based on the current definitions it is still not possible to explain empirically what is, and what is not telework. Such generic definitions would encompass so many wide ranging work arrangements that it begs the question of the usefulness of such an analysis (Hartman, Stoner, & Arora, 1992).

Summary

Discussion of telework should not be taken as gospel but merely as a prima facie case for further investigation. The concept of telework is ill defined and constantly changing over time and with each new study and much what has been discovered is theoretically and methodologically suspect.

Telework needs to be seen in a broader context that requires a conceptual shift in the way that work is conceived. Telework is a part of a much wider phenomenon that goes hand in hand with the increase in part-time work, the development of work teams and a general flattening of the organisational structure (Marmot, 1992).

Moreover, there is no simple cause and effect relationship between technology and work rather this relationship is a complex integration of a diverse range of work activities and strategies (Wild, 1991). Telework can not be seen as simply as a way of reducing energy consumption or combining work and family commitments but as a legitimate form of working.

CHAPTER THREE
THE PRESENT STUDY

3.1 Aims of the Present Study

The present study seeks to investigate telework and job satisfaction in a New Zealand context, drawing upon previous research undertaken in the area. Specifically, the study focuses on the relationship between the social contact of teleworkers and job satisfaction.

One of the aims of the present study is to investigate if there is any relationship between social contact and job satisfaction for teleworkers. Much discussion has been generated about the social isolation of teleworkers, indeed it has been reported as the primary drawback of teleworking (example, Jackson, 1992; Forester, 1988).

The present study also aims to investigate if gender plays a part in the relationship between job satisfaction and social contact. Surveys in New Zealand and overseas have indicated that gender plays a part in the satisfaction of telework (for example, Bray, 1990; Huws, 1990).

Another objective of the present study is to examine the relationship between interaction with a mentor and job satisfaction. It has been found that those who have contact with a mentor have higher levels of job satisfaction than those who do not (Kram, 1985). It has also been found that women who have contact with a mentor have reported higher levels of job satisfaction than women who did not have a mentor (for example, Noe, 1988; Riley & Wrench, 1985).

The present study also aims to investigate this relationship between social contact and job satisfaction with regards to personality. There has been some speculation about the suitability of some employees to telework. Discussion has mainly focused on the possibility that introvert personality types are more suited to telework because of the social isolation associated with telework (Feldman & Gainey, 1997).

In the present study, teleworking is formally defined as: *work that is performed using electronic equipment including computers, modems, facsimiles and telephones. This work must be conducted at a distance from employers or clients and be transmitted using telecommunications technology.* Therefore, not only does the work itself have to be done electronically, it must be remote from clients or employers and submitted using electronic or telephonic means. This excludes people that work at home using a computer but send their work through the postal service. This definition accounts for teleworkers who are self-employed by allowing for work to be conducted away from clients as well as employers.

The main objectives of the study are to examine the relationships between job satisfaction and the amount and quality of social contact of New Zealand teleworkers. This is an exploratory study that will use correlational analysis to investigate the relationships between the variables.

3.2 Hypotheses

Hypothesis 1

As a job, telework involves low social contact and therefore, the job is not satisfying

Predictions:

1a. There will be a positive correlation between the *quality of all contact* and *job satisfaction.* The quality of all contact is measured by the amount of preferred work and personal contact with Supervisors, Mentors, Casual Acquaintances, Work Mates and Close Friends versus actual contact.

1b. There will be a positive correlation between the *quality of 'in person' contact* and *job satisfaction.* The quality of 'in person' contact is measured by the amount of preferred face-to-face contact versus actual contact.

The above correlations will be higher for office workers.

Hypothesis 2

Females have a greater affiliative need and therefore will not be satisfied with teleworking

Predictions:

2a. The correlation between the *quality of personal contact* and *job satisfaction* will be higher for females who telelwork than males who telework.

2b. The correlation between the *quality of work related contact* and *job satisfaction* will be higher for males who telework than females who.

Peripheral Hypothesis 1

Incidentally, extroverts who telework will be not be satisfied with telework as a job because it involves low social contact.

Prediction:

3. The correlation between the *quantity of all contact* and *job satisfaction* will be higher for extroverts who telework compared to introverts who telework.

Peripheral Hypothesis 2

As a job, telework will be satisfying if teleworkers have contact with a mentor.

Prediction:

4. There will be a positive correlation between the *quality of all contact with a mentor* and *job satisfaction*; but the correlation will be lower if the mentor was assigned rather than chosen. Quality of all contact with a mentor is measured by the amount of work and personal contact with a mentor versus preferred contact.

Females will show the above effect more strongly than males.

CHAPTER FOUR

METHOD

Authorisation to conduct the study was sought from the Massey University Ethics Committee. Once authorisation was granted, an introductory letter was sent out to randomly selected organisations. The introductory letter sought access to employees of each organisation by extending an invitation to eligible employees to participate. The letter outlined details of the study and criteria for eligibility. It was requested that interested employees contacted the researcher directly to confirm participation. Questionnaires were sent out to all those who confirmed they wished to participate.

4.1 Participants

As shown in figure 1, there were more women (54.0 % 1 d.p) than men (46.1% 1 d.p) in the sample. The majority of participants were office workers (61.8%). Subjects who work from home made up 25% of the sample and mobile workers 13.2% (1 d.p).

