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WORK ATTITUDES AND WELL-BEING AMONG VIRTUAL WORKERS

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ABSTRACT

The present study examined how certain characteristics of flexible work, the home environment, and the individual impact the outcomes of work-family conflict, job satisfaction, organisational commitment, and psychological strain.

A questionnaire measuring perceptions of control, flexibility, job involvement, family involvement, work to family and family to work conflict, organisational commitment, job satisfaction, family support, physical boundaries, workplace isolation, psychological strain, personality, and demographic information was created and posted online. An email was circulated to 390 virtual sales employees from one large organisation in the United States inviting them to participate in the study, and 278 people responded.

Results identified characteristics of the type of work, work environment, and the individual that are predictive of individual and organisational outcomes. Findings supported hypotheses that control, flexibility, and family support positively impact the outcomes of conflict, satisfaction, and strain for virtual workers. Job involvement was found as predicted to positively impact work to family conflict, and family involvement was positively related to family to work conflict. Contrary to predictions, a negative relationship was found between job involvement and strain, suggesting that those who identify more highly with their job also

experience less strain. Consistent with earlier studies, workplace isolation was associated with reduced job satisfaction and organisational commitment (Marshall, Michaels, and Mulki, 2007). In line with boundary theory (Voydanoff, 2005), it was hypothesised that the presence of physical boundaries between work and non work domains would significantly impact measures of conflict and strain for virtual workers. However, results indicated no significant effects.

A comparison of perceptions of work-family conflict between individuals with children at home and those without illustrated no significant differences between employees with children at home and those without. Speculated explanations for inconsistent findings are addressed in the discussion chapter.

Work to family conflict was predicted to mediate the relationship between flexibility and job satisfaction for virtual workers, and analysis supported the presence of partial mediation. Family to work conflict was also predicted to mediate the flexibility and job satisfaction relationship, however, results were not significant in this case. Uses of workspace (i.e. for work, leisure, family activities, etc.) were tested as mediator for the relationship between family to work conflict and job satisfaction, and results did not support a mediation effect.

In sum, findings of this study identify sources of both positive and negative outcomes for people working from home. Although individuals' experiences working virtually differ greatly, this study identifies common

challenges and issues they face. By pinpointing the sources of conflict, satisfaction, commitment, and strain in the home office, organisations and individuals can take steps to protect workers against negative outcomes, and maximise positive outcomes. Implications and limitations of this study are discussed in the final chapter.

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CHAPTER ONE

INTRODUCTION

Defining Flexible Work

Remote working, flexible work, alternative work styles, telework and telecommuting are a few of the numerous terms used to describe patterns of work in which the work is moved to the workers (Shipside, 2002). Such arrangements involve the decentralisation of the workplace to varying degrees, but not the technology it involves. Flexible work is typically characterised by two key elements: employees spend some portion of time away from the conventional office, and they rely on the advancements in information technology for communication with other organisation members and clients (Cooper & Kurland, 2002; Gajendran & Harrison, 2007; Golden, Veiga, & Simsek, 2006; Kelly, 1988). Telecommuting often involves some combination of spending a couple of days in the office, a couple at home, and perhaps a couple travelling (Shipside, 2002).

“Virtual worker” is a term typically assigned to a subset of telecommuters, who are completely removed from the traditional office place at all times, and rarely interact with other organisational members by means other than telephone conversations, emails, and video conferencing. Most virtual workers (working from home) are part of a virtual team in which groups of geographically dispersed people

carry out interdependent tasks using technology for communication to achieve a common goal (Golden, 2006).

Development of Flexible Work Arrangements

For the past few decades the world has been shifting from industrial-based national economies to one global economy based on information (Hill, Ferris, & Martinson, 2003). According to Raghuram, Garud, Wiesenfeld, and Gupta (2001) the idea of flexible work intrigued workers and management beginning in the 1980's as an alternative to rigid and inflexible work schedules, long commutes, and an escape from an uncomfortable cubicle environment. Several organisations initially experimented with the concept by allowing a small set of employees to work from home on a part-time basis (Raghuram et. al., 2001).

Excitement over the possible benefits of virtual work outweighed any concerns about removing workers from the traditional office place, and in the late 1990's the idea of telecommuting moved quickly into a reality (Raghuram et. al., 2001). In 1999, the International Telework Association and Council reported that 19.6 million adults were telecommuting in the United States (Raghuram et. al., 2001). The use of flexible work arrangements continues to grow, demonstrated by the increase from 41 million American telecommuters in 2003 to 45 million in 2006 (Gajendran & Harrison, 2007). The availability, affordability, and power of communications technology has changed where, when, and how work is performed (Hill et. al., 2003; Raghuram & Weisenfeld, 2004). People can now check their email, have a phone conversation, or hold a meeting from almost anywhere in the developed world.

Likewise, the characteristics and needs of today's workforce have changed dramatically. The increasing number of dual-earner couples who care and provide for children and elderly dependants, makes juggling the demands of home and the workplace more difficult for both men and women (Hill et. al., 2003). The promise of reductions in daily commuting time and costs, lower childcare costs, increased work hour flexibility, reduced work-family conflict, improved job satisfaction and a better quality of life (Lomo-David & Griffin, 2001; Hill et. al., 2003; Raghuram & Weisenfeld, 2004) has attracted thousands of people to such jobs. Therefore, flexible work programs that allow employees to work from home have emerged as a popular solution to balancing competing demands across work and non-work domains.

A collection of the world's most successful companies including AT&T, IBM, American Express, Coca-Cola, Ford Motors, and United Airlines have adopted telecommuting practices (Lomo-David & Griffin, 2001). In terms of corporate strategy, flexible work has proven to be an effective way to enhance morale and productivity, improve profits while remaining competitive, reduce overhead costs, lower absenteeism, and retain talent by responding to the changing need for flexibility from the current workforce (Lomo-David & Griffin, 2001; Gajendran & Harris, 2007; Kelly, 1988; Hill, et. al., 2003; Goldsborough, 2000; Cooper & Kurland, 2002; Raghuram, et. al., 2001; Rau & Hyland, 2002). Most research seems to be supportive of the notion that flexible work arrangements provide employees with the control to better optimise their use of energy, time, and attention devoted to each domain (Raghuram & Weisenfeld, 2004).

Purpose of Present Study

With the rapidly growing rate of flexible work arrangements available to employees, it is imperative that academics, practitioners, organisations, and employees understand how this contemporary work situation can affect important personal outcomes and work related attitudes. The effects of such arrangements must be identified, in order to provide appropriate support to individuals.

This thesis investigates how certain characteristics related to the type of work, the work environment, and the individual impact the outcomes of work-family conflict, job satisfaction, psychological strain, and organisational commitment for virtual workers.

Outcome Variables in Present Study

Work-Family Conflict

Work-family conflict is commonly explained using Greenhaus & Beutell's (1985) definition as, "a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect" (Carlson, Kacmar, & Williams, 2000; O'Driscoll, Brough, & Kalliath, 2004; McElwain, Korabik, & Rosin, 2005; Voydanoff, 2005). Work-family conflict is a global measure of both the extent to which work conflicts with family life (WFC), and the extent to which demands of family life conflict with work related responsibilities (FWC) (Frone & Yardley, 1996).