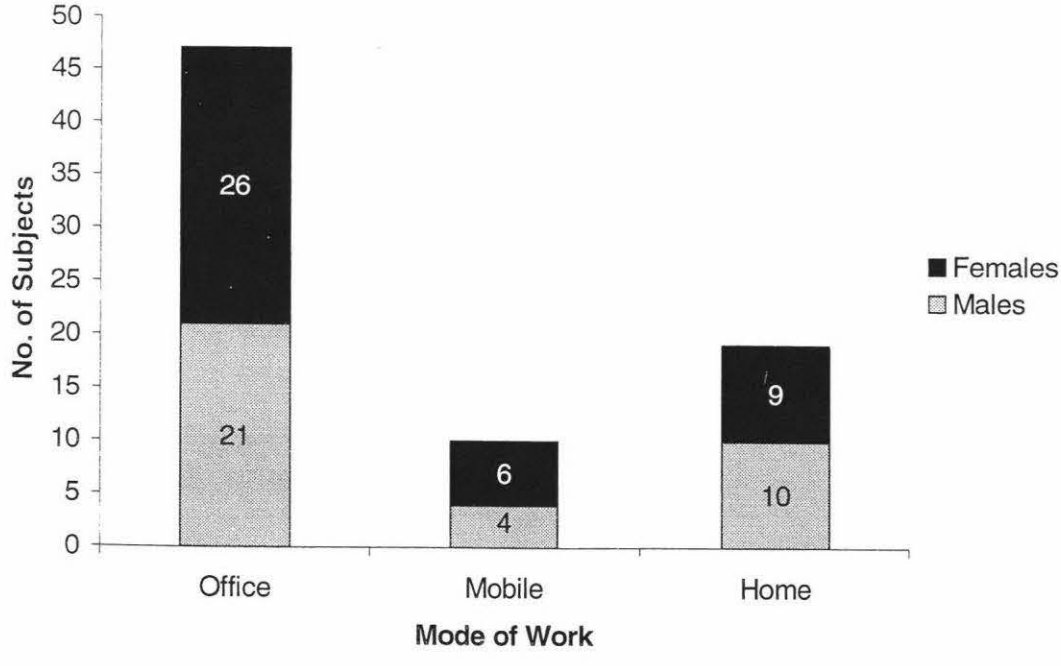

Figure 1. Composition of the sample.

The subjects in the present study were recruited from randomly selected organisations listed in a national business directory. Approximately 230 enquiries were made to the researcher about participation after the introductory letter was sent out. However, only 200 of these enquiries produced yielded a confirmation of intention to participate. Thus, 200 questionnaires were sent out. Of the 200 questionnaires sent out, 76 were returned, representing a questionnaire response rate of 38%.

4.2 Procedure

A preliminary search was conducted to see if there actually were any teleworkers in New Zealand. The last New Zealand study was conducted 7 years ago and the researcher was not confident of finding an adequate sample. This preliminary search involved telephoning 50 randomly selected organisations and asking if the organisation had any employees that teleworked. The results of the search revealed that teleworkers in New Zealand fell into two categories – home and mobile workers. The search did not find any workers who used telecottages or neighbourhood satellite offices. Therefore, it was decided to focus on only two forms of telework – home and mobile work.

Organisations were then randomly selected once again, from a national business directory, and eligible staff were invited to participate. An introductory letter was sent out to the selected organisations (please see Appendix 1).

The letter gave the contact details of the researcher and the research supervisor and invited enquiries from potential participants. Potential participants were asked to contact the researcher directly to register their interest in participating in the study. Participants were also urged to contact the researcher if they had any questions regarding any aspect of the study. It was stressed that replying to the letter did not indicate consent to participate.

The letter also briefly outlined the purpose and procedure of the study, gave guidelines for eligibility and sought the participation of eligible employees. It was explained that participation was voluntary and that participants would be required to complete a questionnaire that was expected to take 20 minutes.

The rights of participants was highlighted in the letter and potential participants were assured that the survey was anonymous and confidential and that any data collected from the survey would be used only for the purposes of the current study. Potential participants were informed that any data collected would be destroyed upon the completion of the investigation. It was also explained that a summary of the results would be available on request, at the conclusion of the study.

A questionnaire was sent out to participants who had confirmed that they wanted to take part in the study. An information sheet containing a description of the study, what was required of the participants and a statement explaining the rights of participants accompanied the questionnaire (please refer Appendix 2). It was also explained in the information sheet that completing and returning a questionnaire indicated consent to participate.

It was felt that providing a postage paid envelope could increase the return rate so respondents were instructed to complete both parts of the questionnaire (please refer Appendix 2) and return it in the postage paid envelope (labelled 'envelope 1') provided by the researcher.

Respondents were informed that responses were confidential and they could refuse to answer any of the questions in the questionnaire. However, because the questionnaire was anonymous, it would not be possible for the respondent to withdraw from the study once the questionnaire had been returned to the researcher.

In order to further preserve anonymity, respondents were asked to indicate if they wished to receive a summary of the results at the conclusion of the study. If participants did want to receive a copy of the results, they were asked to complete a 'Reply Form' (please refer Appendix 2) and return it separately from the questionnaire, in the envelope labelled 'envelope 2' (once again, postage paid and provided by the researcher).

4.3 Measures

A self-report questionnaire was used to collect the data for this investigation. The questionnaire was divided into two sections. The first section was developed by the researcher and asked respondents about their Social Contact patterns during an average working week. The second part of the questionnaire was the Job Satisfaction Survey developed by Spector (1997).

The instructions for completing the questionnaire were printed on the front page. The 7-page booklet was arranged with the Social Contact Patterns Survey, followed by the job satisfaction measure.

4.4 Social Contact Patterns Survey

This part of the questionnaire was obtained demographic and behavioural information. The demographic measures included mode of work and gender. The behavioural measures were: (1) Quantity of contact, (2) Quality of contact, (3) Medium for used contact (that is, in person, e-mail, telephone, facsimile and on line chat), and (4) Extroversion/Introversion.

The questionnaire was also concerned with the interaction the respondent reported with 5 different groups of people: (1) Supervisors, (2) Mentors, (3) Casual Acquaintances, (4) Work Mates, and (5) Close Friends

Demographic Measures

There were 2 items used for obtaining demographic data. Respondents were asked to indicate their primary place of work – office, home or mobile. Respondents were also asked to indicate their gender – male or female.

Behavioural Measures

It was decided that 'quality' was a better measurement of contact for teleworkers because the amount of contact is not necessarily a good indicator of how meaningful it is to the respondent.

To obtain a score for quality of social contact, the amount of contact reported was converted into a percentage and multiplied by a ranking nominated the participant. Subjects were first asked to indicate the amount of contact they had with each of the 5 groups for (a) work related interactions and (b) personal/social affairs. These responses were then converted into percentages. Subjects were then asked to rank the 5 groups (1=most preferred, 5=least preferred) in the order that they *preferred* to interact with for (a) work related matters and (b) personal interactions. The amount of contact was then multiplied by the respective ranking for each group to produce a quality of social contact score.

The same procedure was used to assess the medium used for contact (in person/ telephone/e-mail/facsimile/on line chat). A total of 10 items (2 items for each of the 5 groups) measured the amount and preference for each type of medium. Participants were asked 'what percentage of your interaction with supervisor/mentor/casual acquaintances/work mates/close friends is in person/e-mail/telephone/facsimile/on line chat?'. Subjects then ranked their preference for the method of communication they preferred to use for each group (1=most preferred, 5=least preferred) and the amount of contact was multiplied by the ranking.

Participants were divided into Extrovert/Introvert groups by their score on 2 item scale. Possible scores ranged from 2 to 10. A score between 2 and 5 indicated introversion and a score between 5 and 10 indicated extroversion. The 2 items were adapted from an online personality test (www.queendom.com) and were chosen because they were concerned directly about work circumstances – working in a team and efficiency.

4.5 The Job Satisfaction Survey

The Job Satisfaction Survey (JSS; Spector, 1985) assesses 9 facets of job satisfaction, which may be added to produce an overall job satisfaction score. The 9 facets are: (1) Pay, (2) Promotion, (3) Supervision, (4) Fringe benefits, (5) Contingent rewards, (6) Operating Conditions, (7) Co-workers, (8) Nature of work, and (9) Communication.

The JSS consists of 36 items, with 4 items for each of the 9 facets/subscales. The items are rated on a 6 point likert type scale (1= disagree very much, 6= agree very much). Responses can either be collated to produce scores for each of the 9 subscales; or have each of the subscale totals added together to produce an indictor of overall job satisfaction. Therefore, the total satisfaction score is the sum of all 36 items.

Individual facet scores can range from 4 to 24, each facet having 4 items so the lowest score is the sum of four ones, and the highest score is the sum of four sixes. The total job satisfaction score can range between 36 and 216.

CHAPTER FIVE
RESULTS

The first part of this chapter will describe the scoring of the research scales and the criteria used for the treatment of missing data. Following this, an overview of the composition of the subjects will be presented. Next, the analysis procedures used to investigate hypotheses will be discussed, and the results of these analyses will be presented.

5.1 The Research Scales

The scores in the present study were derived from the addition of each of the items that made up each measure. For example, the quality of contact measure was a composite score of the amount of contact with each of the five groups, that is with supervisors, mentors, casual acquaintances, work mates and close friends.

Criteria were established for the treatment of missing data and pair-wise deletion of missing cases was used in the analyses. Therefore, subject numbers vary slightly in each analysis. This method was chosen because it was felt that the sample size was small, therefore the researcher wanted to use as much of the collected data as possible.

Items that were not answered by some of the respondents was entered as '999'. This figure was chosen because it could not be confused with valid data – '999' was a unique value that fell outside the range of all of the measures. The analysis of data using the SPSS package recognised this figure as being missing data and took this into consideration during analysis of the data.

Prior to analyses, all of the variables used in the present study were examined for accuracy of data entry. Also before analyses were performed, the data was screened for outliers and values that may have affected the means of the variables.

Mode of work

Respondents were asked to indicate their primary place of work – office, mobile or home. Based on the response to this item, participants were classified as office workers, mobile workers or home workers.

It was noted that 19 subjects (25.0%, 1 d.p) worked at home and only 10 (13.2%, 1 d.p) were mobile workers. All those who work at home perform their work exclusively from home and did not spend any time working at an office away from home.

Mentors

Respondents were asked to indicate if they had a mentor. They were also asked to indicate if their mentor was assigned, chosen by themselves or chosen by joint agreement. No one in the home or mobile work groups indicated that they had a mentor.

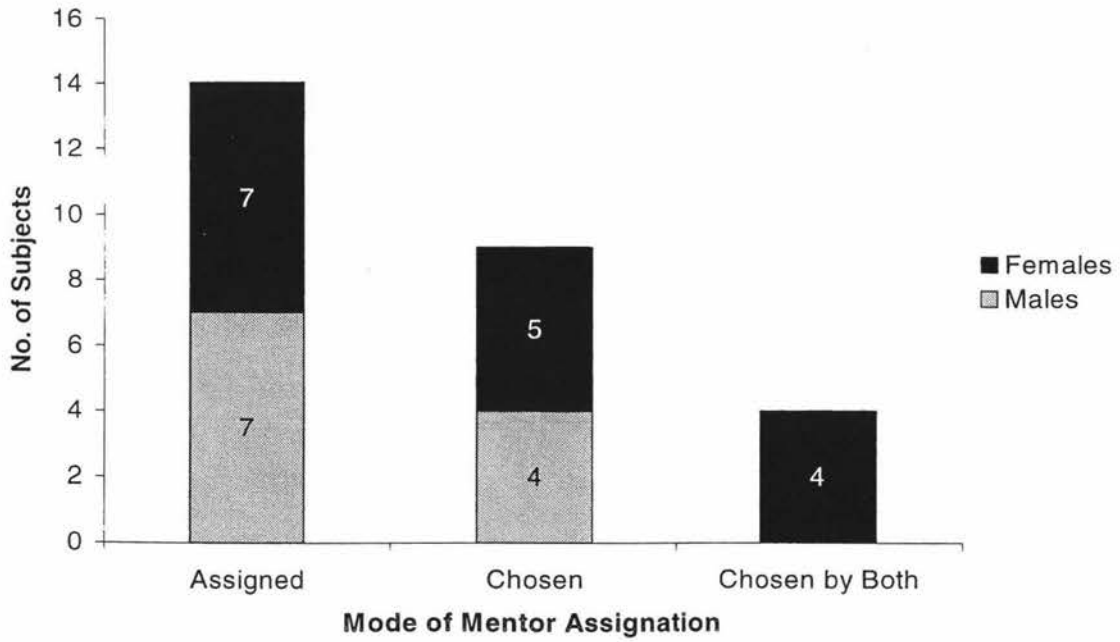

Figure 2. Distribution of mentor assignation within the sample.

As can be seen in figure 2, only 27 (35.5%, 1 d.p) of participants indicated that they had a mentor. Of those who had mentors, 51.9% (id.p) indicated that the mentor was assigned and 33.3% (1d.p) stated that they chose their mentor. No men chose their mentors through a joint agreement and only 4 women (14.8%, 1d.p) came to a joint agreement to establish a mentoring relationship.