Managing work-family conflict has become increasingly difficult in modern society, as role expectations of both men and women in the workplace and at home are rapidly changing (McElwain, et. al., 2005). With an increasing number of dual-career couples, longer work hours, and advancements in communication technology making it possible to work from anywhere at anytime, it is not surprising to find that interference between work and non-work domains is fast becoming a major source of job stress (O'Driscoll, et. al., 2004). Cooper and Cartwright (1994) demonstrated that detrimental physical and emotional outcomes are a result of excess mental and physical demands placed on the human mind and body when work-related stress is combined with stress from everyday life (Danna & Griffin, 1999). Perceptions of work-family conflict have been shown to impact psychological distress, organisational commitment, and job satisfaction (Frone, Russell, & Cooper, 1992).

Work-family conflict is the main outcome variable of interest in this thesis. The degree to which telecommuters experience conflict and the variables that influence that conflict are yet to be concretely determined. Therefore, this thesis will examine how working from home may affect work-family conflict.

Organisational Commitment

Commitment to an organisation can be categorised into one of three types known as 'affective', 'continuance' and 'normative' commitment (Meyer & Allen, 1990). According to Meyer and Allen (1990) affective commitment refers to an individual's emotional attachment to the organisation, whereas continuance commitment occurs when an individual perceives a profit associated with continued

participation, and a cost associated with leaving. Normative commitment arises out of a perceived obligation to the organisation.

Like many constructs in organisational psychology, commitment has been conceptualised and measured in many different ways (Meyer & Allen, 1990). Regardless of the differences, all types of commitment have been linked to turnover intentions (Meyer & Allen, 1990). Affective and normative commitment to the organisation are expected to be of particular relevance to virtual workers, and as such, are outcomes of interest in this study. This thesis aims to identify variables of flexible work that may be predictive of commitment.

Job Satisfaction

Job satisfaction can be defined as, “the degree to which a person reports satisfaction with intrinsic and extrinsic features of the job” (Warr, Cook & Wall, 1979). Some research suggests that telecommuters have more freedom to balance work and non-work activities and fulfil household requirements when working from home, and as a consequence are more satisfied with their jobs (McCloskey & Igbaria, 2005; Golden & Veiga, 2005). A goal of this thesis is to determine which variables related to working from home can be linked to job satisfaction.

Psychological Strain

Strain has been defined as the psychological, physiological, and behavioural changes that occur as a result of exposure to stressors (Thomas & Ganster, 1995). There are compelling reasons to understand the causes and consequences of strain.

Stress-related illness is costly to the economy, current legislation requires organisations to take a more proactive role in managing the stress of employees, and stress can lead to physical illness resulting in absenteeism, accidents, and poor performance (Thomas & Ganster, 1995). Therefore, antecedents of strain for virtual workers in the home environment are investigated here.

Predictor Variables in Present Study

Characteristics of the type of work:

Control

Control in the work context can be defined as a psychological belief an employee has regarding his or her ability to change their environment (Thompson & Prottas, 2005). Performing work at home allows control over breaks, clothing, lighting, layout of the office, noise, and other elements of the environment that could be potential stressors (Gajendran & Harrison, 2007). Control has the ability to, "...decrease negative consequences of managing multiple life roles, and increase positive attitudes about ones job, family and life" (Thompson & Prottas, 2005, p. 116). Control over the work environment has been found to serve as an 'antidote' to occupational stress and is directly related to satisfaction (Tetrick & LaRocco, 1987). Perceived control has been shown to reduce work-family conflict and strain, and positively impact job satisfaction (Adams & Jex, 1999; Thomas & Ganster, 1995; Tetrick & LaRocco, 1987; Valcour, 2007). Therefore, it is predicted that the control inherent in virtual work arrangements will help to improve outcomes for virtual workers, such that:

Hypothesis 1a: Control will be negatively related to WFC.

Hypothesis 1b: Control will be negatively related to FWC.

Hypothesis 1c: Control will be negatively related to psychological strain.

Hypothesis 1d: Control will be positively related to job satisfaction.

Flexibility

Flexibility is similar to control, however refers more specifically in this study to the flexibility an employee has in scheduling work and family tasks, so as to maintain sufficient work-life balance. Flexibility in work such as telecommuting increases employee control over the means of scheduling work and non-work related tasks to optimally minimise interference from work to family and maximise the use of resources (Gajendran & Harrison, 2007). Flexibility in work arrangements gives individuals the ability to overlap or integrate work and family responsibilities how they see fit, leading to a sense of balance and positive spillover (Hill, et. al., 1996). The freedom to schedule work and non-work activities to suit the individual and the needs of their family, should allow virtual workers to better cope with competing demands from work and family life (Rau & Hyland, 2002; Raghuram & Wiesenfeld, 2004; Cooke & Rousseau, 1984). Perceptions about the amount of flexibility provided by virtual work is expected to impact important outcomes, such that:

Hypothesis 2a: Flexibility will be negatively related to WFC for virtual workers.

Hypothesis 2b: Flexibility will be negatively related to FWC for virtual workers.

Hypothesis 2c: Flexibility will be negatively related to psychological strain.

Hypothesis 2d: Flexibility will be positively related to job satisfaction.

Hypothesis 2e: The relationship between flexibility and job satisfaction will be mediated by WFC.

Hypothesis 2f: The relationship between flexibility and job satisfaction will be mediated by FWC.

Workplace Isolation

A lack of physical and social interaction with co-workers is the most commonly expressed disadvantage to telecommuting (Cascio, 2000; Pinsonneault & Boisvert, 2001). Virtual employees miss the informal interactions they experience from the traditional workplace and perceptions of isolation have been identified as being a major issue for employees in remote offices (Cooper & Kurland, 2001; Vega & Brennan, 2000). Social connectedness with other organisation members is vital to satisfaction because it provides employees with the feeling that there is a community available to them if in need of information or support. A sense of connectedness is crucial for encouraging the accomplishment of immediate work requirements and defining long term relationships with the organisation (Raghuram et. al., 2001).

Workplace isolation is a fairly new concept under investigation. For the purpose of this study workplace isolation is defined by Marshall, Michaels, and Mulki

(2007) as "...employees' perceptions of isolation from the organisation and from co-workers" (p. 198). Workplace isolation has two key elements; professional and social. Professional isolation occurs when employees fear that opportunities for promotions and organisational rewards will be missed because they are out-of-sight and out-of-mind. Employees tend to think their efforts will go unrecognised and career advancement is out of reach because they are physically removed from the office. Social isolation occurs when employees long for informal interactions with colleagues and friends (Cooper & Kurland, 2002).

Virtual work inherently diminishes the visible and tangible aspects of an organisation as well as reduces opportunities for face-to-face interactions with other organisation members and supervisors (Marshall, et. al., 2007; Gajendran & Harrison, 2007). Little research to date has explored how virtual interactions with others (via email, phone, fax, etc.) impact telecommuter relationships, and consequently how altered relationships affect job satisfaction (Golden, 2006). The removal of physical elements associated with work and organisational connectedness have been thought to lead employees to experience perceptions of isolation, reduced social support, and the out-of-sight and out-of-mind mentality (Wiesenfeld et al., 2001; Marshall, et. al., 2007; Cooper & Kurland, 2002; Mann, 2006; Vega & Brennan, 2000). Furthermore, although several scales do exist to measure different aspects of social isolation and loneliness, there is no highly reliable and valid instrument available to measure employee perceptions of isolation (Marshall, et. al., 2007). It is predicted here that:

Hypothesis 3a: Workplace isolation will be negatively related to job satisfaction for virtual workers.