Extroversion

Extroversion was measured using a 2 item scale. For both items respondents were asked to indicate which one of the 5 statements they agreed with most. The responses were then added up. The higher the score, the more extroverted the personality. The possible range was between 2 and 10 and this was mirrored by the actual range which was also between 2 and 10. The mode score was 6 and the mean was 5.32 (2 dp).

Quality Measures

The quality measures were based on a range between 0 and 500. A score of 0 would indicate that the respondent experienced social contact of very low quality. A score of 500 on any of the quality scales would indicate that the participant enjoyed social contact of extremely high quality. For example, the medium used for contact was the participant's preferred method of contact.

a. Work Related Contact Score

The mean score for work related contact was 330.50 (2 d.p) and the range was between 199 and 442.

b. Personal Contact Score

The mean score was 339.90 (2 dp) and the range was between 198 and 473.

c. Quality of In Person Contact

The mean score for this measure was 337.55 (2 dp) with a range between 216 and 477.

d. Quality of Contact With a Mentor

The mean score for those with a mentor was 122.68 (2 dp). The actual range was 0 to 436.

Job Satisfaction Survey

The JSS consisted of 9 facets with 4 items for each facet. In the present study, the facet scores were added together to produce an overall indication of job satisfaction. The theoretical range for the JSS was a score between 36 and 216. The actual range was from 69 to 204. The mean score was 140.46 (2 dp).

5.2 Analyses

Correlational analyses were conducted to examine the relationships between the variables. Correlational analysis was chosen because the study aimed to explore and investigate if there was any relationship between the variables. It was not an aim of the study to establish causation.

Hypothesis 1

As a job, telework involves low social contact and therefore, the job is not satisfying

Predictions:

1a. There will be a positive correlation between the *quality of all contact* and *job satisfaction.* The quality of all contact is measured by the amount of preferred work and personal contact with Supervisors, Mentors, Casual Acquaintances, Work Mates and Close Friends versus actual contact.

The above correlation will be higher for office workers.

As shown in Table 1, there were weak to moderate correlations between the quality of all contact and job satisfaction for all three groups. All the correlations were in the expected direction, but suprisingly, the moderate correlation for mobile workers was the highest of the three ($r=.583$, $p>.05$). This was followed by another moderate correlation for those who work at home ($r=.552$, $p<.05$). The correlation for office workers was unexpectedly weak and the lowest of the three ($r=.340$, $p<.05$).

1b. There will be a positive correlation between the *quality of 'in person' contact* and *job satisfaction.* The quality of 'in person' contact is measured by the amount of preferred face-to-face contact versus actual contact.

The above correlation will be higher for office workers.

As can be seen in Table 1, there were no surprises in the results for this hypothesis. Although all three correlations were weak, they were in the expected direction and the correlation between the quality of 'in person' contact and job satisfaction was higher for office workers ($r=.368$, $p>.05$). However, the correlation for mobile workers was close ($r=.322$, $p>.05$).

Table 1

A Summary of the Correlations Between the Quality of All Contact and Job Satisfaction

Office workers	**Job satisfaction/Quality correlation**
Quality of All Contact	0.340*
Quality of In Person Contact	0.368
Mobile workers	**Job Satisfaction/Quality correlation**
Quality of All Contact	0.583
Quality of In Person Contact	0.322
Home workers	**Job Satisfaction/Quality correlation**
Quality of All Contact	0.552*
Quality of In Person Contact	0.225

* Correlation is significant at the 0.05 level (2-tailed)

Hypothesis 2

Females have a greater affiliative need and therefore, females will not be satisfied with teleworking

Predictions:

2a. The correlation between the *quality of personal contact* and *job satisfaction* will be higher for females who telework than males who telework.

Unexpectedly the correlations for male home and mobile (teleworkers) were higher than for female teleworkers (please see table 2). The correlation for males who work at home was weak ($r=.312$, $p<.05$) but still higher than females who work at home ($r=.289$, $p<.05$). Male mobile workers also had a weak correlation ($r=.339$, $p> .05$) but it was still higher than female mobile workers ($r=.241$, $p>.05$). However, the reverse was true for office workers, with female office workers having a higher correlation between personal contact and job satisfaction ($r=.374$, $p<.05$) than male office workers ($r=.230$, $p<.05$).

Table 2

A Summary of the Correlations Between the Quality of Work and Personal Contact and Job Satisfaction

Males	**Job Satisfaction/Quality Correlation**
Quality of Personal Contact - Office	.230*
Quality of Personal Contact - Mobile	.339
Quality of Personal Contact - Home	.312*
Quality of Work Contact - Office	.459
Quality of Work Contact - Mobile	.263
Quality of Work Contact - Home	.247*
Females	**Job Satisfaction/Quality Correlation**
Quality of Personal Contact - Office	0.374*
Quality of Personal Contact - Mobile	0.241
Quality of Personal Contact - Home	0.289*
Quality of Work Contact - Office	0.350*
Quality of Work Contact - Mobile	0.321
Quality of Work Contact - Home	0.539*

* Correlation is significant at the 0.05 level (2-tailed)

2b. The correlation between the *quality of work related contact* and *job satisfaction* will be higher for males who telework than females who telework.

Contrary to the prediction, the correlations were higher for females who telework rather than males. As can be seen in table 2, females who were mobile workers or work from home showed a much stronger relationship between the quality of work related contact and job satisfaction. There was a moderate correlation for females who work from home ($r=.539$, $p<.05$) compared to the weak correlation for their male counterparts ($r=.247$, $p<.05$). The correlations for mobile workers were weak but the correlation for female mobile workers ($r=.321$, $p>.05$) was still higher than for males ($r=.263$, $p<.05$).

Surprisingly, the relationship between the quality of work related contact and job satisfaction was stronger for male office workers ($r=.459$, $p>.05$) than female office workers ($r=.350$, $<.05$).

Peripheral Hypothesis 1

Incidentally, extroverts who telework will be not be satisfied with telework as a job because it involves low social contact.

Prediction:

3. The correlation between the *quantity of all contact* and *job satisfaction* will be higher for extroverts who telework compared to introverts who telework. This correlation will be even higher for extroverts who work in an office.

As expected, the correlation between the quantity of all contact and job satisfaction was higher for extroverts who telework (mobile workers, $r=.320$, $p>.05$; home workers $r=.315$, $p>.05$) compared to introverts who telework ($r=.185$, $p>.05$).

As per the prediction, the relationship between the quantity of all contact and job satisfaction was stronger for extroverts who work in an office, with a moderate correlation ($r=.415$, $p>.05$) compared to a weak correlation for extroverts who are mobile workers ($r=.320$, $p>.05$) or extroverts who work at home ($r=.315$, $p>.05$).

Peripheral Hypothesis 2

As a job, telework will be satisfying if teleworkers have contact with a mentor.

Prediction:

4. There will be a positive correlation between the *quality of all contact with a mentor* and *job satisfaction*; but the correlation will be lower if the mentor was assigned rather than chosen. Quality of all contact with a mentor is measured by the amount of work and personal contact with a mentor versus preferred contact. Females will show the above effect more strongly than males.

An examination of the data revealed that no one in the mobile or home work groups had indicated that they had a mentor. Furthermore, no male indicated that their mentor had been chosen by joint agreement. In light of this absence of data, it was decided to conduct an analysis based on the sample as a whole to see if there was a general trend in the sample.

There was a moderate relationship shown between the quality of all contact with a mentor and job satisfaction for those who chose their mentors (r=..510, p>.05). Weak relationships were revealed for the 4 women who came to a joint mentoring agreement (r=.373, p>.05) and little relationship was found for those who had mentors assigned (r-.114, p>.05).

There was little difference in the relationship between the quality of all contact with a mentor and job satisfaction for women who chose their mentors (r=.452, p>.05) and men who chose their mentors (r=.446, p>.05). The strength of the relationship was also similar for women who had mentors assigned (r=.103, p>.05) and men who were assigned mentors (r=.112, p>.05).

Summary

From the results, it appears that there is some support for the first hypothesis. There was a positive correlation between the quality of all contact and job satisfaction but this correlation was higher for mobile workers and not office workers as hypothesised.

In addition, the correlations were positive between the quality of 'in person' contact and job satisfaction and as predicted, the relationship was stronger for office workers as hypothesised. But the correlation for mobile workers was only slightly weaker than that for office workers.

The second hypothesis was concerned with gender differences in job satisfaction and social contact. The predictions were not supported and interestingly, The results indicate an inversion of hypothesis 2. It was found that men rather than women had the higher correlation in terms of personal contact and job satisfaction. Also, women not men have the stronger relationship between work related contact and job satisfaction.

As indicated by the results from peripheral hypothesis 1. It was found that, the relationship between the quantity of contact and job satisfaction was stronger for extroverts than introverts.

The results from peripheral hypothesis 2 appear to indicate that in general, there is a stronger relationship between the quality of all contact and job satisfaction for those who chose their mentors rather than those who had their mentors assigned or those who came to a joint mentoring agreement. Also, the strength of this relationship is only very slightly greater for women than men.

CHAPTER SIX
DISCUSSION

This chapter consists of a discussion of the results as they relate to the hypotheses. This includes an examination of the present study in light of previous discussions on telework. In addition, the limitations of the present study and implications of the findings for future research will be discussed.

This study has shown that while there is a correlation between job satisfaction and social contact, the relationship may not be as straightforward as hypothesised. For example, the first hypothesis was only partially supported. While there was a positive correlation between the quality of all contact and job satisfaction this correlation was higher for mobile workers and not office workers as hypothesised. In addition, the relationship between the quality of 'in person' contact and job satisfaction was stronger for office workers as hypothesised but this relationship was almost as strong for mobile workers. The relationship between the quality of all contact and job satisfaction was weak for those that work at home as expected.

Therefore, based on the results it is possible to conclude that for both mobile and office workers there is a moderate relationship between social contact and job satisfaction. However, because only correlational analyses were performed it is not possible to say if social contact causes job satisfaction.

The results from hypothesis 2 are interesting because the findings indicate an inversion of the hypothesis. It was found that the relationship between job satisfaction and the quality of personal contact was stronger for men rather than women. Furthermore, results indicate that women rather than men have the stronger relationship between work related contact and job satisfaction.

Possible reasons for this inversion may lie in where men and women make friends. For example, it is possible that men make friends at work so when they telework the number

of available contacts is drastically reduced. For example, Forester (1988) found that men in particular considered working at home to be an alienating experience.

On the other hand, women may have wider reaching contact networks so that social contact is seen as separate from their working sphere and therefore, job satisfaction is derived from other means. For example, women may have pre-established social networks from which they can interact with thus, women may seek work related contact to balance this (Fritz, 1997).

Furthermore it may be that teleworkers are different from traditional office workers. The limited evidence available suggests that teleworkers may derive satisfaction from different sources than traditional office workers. For example, the ability to combine work and family demands as well as greater flexibility, autonomy and control over work may be a more important priority for teleworkers than others (Du Brin & Barnard, 1993).

The results from peripheral hypothesis 1 indicate that as predicted, the relationship between the quantity of contact and job satisfaction was stronger for extroverts who telework than introverts. The relationship was also stronger for extroverts who work in an office. This may lend some strength to the argument that teleworkers do so because it suits their personality best. It is important to note that at this stage, it is not possible to claim that social contact causes job satisfaction because this is outside of the scope of correlational analysis. Furthermore, establishing causation was not an aim of this investigation but future research may be able to shed more light on this relationship.

Unfortunately, peripheral hypothesis 2 was unable to be tested as well as the researcher would have liked because of a lack of data. The sample did not include any teleworkers (either mobile or home workers) who had mentors so it was not possible to see if the correlation between the quality of all contact with a mentor and job satisfaction was actually higher for office workers than teleworkers.

Therefore, it was decided to conduct analyses based on the sample as a whole rather than splitting it into mode of work groups. It was hoped that this would provide the

researcher with a general indication of possible relationships between the quality of all contact with a mentor and job satisfaction. The results for peripheral hypothesis 2 appear to indicate that in general, there is a stronger relationship between the quality of all contact and job satisfaction for those who chose their mentors rather than those who had their mentors assigned or those who came to a joint mentoring agreement. Also, the strength of this relationship is only very slightly greater for women than men. A study with a larger sample that incorporates teleworkers who have mentors will be more able to discuss the relationship between job satisfaction and the quality of contact with a mentor.