Hypothesis 3b: Workplace isolation will be positively related to psychological strain.

Hypothesis 3c: Workplace isolation will be negatively related to affective commitment for virtual workers.

Characteristics of the home and work environment:

Boundaries

Past research treated work and family as independent entities, because they were traditionally separated both physically and mentally. It has come to the attention of researchers in the past few decades however, that people make many transitions daily between the two worlds of work and family, and they are actually complexly intertwined and interdependent (Clark, 2001; O'Driscoll, et. al., 2004).

Some researchers believe that work at home arrangements allow employees to switch quickly and frequently between domains making it easier to balance competing demands. Other contributors argue that by placing work and non-work domains in close physical proximity (i.e. both under the same roof) boundaries between the two become more permeable, leading to more frequent interruptions from both spheres causing conflict, strain and dissatisfaction (Kossek et. al., 2006).

Studies have contributed to a growing body of literature which examines what is called 'boundary theory' or 'border theory'. Border theory was developed to explain how individuals manage, negotiate, separate and organise the demands and

expectations of the work and family spheres in order to attain balance (Clark, 2001; Kossek et. al., 2006). Borders are defined as lines of demarcation between domains, defining the point at which domain relevant behaviour begins or ends (Clark, 2001). According to boundary theory, individuals working from home are operating in multiple domains at the same time, making both work and family life more susceptible to intrusions (Voydanoff, 2005; Standen, Daniels, and Lamond, 1999) which significantly impacts well-being outcomes.

Border theory views relationships between the two domains on a continuum ranging from segmentation to integration. Individuals who favour an integrated approach to working from home tend to blur the physical and mental boundaries between work and home life, whereas those favouring a segmented approach are able to clearly separate the two (Voydanoff, 2005; Rau & Hyland 2002; Ashforth, Kreiner, & Fugate, 2000). A high permeability of boundaries (characteristic of an integrated approach) blurs the distinction between role demand, which creates confusion and anxiety about which role should be enacted at a given time. Roles that are highly segmented minimise blurring of boundaries and the associated costs, and have proven to be a robust predictor of well-being (Voydanoff, 2005; Rau & Hyland 2002; Kossek et. al., 2006). Work-family multitasking associated with an integrated model is positively related to work-family conflict and perceived stress (Voydanoff, 2005). Therefore, it is predicted that:

Hypothesis 4a: Physical boundaries will be negatively related to WFC for virtual workers.

Hypothesis 4b: Physical boundaries will be negatively related to FWC for virtual workers.

Hypothesis 4c: Physical boundaries will be negatively related to psychological strain.

Hypothesis 4d: The positive relationship between boundaries and job satisfaction will be mediated by FWC.

Family Support

Research has shown that one way to reduce perceptions of work-family conflict is through family support. Family support refers to the sharing of household and child care responsibilities, appreciation and emotional support. This form of non-work related support plays an important role in reducing work to non-work conflict (Holohan & Gilbert, 1979). Findings from Holohan and Gilbert (1979) indicate that a low level of spousal support for a mates' work is associated with high levels of work-family conflict. Husband's support for his wife's employment has been found to be critical in determining if the wife's employment will have negative consequences for the family unit and to the reduction of her conflict (Beutell & Greenhaus, 1982; Kundsinn, 1974). To consider the male perspective, Rosin (1990) found that men who receive support for their career from their wives report more career satisfaction.

Family support is predicted to be vitally important for both male and female virtual workers. It is expected that in many instances a spouse may need to help out around the house so that workers can complete their work outside of normal

business hours, and if competing demands do occur they will need to provide emotional support. It is predicted that:

Hypothesis 5a: Family support will be negatively related to WFC

Hypothesis 5b: Family support will be negatively related to FWC

Hypothesis 5c: Family support will be negatively related to psychological strain.

Hypothesis 5d: Family support will be positively related to job satisfaction.

Children

Differing family characteristics from one employee to the next affect the intensity of demands one will face from the family domain. As such, "family role characteristics that require a person to spend large amounts of time in family activities can produce work-family conflict" (Greenhaus and Beutell, 1985. p. 80). The presence of dependants is significantly related to work family conflict, so that as the number of dependants increases so does conflict (Brough, O'Driscoll & Kalliath, 2005). Cooke and Rousseau, (1984) established that as ones obligations to the family expand through marriage and presence of children so too does work-family conflict and stress.

Mokhtarian, Bagley, and Salomon (1998) found that telecommuters with children rated the stress reduction and family benefits of telecommuting more highly than those with no children at home. People with children were more likely to cite

household distractions as a constraint than those without children. Duxbury and Higgins (1991) assert that a large body of literature supports the assumption that dual-career couples with children are most affected by work-family conflict. As individuals have children they are subject to increased inter-role conflict as their non-work roles change and become increasingly demanding (Cooke & Rousseau, 1984). Additionally, effects of work expectations on perceptions of overload tend to become stronger as workers have children, thus the parents may have lower tolerance for high work demands than non parents (Cooke & Rousseau, 1984). It is expected here that:

Hypothesis 6a: Virtual workers with children living at home will experience higher levels of WFC than those without children at home.

Hypothesis 6b: Virtual workers with children living at home will experience higher levels of FWC than those without children at home.

Hypothesis 6c: Virtual workers with children at home will experience higher levels of psychological strain than those without children at home.

Characteristics of the Individual worker:

Personality

Personality in the virtual work context has thus far been studied in relation to job performance, attraction to virtual work, and work to non-work conflict (Raghuram & Weisenfeld, 2004). Successful telecommuters have been found to possess honesty, dependability, resourcefulness, initiative, ethics, the ability work

independently with little supervision, and a great ability to problem solve (Lomo-David & Griffin, 2001). Shin (2004) has addressed the P-E fit in virtual organisations by considering personal attributes, however, the attributes do not include personality traits (i.e. trustworthiness, valuing autonomy, time management skills, etc.).

The majority of personality research uses a five-factor model to explain personality (Barrick, Mount, & Gupta, 2003). The five traits most commonly used in research are openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (Barrick, Mount, & Gupta, 2003). Extraversion is characterised by sociability, ambition, dominance, positive emotionality, and excitement seeking (Barrick, Mount, & Gupta, 2003). Extraversion is of particular interest in this study because of the sociability and excitement behaviours. It is predicted that the social needs of extraverts will not be met by working from home, therefore impacting feelings about job satisfaction, workplace isolation, organisational commitment, and psychological strain. It is predicted that:

Hypothesis 7a: Extraversion will be negatively related to job satisfaction for virtual workers.

Hypothesis 7b: Extraversion will be positively related to workplace isolation.

Job and Family Involvement

Separating work and non-work domains is a major challenge for virtual workers. The difficulty of balancing competing demands is further complicated when a virtual worker is significantly more involved in either their job or their family life.

Job involvement is one's belief about the degree to which their job satisfies their needs, and family involvement refers to the degree to which their family life satisfies their needs (Sonnentag & Krueger, 2006).

Individuals with high job involvement identify so highly with their job that it is closely linked to their self-esteem, and is a meaningful part of their life (Sonnentag & Krueger, 2006). Job related issues are so important to these individuals that they have been found to experience more difficulty psychologically detaching from work during non-work hours than those low on involvement (Sonnentag & Krueger, 2006).

Research points to high levels of conflict for those who are highly involved in their work (Greenhaus and Beutell, 1985; Frone and Rice, 1987). Mental preoccupation with work while physically participating in family activities poses a huge threat to psychological strain and satisfaction, and is a likely source of work-family conflict. Individuals high on job involvement may struggle to psychologically detach from work, which has proven to aid in the daily recovery from work stress (Etzion et al., 1984).

On the other hand, an overextension of participation in family activities may also negatively impact family-work conflict as a result of role overload (Greenhaus & Beutell, 1985; Pleck, 1979; Staines, Pleck, Shepherd & O'Conner, 1978). When working from home, individuals who are highly involved in family activities may be easily distracted from work obligations by family demands. It is predicted that:

Hypothesis 8a: Job involvement will be positively related to work-family conflict for virtual workers.

Hypothesis 8b: Job involvement will be positively related to psychological strain for virtual workers.

Hypothesis 8c: Job involvement will be negatively related to job satisfaction for virtual workers.

Hypothesis 8d: Family involvement will be positively related to FWC for virtual workers.

Hypothesis 8e: Family involvement will be positively related to psychological strain for virtual workers.

Hypothesis 8f: Family involvement will be positively related to job satisfaction for virtual workers.

CHAPTER TWO

METHOD

A survey intended to measure various aspects of the home office, individual work and family situation, and work related attitudes was distributed to virtual workers in one leading plastics and chemicals company in North America. In an effort to reduce unnecessary overhead costs, the organisation has closed all 33 of their North American offices over the last 15 years, and moved all employees into home offices. All employees now work from home on a full-time basis, and are provided with on-going telecommunications technology and support. At times, these “virtual” employees are required to travel to visit clients, however, work related travel is dependent on the time of year and client demand. All members of the North American sales team from across the nation were invited to complete the questionnaire online.

Participants

Two senior executive members circulated an email to all 390 members of their individual sales teams inviting them to complete an online questionnaire (appendix A). The email briefly explained the purpose of the questionnaire, and provided a link to the survey for those willing to take part. A total of 278 people completed the survey representing a response rate of 71%. 225 (80.9%) of the total respondents were male, 48 of the respondents were female (17.3%), and five (1.8%) did not

disclose their gender. Ages of participants ranged from 23 to 65 years, with a mean age of 44.8 years (SD= 10.17). Respondents' average tenure as a virtual worker (either with the sample organisation or another company) was 12.71 years (SD = 8.64). Whereas 64.5% of people reported having kids living at home (ranging from newborn to 24 years old), 35.5% reported that they do not have kids living at home. Lastly, the average hours worked per week for this sample of people is 54.17 hours (SD = 8.36).

Measures

Data were collected via an online self-report questionnaire. The questionnaire (Appendix A) measured employee perceptions of job involvement, family involvement, flexibility, control, work to family conflict, family to work conflict, organisational commitment, job satisfaction, family support, work environment (physical boundaries), psychological strain, workplace isolation, aspects of personality (extraversion, conscientiousness, and neuroticism), and demographic information such as age, hours worked, tenure, virtual tenure, children, and living situation. Composite scores for each variable in this study were derived by averaging responses across the items for each individual. Factor analyses were conducted on all items for each variable. Analyses provided support for the presence of only one factor for most variables, and cases in which more than one factor were found are discussed below.

Work-family conflict

Work to family conflict (WFC) and family to work conflict (FWC) were measured by ten items (five dedicated to each) taken from Frone and Yardley (1996). Participants' extent of agreement with statements, ranging from 1 = *strongly disagree* to 7 = *strongly agree*, was obtained to ascertain perceived levels of both WFC and FWC. The Cronbach's alpha for WFC was .92, and .88 for FWC.

Organisational commitment

Commitment was measured by 16 items taken from Allen and Meyer (1996). Eight items assessed feelings of affective commitment, such as "I really feel as if this organisation's problems are my own". The other eight items assessed continuance commitment, with statements such as "I feel I have too few options to consider leaving this organisation". A Likert style response scale ranging from 1 = *strongly disagree* to 7 = *strongly agree* was used. The Cronbach's alpha for affective commitment was .74, and .80 for continuance commitment.

Job satisfaction

Satisfaction with current job was measured using Warr, Cook, and Wall's (1979) 16 facet satisfaction scale. The survey asked participants to rate their satisfaction with various aspects of their job such as "The physical working conditions" and "Your hours of work." Virtual workers responded on a six point scale from 1 = *very dissatisfied* to 6 = *very satisfied*. The Cronbach's alpha for this measure was .91.

Psychological strain

Levels of strain were assessed using the 12 items of the General Health Questionnaire (GHQ12) developed by Banks, et. al., (1980). Individuals were asked to indicate on a scale from 1 = *never* to 6 = *all the time*, how frequently they have for example “Lost much sleep over worry,” or “Been feeling unhappy and depressed.” The Cronbach’s alpha for this scale was .86.

Control

Perceptions of control over one’s own work environment were measured by six items developed by Tetrick and LaRocco (1987) based on an earlier model by Sutton and Kahn (1986). Respondents were asked to indicate their perceived extent of control over certain aspects of their job (1 = *not at all*, 2 = *a little*, 3 = *to some extent*, 4 = *quite a bit*, and 5 = *a great extent*). The scale included questions such as, “To what extent can you set your own work deadlines,” “To what extent do you control the pace and scheduling of your work,” and “To what extent do you have influence over the things that affect you on the job.” The Cronbach’s alpha for this measure was .83.

Flexibility

Flexibility was measured by two items taken from Hill, Miller, and Colihan (1998). For the first two items: “How much flexibility do you have in selecting the location of where you work” and “How much flexibility do you have in scheduling what work you will do,” participants were asked to indicate how much each statement

reflects the amount of flexibility they experience on the job (1 = *none* to 5 = *complete flexibility*). A third item ranging from 1 = *strongly disagree* to 5 = *strongly agree*, asked for the level of agreement with the statement “I have sufficient flexibility in my job at Dow to maintain adequate work and personal family life balance.”

After data were collected, analyses yielded mean scores for statements one (3.5) and two (3.9), suggesting that respondents perceived on average that they had between “some” and “a lot” of flexibility around selecting the *location* of their work, and in scheduling *what* work they do. Given that virtual workers are typically situated in a stable location (their home), and are likely to have specific work-related tasks to complete, it was concluded that these items are tapping into stable job characteristics that are outside the control and influence of the individual. Therefore, since the objective of this measure was to identify how much flexibility virtual workers have to successfully balance work and family life (rather than location and type of work) these two items were not included in further analyses. A Cronbachs’ alpha could not be calculated for the final measure of flexibility as only one item was retained.