It is believed that the sample size may have affected the correlational analyses. A sample of 76 is less than ideal but it may have been adequate if the sample was not further divided into 3 mode of work groups and gender groups. Dividing the sample further could only have reduced the chance of generating significant or reliable correlations.

Thus, the ability to generalise the results of this study is limited. It is possible that the sample was representative of the distribution of office workers, mobile workers and home workers but because there are no previous studies to use for comparative purposes it is not possible to comment on this.

Furthermore with such a small sample, it is highly unlikely that a wide range of occupations, job types or occupation levels were represented. This is important because, amount and type of contact available to a worker may differ dramatically, for example the type and amount of contact for a computer programmer may be different to a journalist although they may both telework.

The study tried to account for the possibility that the amount and type of contact may differ. This was done by converting the amount of contact into a quality of contact score as the amount and type of contact that someone working in an office of 30 to 40 people is likely to differ to someone working in an office of 5 people.

The possibility also remains that there may be contact which respondents may not class as either work or personal. For example, contact that may not be work or personal may include answering a wrong number call on the telephone, talking to shop assistants or asking someone on the street for directions.

In addition, the study also attempted to include a wide range of contact groups. The researcher made the categories and descriptions of the groups purposely broad so respondents may be able to include all the groups they had contact with. However, it is still possible that by limiting the number of contact groups that many other contacts were excluded, for example family, strangers or pets (although some people may class pets as close friends).

Whether teleworkers were part of a formal telework programme or if participants teleworked on an ad hoc basis was not a consideration of this study. But, this may effect teleworkers because formal telework programmes may provide teleworkers with a different amount or type of social support network, than casual teleworking.

The use of a job satisfaction measure may not be a sensitive enough assesment for satisfaction with telework. While job satisfaction measures assess satisfaction with a number of facets of the job, it may be more appropriate to devise a 'satisfaction with telework' scale that pinpoints particular aspects of teleworking. It may then be possible to assess satisfaction with telework itself rather than the satisfaction of a job that is performed via teleworking.

Survey data is invariably used as the preferred method of data collection for telework information. This is probably because questionnaires can be distributed to a large sample and anonymity can be preserved. Questionnaires are also standardised, that is, they are the same for all participants, however other factors may affect the respondent. For example, while the questionnaire may be the same some respondents may fill it in front of the television while others may complete the questionnaire in a quiet room with no distractions. Also, with self-report data there is always the possibility of respondents providing biased responses, for example, for reasons of social desirability. In addition,

there may be a response bias – some respondents may answer the same way or provide the same rating across all the items.

While the method of data collection is consistent with all other telework investigations, future research should assess the actual validity and reliability of the questionnaire used in the present study as an instrument for measuring social contact patterns. In hindsight, the researcher feels that the measure for extraversion was unstable. Only two items were used to assess this variable.

In terms of the questionnaire, respondents did not appear to have any difficulties with the completion of the questionnaire. However some respondents did provide answers that did not add up to 100%, for example the addition of 'what percentage was your contact with your supervisor work/ feedback related?' and 'what percentage was your contact with your supervisor social/personal?'. Combined, the scores should add up to 100, the fact that they didn't for several respondents could indicate that either a) the respondents mistakenly replied with higher/lower percentage scores or b) as mentioned previously, the researcher may not have accounted for contact that is neither work related or personal.

Furthermore, the present study did not provide respondents with a definition for 'contact' or 'interaction'. Therefore, it is likely that respondents had different views as to what this meant, what may be considered an interaction for one individual may not be for another. Future studies could address this.

Conclusion

The findings of the present study indicate that there is a relationship between job satisfaction and the quality of social contact. Contrary to speculation, the relationship between job satisfaction and the quality of social contact was found to be weaker for teleworkers compared to office workers which indicates that social isolation may not be as much of a problem as authors think. However, the ability to generalise the findings is limited because of the small sample size.

Focus for future research could centre on investigating the relationship between social contact and job satisfaction using a larger sample and more sensitive and reliable measures.

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Appendix 1

Jade Leung
Department of Psychology
Massey University
Palmerston North
E-Mail: Jade.Le[redacted].ac.nz
[redacted] 4118
[redacted]Fax: (06) 350 5673

Dear Reader,

My name is Jade Leung and I am Master of Arts student studying Psychology at Massey University. As part of my degree, I am required to conduct a research project or thesis. In particular, I am interested in carrying out a study that examines the effects of Social Contact on Job Satisfaction. I am therefore, currently seeking people who may be interested in participating in such a study.

Eligible participants would work in an office, or be a mobile worker (for example, a sales representative or mobile mortgage manager), or work at home using a computer, modem, telephone or facsimile.

Participants would be required to answer a questionnaire which is estimated to take 20 minutes to complete. Participants have the right to refuse to answer any questions. The questionnaire will not ask any questions that may reveal the identity of the respondent. Confidentiality and anonymity would be ensured at all times and any information collected during the study would be made available only to the researcher and the research supervisor.

The research supervisor is Senior Lecturer in Psychology, Dr. Arnold Chamove. Dr. Chamove can be contacted at the Department of Psychology at Massey University.

A summary of the results from the study will be made available on request to participants at the conclusion of the investigation.

This letter is not a consent form and replying to it does not imply consent to participate. It is merely a preliminary search to give the researcher an indication of who might be interested in participating in such an investigation.

Thank you, for taking the time to consider this letter and if there are any questions about the study or your possible participation in the study, please do not hesitate to contact me.

Regards,

Jade Leung

Appendix 2

Massey University
COLLEGE OF HUMANITIES & SOCIAL SCIENCES

School of Psychology
Private Bag 11 222,
Palmerston North,
New Zealand
Telephone: 64 6 356 9099
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An Investigation of the Relationships Between Telework, Social Contact, and Job Satisfaction

INFORMATION SHEET

The research is being conducted by Jade Leung, a Masters student at Massey University, in partial fulfilment of the requirements for the degree of Master of Arts in Psychology. The study is supervised by Senior Lecturer in Psychology, Dr. Arnold Chamove.

What is the study about?
The increased use of computing technology has meant that more and more employees are being introduced to new working practices, for example Teleworking - work that is regularly conducted using computers, modems, fax, telephone, at a distance from employers and/or clients and transmitted using telecommunications technology.

These new practices can affect the social relationships of workers. In addition, social relationships at work have been found to affect job satisfaction.

The present study is a comparative study with two main aims:
1. To explore the relationships between social contact and job satisfaction of office workers and teleworkers.
2. To investigate gender differences in social contact and job satisfaction of office workers and teleworkers.

The research will have several practical implications. For example, identifying relationships between job satisfaction and the need for social contact will facilitate the development of job design interventions and management of off site workers.

The researcher will request eligible people from a number of different organisations to take part. The researcher will be seeking approximately 100 participants.

Eligibility
You are eligible to take part in the study if you work in an office; or you are a mobile or home worker and use telecommunications technology as part of your work.

What will you be asked to do
You will be asked to complete a questionnaire provided by the researcher. This is expected to take approximately 20 minutes to complete. Please use the postage paid envelope labelled '**Envelope 1**' to return the completed questionnaire to the researcher.

It is assumed that filling in the questionnaire implies consent.

Participation is voluntary and participants have the right to refuse to answer any particular questions at any time. Because the questionnaires are anonymous, once they have been returned to the researcher it will not be possible to return them to participants. Confidentiality and anonymity is assured. The information gathered from the questionnaire will only be used for the proposed study and will not be given out to anyone.

Your rights as a participant
All participants:

- Have the right to decline to participate
- Have the right to refuse to answer any question
- Have the right to contact the researcher at any time during the study to discuss any aspect of the study
- Provide information on the understanding that it will be held in complete confidence by the researcher and used only for the purpose of the research. It will not be possible to identify individuals in any reports of the results
- Have the right to receive information about the results of the study on its completion. If you wish to receive a summary of the results please post back the Reply Form **separately from the questionnaire** in the postage paid envelope labelled '**Envelope 2**', so that a copy may be forwarded to you.

Please do not hesitate to contact the researcher if you have any queries about the study or your participation in the study.

The researcher can be contacted through the Department of Psychology at Massey University, telephone (06) 356-9099, fax (06) 350-5673 or via e-mail: Jade.Leung.1@uni.massey.ac.nz. Dr. Chamove can be contacted by telephone (06) 350-5799 ext 2047 or (025) 460-092, e-mail: A.S.Chamove@massey.ac.nz

Instructions
There are **2 parts** to this questionnaire.
Part 1 is concerned with your **social contact patterns**.
Part 2 will ask you questions about your **job satisfaction**.

Part 1.
Firstly, you will be asked questions about your interactions with five groups of people: Supervisors, Mentors, Casual Acquaintances, Work Mates and Close Friends.
Then you will be asked some general questions about your work and social contact patterns.

Group 1: Supervisors
A supervisor may be someone to whom you have to report to directly (e.g. the person directly above you in the organisational hierarchy).

Group 2: Mentors
A mentor may be someone within your organisation (e.g. an experienced manager) whom you relate to well and who facilitates your personal development.

Group 3: Casual Acquaintances
Casual acquaintances are people that you exchange basic task-related information and impersonal social conversation with (e.g. people you would approach to clarify a specific point about a work related matter or with whom you make 'small talk' about the weather and current events).

Group 4: Work Mates
Work mates provide job and career feedback/assistance as well as sharing personal information (e.g. people with whom you discuss work related issues and information about your family/home life).

Group 5: Close Friends
Close friends can be thought of as people that you talk to frankly about most subjects while rarely keeping secrets (e.g. people who you confide in and trust with details of both work and family/home life). They may also be people who make a concerted effort to give you emotional support for matters at work and at home.

Please bear these definitions in mind when answering the following questions.

Please consider **an average working week** when answering the following questions.

Group 1: Supervisors
1. How many times a week do you interact with your **supervisor?** ------

2. What percentage of these interactions are **work/feedback related**? ------

3. What percentage of these interactions are **personal/social**? ------

4. What percentage of your contact with your **supervisor** is:
   - In person ------
   - E-mail ------
   - Telephone ------
   - Fax ------
   - Online Chat ------

5. Please rank in order, which method you **prefer** to use to interact with your **supervisor** (1 being most preferred, 5 being least preferred):
   - In person ------
   - E-mail ------
   - Telephone ------
   - Fax ------
   - Online Chat ------

Group 2:Mentors

Please answer the questions in this section only if you have a mentor. If you do not have a mentor, please go on to the next section, Group 3: Casual Acquaintances.

6. Was your mentor?:
   - assigned ------
   - chosen by me ------
   - chosen by the two of us ------

7. How many times a week do you interact with your **mentor**? ------

8. What percentage of these interactions are **work/feedback related**? ------

9. What percentage of these interactions are **personal/social**? ------

10. What percentage of your contact with your **mentor** is:
    - In person ------
    - E-mail ------
    - Telephone ------
    - Fax ------
    - Online Chat ------

11. Please rank in order, which method you **prefer** to use to interact with your **mentor** (1 being most preferred, 5 being least preferred):
    - In person ------
    - E-mail ------
    - Telephone ------
    - Fax ------
    - Online Chat ------

Group 3: Casual Acquaintances

12. How many people would you consider to be **casual acquaintances** ? ------

13. How many times a week do you interact with **casual acquaintances**? ------

14. What percentage of these interactions are **work/feedback related**? ------

15. What percentage of these interactions are **personal or social**? ------

16. What percentage of your contact with **casual acquaintances** is:
    - In person ------
    - E-mail ------
    - Telephone ------
    - Fax ------
    - Online Chat ------

17. Please rank in order, which method you **prefer** to use to interact with **casual acquaintances** (1 being most preferred, 5 being least preferred):
    - In person ------
    - E-mail ------
    - Telephone ------
    - Fax ------
    - Online Chat ------