Workplace isolation

Marshall, Michaels, and Mulki (2007) developed and validated a 14 item measure of workplace isolation. In their study, participants were asked to indicate their level of agreement with statements such as “I have one or more co-workers available who I talk to about day-to-day problems” and “Upper management knows about my achievements” from 1 = *strongly disagree* to 7 = *strongly*. Response data

indicated that workplace isolation is a two-dimensional construct referring to the virtual workers' perceptions of isolation from both colleagues and from the company's support network. The same items and response scales for workplace isolation were used in the present study. In line with Marshall, Michaels, and Mulki's (2007) study, factor analysis results suggested the presence of two factors. The two components were given the labels lack of social involvement and lack of visibility, and retained as such for further analyses.

Boundaries

The presence of physical boundaries in the home was measured using an exploratory set of three items taken from the previous research of a dissertation student at the University of Cincinnati, USA (Patterson, 2002). The first item asked workers to point out whether or not the room they use at home as an office has a door. The second item asked individuals to rate how frequently they kept the door to their office closed while working, on a six point scale ranging from 1 = *never* to 6 = *all the time*. The third item asked participants to respond to the statement, "The room I use for work is also used for other activities (i.e. family activities, leisure, socialising, etc.)" using the same six point response scale. The correlation coefficient found between the items was quite low (.40) indicating poor internal consistency. Therefore, they were each given a different label (i.e. door, use of door, and workspace uses) and retained individually for further analysis.

Family Support

Information on family support was collected using a set of items from the work of Etzion (1984). Respondents were asked to indicate the degree to which statements such as, “appreciation” and “sharing of duties” are present in their family life, on a six point scale from 1 = *never* to 5 = *all the time*. The Cronbach’s alpha for this measure was .79.

Personality

Extraversion, conscientiousness, and neuroticism were measured as part of the short 44 item BFI (Big Five Inventory) scale taken from John and Srivastava (1999). Participants were asked to identify the extent to which they agree (1 = strongly disagree to 5 = strongly agree) that statements such as, “Is talkative,” “Can be tense,” “Perseveres until the task is finished” are representative of themselves. The Cronbach’s alpha was .83 for extraversion, .71 for conscientiousness, and .79 for neuroticism. At the beginning stages of the study, the three facets of personality mentioned above were thought to have an impact on outcome variables, however, when the final set of hypotheses were written it was decided that extraversion was the primary trait of interest in this study. Therefore, neuroticism and conscientiousness were measured out of secondary interest, but not used for further analysis.

Job and family involvement

Levels of involvement were measured using a questionnaire developed and validated by Kanungo (1982). Nine statements dedicated to job involvement, and nine dedicated to family involvement asked participants to indicate their extent of agreement with statements such as, “A lot of my interests are centred around my job” and “I am very much involved personally in my family life,” on a seven point Likert scale ranging from: 1 = *strongly disagree* to 7 = *strongly agree*. Chronbach’s alpha for job involvement was .77 and .83 for family involvement.

Procedure

The researcher communicated the goal and general process of the intended study to two senior executive members through a series of emails and phone conversations. Once permission to carry out the study was obtained from the organisation, the researcher held phone conversations with two current employees to ascertain a better understanding of job characteristics and common feelings or issues workers were experiencing. Ethical approval for the project was given by the Research and Ethics Committee, Psychology Department, University of Waikato.

A final version of the questionnaire including an introduction page to explain confidentiality and the purpose of the survey was loaded onto the internet (Appendix A). The two senior level employees circulated the survey link to their sales teams, and employees were given 2 weeks to respond. The email explained that although participation was voluntary, it would be appreciated if they could take half an hour or

so to complete the questionnaire as part of a Master's thesis project. Employees were given two weeks to complete the survey before data were analysed.

After the two week response deadline, data were downloaded in the form of an Excel spreadsheet and imported into SPSS for statistical analysis.

CHAPTER THREE

RESULTS

The following chapter organises findings into five main sections: (a) descriptive statistics, (b) factor analysis (c) between predictor and outcome variables, (d) correlation relationships; and (e) mediated regression analyses.

Descriptive Statistics

Descriptive statistics for all variables, including means (M), standard deviations (SD), skew, and Chronbach's alphas are presented in Table 1. Mean scores for control, affective commitment, job satisfaction, family support, extraversion, and conscientiousness were reasonably high. Mean scores for work-family conflict, continuance commitment, boundaries, and neuroticism were moderate or in the middle range. Mean scores for psychological strain, family-to-work conflict, and job involvement were relatively low.

Most of the variables exhibited normal levels of skew, however, family involvement exhibited a high level of positive skew (1.46). Gender was also highly skewed (1.71) as the majority of the sample was male. Flexibility to maintain work-life balance was negatively skewed (-.78), which is an interesting finding given that most research suggests that improved work-life balance is the primary benefit of working from home.

The Cronbach's alpha coefficients for most variables analysed were acceptable (>.70), indicating moderate to high internal consistency. As mentioned previously, the correlation coefficient for boundary items was less than acceptable (.40). This is not surprising, given that the boundary measure used was comprised of a small set of exploratory questions that have not been previously validated. A Cronbach's alpha coefficient could not be determined for the flexibility measure, because only one item from the initial set of three was used in the analysis stage.

Factor Analysis

Results of the factor analyses for each variable indicated that in most cases each variable consisted of one factor. Analysis of the scree plots and eigenvalues for organisational commitment and workplace isolation (4.69 and 1.52) however, suggested the presence of multiple factors. Where multiple factors were found, the items were separated and given new labels. Organisational commitment items were divided into affective commitment and continuance commitment. Workplace isolation analysis also indicated the presence of two factors, which were labelled lack of social involvement and lack of visibility. Factor analyses were not performed on flexibility or boundaries because they were comprised of only three items. Rather, correlation coefficients were calculated, and indicated poor internal consistency for boundaries (.40) and for flexibility (.15). Flexibility items were re-named flexibility to maintain balance, flexibility in location and flexibility in what work they do and retained individually for further analysis. Similarly, boundary items were re-labelled presence of door, use of door, and uses of workspace.

Table 1: Descriptive statistics of variables

<i>Variable</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Skew</i>	<i>Chronbach's Alpha</i>
Job Involvement	276	2.84	.90	.44	.77
Family Involvement	272	1.80	.79	1.46	.83
Control	274	3.58	.65	-.36	.83
Work to family conflict	277	4.23	1.40	-.46	.92
Family to work conflict	273	2.48	1.15	.52	.88
Affective commitment	270	4.99	.98	-.58	.74
Continuance commitment	272	3.98	1.15	.37	.80
Job satisfaction	276	4.62	.75	-.63	.91
Family support	271	4.09	.77	-.36	.79
Lack of social involvement	274	3.78	1.66	.36	.87
Lack of visibility	272	3.21	1.50	.51	.88
Psychological Strain	273	2.42	.61	.47	.87
Extraversion	269	3.88	.69	-.40	.83
Flexibility to maintain balance	276	3.82	.99	-.78	----
Flexibility in location of work	276	3.50	1.11	-.67	----
Flexibility in what work they do	276	3.92	.81	-.52	----
Presence of door	264	1.83	.38	-1.76	----
Use of door	271	2.78	1.69	.60	----
Uses of workspace	271	4.93	1.37	-1.37	----

Note: Cronbach's Alpha coefficients could not be obtained for measures of Flexibility, Presence of a door, Use of door, and Uses of workspace because scores were calculated for each individual item rather than composite variables.

Relationships between Outcome Variables

The original goal of the present study was to identify significant predictors of important conflict, strain, satisfaction, and commitment outcomes. However, these outcome variables are likely to interact with each other, therefore correlations were analysed, and interesting significant relationships were found between them. Work to family conflict was positively related to family to work conflict and psychological strain, and negatively related to job satisfaction. Family to work conflict was positively related to psychological strain, and negatively to job satisfaction. Psychological strain was negatively related to job satisfaction, and affective commitment. Lastly, affective commitment was negatively related to continuance commitment. Table 2 presents the findings of correlations between the outcome variables in this study.

Table 2: Correlations between outcome variables

Variable	WFC	FWC	Psychological Strain	Job Satisfaction	Affective Commitment	Continuance Commitment
WFC	—					
FWC	.30**	—				
Psychological Strain	.39**	.28**	—			
Job Satisfaction	-.34**	-.16*	-.48**	—		
Affective Commitment	-.05	-.10	-.29**	.63**	—	
Continuance Commitment	.06	.09	.12	-.17**	-.11	—

Note: *p<.05 **p<.01

Correlations

Results of Pearson Product Moment correlations between the variables are listed in Table 3. The correlation statistics in table 3 support the following:

Control

Hypothesis 1a: Predicted a negative relationship between control and work-family conflict. This hypothesis was confirmed by the significant coefficient of $r = -.37, p < .01$.

Hypothesis 1b: Predicted a negative relationship between control and family-work conflict. This hypothesis was confirmed by the coefficient of $r = -.09, p < .05$, however, the effect size of the correlation is relatively low.

Hypothesis 1c: Predicted a negative relationship between control and psychological strain. This hypothesis was confirmed by the significant coefficient of $r = -.36, p < .01$.

Hypothesis 1d: Predicted a positive relationship between control and job satisfaction. This hypothesis was confirmed by the significant coefficient of $r = .49, p < .01$.

Flexibility

Hypothesis 2a: Predicted a negative relationship between flexibility and WFC. This hypothesis was supported by the significant negative coefficient of $r = -.55, p < .01$.

Hypothesis 2b: Predicted a negative relationship between flexibility and FWC. This hypothesis was confirmed by the significant coefficient of $r = -.14, p < .05$.

Hypothesis 2c: Predicted a negative relationship between flexibility and psychological strain. This hypothesis was confirmed by the significant coefficient of $r = -.36, p < .01$.

Hypothesis 2d: Predicted a positive relationship between flexibility and job satisfaction. This hypothesis was confirmed by the significant coefficient of $r = .37, p < .01$.

Workplace Isolation

Hypothesis 3a: Predicted a negative relationship between workplace isolation and job satisfaction. This hypothesis was confirmed by the significant coefficients of $r = -.43, p < .01$ for lack of social involvement and by $r = -.60, p < .01$ for lack of visibility to management.

Hypothesis 3b: Predicted a positive relationship between workplace isolation and psychological strain. This hypothesis was confirmed by the significant coefficients of $r = .36, p < .01$ for lack of social involvement and by $r = .33, p < .01$ for lack of visibility to management.

Hypothesis 3c: Predicted a negative relationship between workplace isolation and affective commitment. This hypothesis was confirmed by the significant coefficients of $r = -.38, p < .01$ for lack of social involvement and by $r = -.42, p < .01$ for lack of visibility to management.

Boundaries

Hypothesis 4a: Predicted a negative relationship between physical boundaries and WFC. This hypothesis was supported by the low correlation of $r = -.10$, $p < .05$ for uses of workspace. However, a non-significant positive coefficient was found for use of door, $r = .09$, $p < .05$.

Hypothesis 4b: Predicted a negative relationship between physical boundaries and FWC. This hypothesis was supported by the significant coefficient of $r = -.13$, $p < .05$ for uses of workspace.

Hypothesis 4c: Predicted a negative relationship between physical boundaries and psychological strain. This hypothesis was supported by the negative coefficient of $r = -.09$, $p < .05$ for uses of workspace, however the correlation is not significant.

Family Support

Hypothesis 5a: Predicted a negative relationship between family support and work to family conflict. This hypothesis was confirmed by the significant coefficient of $r = -.23$, $p < .01$.

Hypothesis 5b: Predicted a negative relationship between family support and family to work conflict. This hypothesis was confirmed by the significant coefficient of $r = -.26$, $p < .01$.

Hypothesis 5c: Predicted a negative relationship between family support and psychological strain. This hypothesis was confirmed by the significant coefficient of $r = -.31$, $p < .01$.

Hypothesis 5d: Predicted a positive relationship between family support and job satisfaction. This hypothesis was confirmed by the significant coefficient of $r = .16$, $p < .01$.

Children

Hypothesis 6a: Predicted that virtual workers with children living at home will experience higher levels of WFC than those without children at home. The mean score for WFC for workers with kids at home was 3.71, $sd = 1.42$ and 4.08, $sd = 1.43$ for those without kids. $Df = 214$, and significance level was .07, $p < .05$. This analysis suggests no significant differences between the two groups.

Hypothesis 6b: Predicted that virtual workers with children living at home will experience higher levels of WFC than those without children at home. The mean score on WFC for those with children at home was 3.71, and the mean for those without was 4.08. This mean difference was not significant, $t(214) = -1.82$, $p < .05$.

Hypothesis 6c: Predicted that virtual workers with children living at home will experience higher levels of FWC than those without children at home. The mean score on FWC for those with children at home was 5.52, and the mean for those without was 5.70. The mean difference was not significant, $t(214) = -1.11$, $p < .05$.

Table 3: Correlations between predictor and outcome variables

Variable	WFC	FWC	Psychological Strain	Job Satisfaction	Affective Commitment	Continuance Commitment
Control	-.37**	-.09	-.36**	.49**	.33**	-.16**
Flexibility to maintain balance	-.55**	-.14*	-.36**	.37**	.20**	-.04
Social Involvement	.17**	.18**	.36**	-.43**	-.38**	.14*
Visibility	.11	.06	.33**	-.60**	-.42**	.19**
Door	-.00	-.01	-.05	-.02	.00	.01
Use of door	.10	.07	.02	.10	.10	-.02
Uses of workspace	-.10	-.13*	-.10	.04	.12	.03
Family support	-.23**	-.26**	-.31**	.16**	.03	.03
Extraversion	-.03	-.10	-.20**	.18**	.10	-.17**
Job involvement	.14*	-.06	-.03	-.21**	.07	.04
Family involvement	.08	.16**	.21**	-.17**	-.33**	-.12

Note: Availability, Social Involvement, and Visibility represent the three labels given to the three factors of Workplace Isolation. The variables Presence of door, Use of door, and Use of workspace represent the labels given to the three factors of boundaries also previously discussed.
 *p<.05 **p<.01

Personality

Hypothesis 7a: Predicted that extraversion will be negatively related to job satisfaction. This hypothesis was disconfirmed by the positive coefficient of $r = .18$, $p < .01$

Hypothesis 7b: Predicted a positive relationship between extraversion and workplace isolation. This hypothesis was disconfirmed by the negative coefficients of $r = -.43$, $p < .01$ for lack of social involvement, and $r = -.18$ for lack of visibility to management.

Job and Family Involvement

Hypothesis 8a: Predicted a positive relationship between job involvement and work-family conflict. This hypothesis was confirmed by the significant correlation of $r = .14$, $p < .05$.