Group 4: Work mates

18. How many **work mates** do you know? ------

19. How many times a week do you interact with your **work mates**? ------

20. What percentage of these interactions are **work/feedback related**? ------

21. What percentage of these interactions are **personal or social**? ------

22. What percentage of your contact with **work mates** is:

In person	------
E-mail	------
Telephone	------
Fax	------
Online Chat	------

23. Please rank in order, which method you **prefer** to use to interact with your **work mates** (1 being most preferred, 5 being least preferred):

In person	------
E-mail	------
Telephone	------
Fax	------
Online Chat	------

Group 5: Close friends

24. How many **close friends** do you have? ------

25. How many times a week do you interact with **close friends**? ------

26. What percentage of these interactions are **work/feedback related**? ------

27. What percentage of these interactions are **personal or social**? ------

28. What percentage of your contact with **close friends** is:

In person	------
E-mail	------
Telephone	------
Fax	------
Online Chat	------

29. Please rank in order, which method you **prefer** to use to interact with your **close friends** (1 being most preferred, 5 being least preferred):

In person	------
E-mail	------
Telephone	------
Fax	------
Online Chat	------

Now, Some General Questions About Your Work and Social Contact Patterns...

30. Please indicate your **primary** place of work:

at an office away from home	------
at home	------
mobile office	------

31. How many days a week would you spend at an office away from home? ------

For Questions 32 and 33, please tick **one** statement for each question that comes closest to reflecting your own opinion about it.

32. Other things being equal:

I am almost always most efficient when I work alone	------
I am usually most efficient when I work alone	------
I am equally efficient whether I work in a team or alone	------
I am usually most efficient when I work in a team	------
I am almost always most efficient when I work in a team	------

33. Other things being equal:

I almost always prefer working in a team	------
I usually prefer working in a team	------
I enjoy both team work and working alone	------
I usually prefer working alone	------
I almost always prefer working alone	------

34. Please rank the five groups in the order that you **prefer** to interact with for **work/task/feedback related issues** (1 being most preferred, 5 being least preferred):

Supervisor	------
Mentor	------
Casual acquaintances	------
Work mates	------
Close friends	------

35. Please rank the five groups in the order that you **prefer** to interact with for **personal/social matters** (1 being most preferred, 5 being least preferred):

Supervisor	------
Mentor	------
Casual acquaintances	------
Work mates	------
Close friends	------

36. Are you:

Male	------
Female	------

Part 2.

Using the scale below, please circle **one** number for each question that comes closest to reflecting your own opinion about it.

Disagree very much	disagree moderately	disagree slightly	agree slightly	agree moderately	agree very much
1	2	3	4	5	6

1. I feel I am being paid a fair amount for the work I do.
   disagree very much 1 2 3 4 5 6 agree very much

2. There is really too little chance for promotion on my job.
   disagree very much 1 2 3 4 5 6 agree very much

3. My supervisor is quite competent in doing his/her job.
   disagree very much 1 2 3 4 5 6 agree very much

4. I am not satisfied with the benefits I receive.
   disagree very much 1 2 3 4 5 6 agree very much

5. When I do a good job, I receive the recognition for it that I should.
   disagree very much 1 2 3 4 5 6 agree very much

6..Many of our rules and procedures make doing a good job difficult.
   disagree very much 1 2 3 4 5 6 agree very much

7. I like the people I work with.
   disagree very much 1 2 3 4 5 6 agree very much

8. I sometimes feel my job is meaningless.
   disagree very much 1 2 3 4 5 6 agree very much

9. Communications seem good within this organisation.
   disagree very much 1 2 3 4 5 6 agree very much

10. Raises are few and far between.
    disagree very much 1 2 3 4 5 6 agree very much

11. Those who do well on the job stand a fair chance of being promoted.
    disagree very much 1 2 3 4 5 6 agree very much

12. My supervisor is unfair to me
    disagree very much 1 2 3 4 5 6 agree very much

13. The benefits we receive are as good as most other organisations offer.
    disagree very much 1 2 3 4 5 6 agree very much

14. I do not feel that the work I do is appreciated.
    disagree very much 1 2 3 4 5 6 agree very much

15. My efforts to do a good job are seldom blocked by red tape.
    disagree very much 1 2 3 4 5 6 agree very much

16. I find I have to work harder at my job because of the incompetence of the people I work with.
    disagree very much 1 2 3 4 5 6 agree very much

17. I like doing the things I do at work.
    disagree very much 1 2 3 4 5 6 agree very much

18. The goals of this organisation are not clear to me.
    disagree very much 1 2 3 4 5 6 agree very much

19. I feel unappreciated by the organisation when I think about what they pay me.
disagree very much 1 2 3 4 5 6 agree very much

20. People get ahead as fast here as they do in other places.
disagree very much 1 2 3 4 5 6 agree very much

21. My supervisor shows too little interest in the feelings of subordinates.
disagree very much 1 2 3 4 5 6 agree very much

22. The benefit package we have is equitable.
disagree very much 1 2 3 4 5 6 agree very much

23. There are few rewards for those who work here.
disagree very much 1 2 3 4 5 6 agree very much

24. I have too much work to do.
disagree very much 1 2 3 4 5 6 agree very much

25. I enjoy my co-workers.
disagree very much 1 2 3 4 5 6 agree very much

26. I often feel that I do not know what is going on with the organisation.
disagree very much 1 2 3 4 5 6 agree very much

27. I feel a sense of pride in doing my job.
disagree very much 1 2 3 4 5 6 agree very much

28. I feel satisfied with my chances for salary/pay increases.
disagree very much 1 2 3 4 5 6 agree very much

29. There are benefits that we do not have that we should have.
disagree very much 1 2 3 4 5 6 agree very much

30. I like my supervisor.
disagree very much 1 2 3 4 5 6 agree very much

31. I have too much paperwork.
disagree very much 1 2 3 4 5 6 agree very much

32. I don't feel my efforts are rewarded the way they should be.
disagree very much 1 2 3 4 5 6 agree very much

33. I am satisfied with my chances for promotion.
disagree very much 1 2 3 4 5 6 agree very much

34. There is too much bickering and fighting at work.
disagree very much 1 2 3 4 5 6 agree very much

35. My job is enjoyable.
disagree very much 1 2 3 4 5 6 agree very much

36. Work assignments are not fully explained.
disagree very much 1 2 3 4 5 6 agree very much

And Finally...

Thank you, for taking the time to complete this questionnaire.