Hypothesis 8b: Predicted a positive relationship between job involvement and psychological strain. This hypothesis was disconfirmed by the non-significant negative correlation of $r = -.03$, $p < .01$.

Hypothesis 8c: Predicted a negative relationship between job involvement and job satisfaction. This hypothesis was confirmed by the significant coefficient of $r = -.21$, $p < .01$.

Hypothesis 8d: Predicted a positive relationship between family involvement and FWC. This hypothesis was confirmed by the significant coefficient of $.16$, $p < .05$.

Hypothesis 8e: Predicted a positive relationship between family involvement and psychological strain. This hypothesis was confirmed by the significant coefficient of .21, $p < .01$.

Hypothesis 8f: Predicted a positive relationship between family involvement and job satisfaction. This hypothesis was disconfirmed by the negative coefficient of -.17, $p < .01$.

Mediated Regression Relationships

The mediation relationships predicted in hypotheses 4d, 2e, and 2f were tested using the rules for mediated regression analysis proposed by Baron and Kenny (1986). The approach they suggest consists of 3 separate regression analyses:

- 1) Regress the mediator on the predictor variable.
- 2) Regress the criterion on the predictor variable.
- 3) Regress the criterion variable simultaneously on the predictor and mediator variables.

Baron and Kenny (1986) suggest that mediation occurs only when the following conditions are met:

- 1) There is a significant relationship between the predictor and mediator variables in the first equation.
- 2) There is a significant relationship between the predictor and criterion variables in the second equation.
- 3) The mediator is significantly related to the criterion variable in the third equation.

- 4) The relationship of the predictor with the criterion variable must be less in the third equation than in the second equation.

Baron and Kenny (1986) propose that full mediation occurs when the predictor variable has no significant relationship with the criterion variable when the predictor and mediator are entered into the third equation simultaneously. Partial mediation is indicated when the predictor-criterion association is reduced in magnitude, but remains significant when the predictor and mediator are entered simultaneously. The Sobel test must then be used to determine the statistical significance of the observed mediated relationship.

Hypothesis 4d predicted that the positive relationship between physical boundaries and job satisfaction will be mediated by FWC. As mentioned previously, items comprising the measure of physical boundaries used in this study were divided into three separate factors and given new labels due to the findings of factor analysis (i.e. door, use of door, and uses of workspace). The measure of boundaries used in this equation was “uses of workspace”. Scores on this item indicate how frequently a workers’ office space is used for other family related activities. Of the three boundary items, the relationship between uses of workspace and job satisfaction was predicted to be the most susceptible to the influence of FWC, and therefore was used for this analysis.

Results of the three mediated regression equations testing Hypothesis 4d are presented in Table 4. In the first equation, the mediator (family-work conflict) was regressed on the predictor variable (uses of workspace) and did display a significant relationship. In the second equation, the criterion variable (job satisfaction) was

regressed on the predictor variable (uses of workspace) and did not display significant results. In the third equation, job satisfaction was simultaneously regressed on uses of workspace and family-work conflict. The predictor variable (use of workspace) in the third equation did not show a significant relationship to the criterion (job satisfaction) variable. Conditions two, three and four of Baron and Kenny's (1986) model were not met by this analysis, indicating no significant mediation relationship.

Table 4: Mediated regression equation testing for Hypothesis 4d

<i>Step</i>	<i>Criterion Variables</i>	<i>Predictor Variables</i>	<i>Beta Coefficient</i>	<i>T</i>	<i>Adjusted R²</i>
1	Family-work conflict	Uses of workspace	-.13	-2.13	.01
2	Job satisfaction	Uses of workspace	.04	.71	-.00
3	Job satisfaction	Uses of workspace	.01	1.175	
		Family-Work Conflict	-.15	-2.48*	.02

Hypothesis 2e stated that work to family conflict would mediate the relationship between flexibility and job satisfaction. Results of the regression equations are presented in Table 5. The first two equations yielded significant results. In the third equation, the relationship between flexibility and job satisfaction, as well as the relationship between flexibility and job satisfaction both remained significant. All of Barron and Kenny's (1986) conditions were met, and a Sobel test

was performed to confirm the level of significance. Results of the Sobel test presented in Table 5 confirmed the presence of a significant mediation relationship. The significance of equation three indicates that the relationship is one of partial mediation, rather than full mediation.

Table 5: Mediated regression equation testing for Hypothesis 2e

<i>Step</i>	<i>Criterion Variables</i>	<i>Predictor Variables</i>	<i>Beta Coefficient</i>	<i>T</i>	<i>Adjusted R²</i>
1	Work-family conflict	Flexibility	.55	10.82*	.30
2	Job satisfaction	Flexibility	.37	6.51*	.13
3	Job satisfaction	Flexibility	.26	3.97*	
		Work to family Conflict	.19	2.86*	.15
		<u>Sobel test:</u>	z = 2.77, (p<.05)		

Similar to Hypothesis 2e, Hypothesis 2f stated that conflict in the direction of family to work would also mediate the relationship between flexibility and job satisfaction. Results of the regression equations are presented in Table 6. The first two equations produced significant results. The relationship between flexibility and job satisfaction and between family to work conflict and job satisfaction, were both significant. All of Baron and Kenny's (1986) conditions were met in this case, and a Sobel test was performed. Results of the Sobel test presented in Table 6 were not significant. Thus, the results do not support Hypothesis 2f, and family to work

conflict does not appear to mediate the relationship between flexibility and job satisfaction.

Table 6: Mediated regression equation testing for Hypothesis 2f

<i>Step</i>	<i>Criterion Variables</i>	<i>Predictor Variables</i>	<i>Beta Coefficient</i>	<i>t</i>	<i>Adjusted R²</i>
1	Family-work conflict	Flexibility	-.14	-2.48*	.02
2	Job satisfaction	Flexibility	.37	6.51*	.13
3	Job satisfaction	Flexibility	.35	6.11*	
		Family-work Conflict	-.11	-1.87	.14
		<u>Sobel test:</u>	z = .147	(p<.05)	

CHAPTER FOUR

DISCUSSION

The present study examined the relationships between characteristics of virtual work, the home environment, and the individual virtual worker and the outcomes of work-family conflict, job satisfaction, organisational commitment, and psychological strain. This study aimed to provide insight into the daily experiences of individuals working from home. Knowledge about the challenges facing virtual workers will help individuals understand what to expect from flexible work, and organisations to plan for and support such workers. A strength of this study is that it goes beyond examining the relationship between virtual work and performance to determine which elements related to the type of work, the home, and the individual impact conflict, job satisfaction, psychological strain, and organisational commitment.

The research tests some variables that have rarely been investigated in regards to telework, such as physical boundaries and workplace isolation. The overall findings of the study suggest that while individuals may encounter different situations when working from home, they face common challenges and issues which have negative consequences on the individual and the organisation. The major findings and their implications are discussed below.

Relationships between Outcome Variables

Results of the present study demonstrated strong support for the prediction that whereas work-family conflict, job satisfaction, organisational commitment, and psychological strain may be differentially affected by predictor variables, they are interrelated constructs that significantly impact each other.

Consistent with previous research (Danna & Griffin, 1999) analyses showed that as levels of work to family and family to work conflict increase, so do levels of psychological strain. A positive relationship was found between the two types of conflict. This may suggest that when faced with competing demands, feelings of guilt may arise from a lack of participation in family over work requirements (or work over family) and spillover to affect the other domain (Duxbury & Higgins, 1991).

Previous research (Adams & Jex, 1999; Kossek & Ozeki, 1998; Boles, Howard, & Donbofrio, 2001; Boles and Babin, 1996) has demonstrated that as levels of family to work and work to family conflict increase, levels of job satisfaction fall. In line with earlier research a negative relationship was found between WFC and satisfaction. Satisfaction was also negatively related to psychological strain. Studies have suggested that the strain of balancing work and family responsibilities may lead to job dissatisfaction (Bacharach, Bamberger, & Conley, 1991; Bedeian, et. al., 1988). Satisfaction was very strongly related to affective commitment in this study, such that virtual workers who were more satisfied with their jobs were also more committed.

Correlations

Results of the study support several predictions about the relationships between outcomes and elements of the type of work, workspace, and the person discussed below.

Control

Control was negatively related to work to family conflict (WFC), family to work conflict (FWC), psychological strain, and positively related to job satisfaction as predicted. Findings support the proposition that a high level of control over characteristics of the work environment is associated with reduced conflict and strain, and increased satisfaction (Rau & Hyland, 2002; Adams & Jex, 1999; Thomas & Ganster, 1995). As, Thompson and Prottas (2005) explain, workers with higher levels of control and discretion over how work is performed are more likely to experience positive spillover between job and home, less likely to be thinking about looking for a new job, and less likely to feel stressed or experience either form of work-family conflict. Further, Thomas and Ganster (1995) point out that freedom to make personal calls and care for children after school serve to augment one's ability to execute family responsibilities and lessen accompanying strain. The extent to which individuals can control their work environment and desired outcomes and events will result in fewer stressors and lower strain (Tetrick & LaRocco, 1987). Control was also significantly related to affective commitment, suggesting that giving people more control over their work lives makes them feel empowered and committed to the organisation.

Flexibility

Results also supported predictions about the relationship of flexibility and work to family conflict, family to work conflict, and psychological strain. Consistent with past research, the extra flexibility provided to schedule work and non work activities in a way that supports balance is related to reduced levels of conflict and mental health outcomes (Thomas & Ganster, 1995; Staines et al., 1989). Flexibility to promote balance between competing demands was also found to increase job satisfaction. Workers who perceive more flexibility to schedule daily activities as they see fit should find it easier to maintain balance between work and non work life when working from home, resulting in higher job satisfaction (Hill, et. al., 2003).

Workplace isolation

Workplace isolation (lack of social involvement, and lack of visibility to management) was negatively related to job satisfaction. As explained by other researchers, interactions with other organisational members, recognition, and a sense of connectedness to an organisation are crucial to satisfaction with telecommuting (Marshall, et. al., 2007). The out-of-sight-out-of-mind mentality hypothesized to affect satisfaction for many virtual workers proved to be a reality in this study.

Significant negative relationships were also found between measures of isolation and affective commitment. This indicates that virtual workers who feel isolated working from home will be less attached to the organisation, and therefore

less committed. Conversely, a positive relationship was found between workplace isolation measures and psychological strain, supporting the hypothesis that the removal of traditional elements of the workplace (such as physical interaction with others) affects strain for virtual workers (Marshall, et. al., 2007; Gajendran and Harrison, 2007).

Boundaries

The presence of physical boundaries was originally predicted to have a profound effect on outcomes of conflict and psychological strain. Boundary theory suggests that clear boundaries between work and non work domains reduce the blurring of roles, resulting in reduced conflict and levels of strain for telecommuters (Ashforth et. al., 2000; Apgar, 1998; Kossek et. al., 2006; Voydanoff, 2005). However, results of this study did not identify any significant relationships.

It is speculated that perhaps other variables such as job involvement or family support affected the relationship between the presence of physical boundaries and conflict and strain measures. Perhaps individuals who are highly involved in their work find it difficult to walk away from work related requirements regardless of whether or not their workspace is physically separated from family activities, resulting in conflict and stress. With regard to family support, it is possible that family members (children and spouses) do not respect physical boundaries between domains in the home, resulting in increased interference from family, hence more conflict and strain.

Lastly, the exploratory measure of boundaries used here did not appear to be a reliable and valid measure of boundaries in the home, and it may have failed to capture true boundary effects. Inconsistencies in findings across studies may also be due to inconsistent definitions of telecommuting and virtual work (Standen, et. al., 1999). Whereas telecommuters in some studies split work time between the home and a traditional office, participants in some other studies work full-time from a stable location in their home, and these differences must be expected to significantly impact findings. The arguments made here to explain unexpected relationships will need to be tested by future research before concrete conclusions can be drawn.

Family support

Support from family members was predicted to be negatively related to work to family conflict, family to work conflict, and psychological strain. Results of data analysis confirmed these predictions. In line with previous research, these findings suggest, that telecommuters with supportive spouses and family members experience low levels of conflict and strain (Beutell & Greenhaus, 1982; Clark, 2000). As family support increases, WFC appears to decrease. Consistent with previous research, help with family responsibilities and emotional support from a spouse lessens perceptions of conflict between work and family requirements (Holohan & Gilbert, 1975; Beutell & Greenhaus, 1983; Kundsinn, 1974). Such support may reduce perceived role stressors and time demands, thus decreasing work-family conflict. Support may be an important coping mechanism against the strain of work-family conflict through its ability to reduce potential sources of stress (Carlson and

Perrewe, 1999). Support was also positively related to job satisfaction. Virtual employees with supportive families may find it easier to balance competing demands, improving satisfaction outcomes.

Children

Following the predictions of other studies, it was hypothesised that virtual workers with children at home would report higher levels of work to family and family to work conflict than those without children (Duxbury and Higgins, 1991; Raghuram and Wiesenfeld). Support for this expectation has been mixed (Greenhaus & Beutell, 1985) and no significant differences were found between the two groups. Some researchers argue that it is not necessarily the presence of children that affects conflict, but the ages and number of children at home that impact on conflict results (Darcy & McCarthy, 2007). Perhaps variations in the ages and prevalence of children for virtual workers in this study affected the findings.

Personality

The personality trait of extraversion was found to be negatively related to job satisfaction for virtual workers. In line with predictions, the more highly extraverted an individual appears to be, the lower their level of job satisfaction. It is hypothesized that because extraverts value interaction with others, virtual work may not satisfy this need resulting in lower job satisfaction. This finding has important implications for practitioners and individuals. Flexible work arrangements are very attractive to many people. Organisations looking to fill these unique roles should

take care to inform applicants of the challenges of working from home. By providing candidates with a realistic job preview, potential employees can make an educated decision as to whether or not working from home will suit their need for social interaction. Additionally, for the sake of maintaining low turnover rates, organisations should carefully consider the suitability of extraverted job candidates to this type of work when making hiring decisions. Lastly, if they decide in fact to take on extraverted employees, they may need to provide support systems and find ways to satisfy interaction needs.

Job involvement and family involvement

Job involvement was negatively related to job satisfaction. Low levels of satisfaction for those highly involved in their job or family may be because by placing the two domains closer together, one is more likely to experience interference from other (Voydanoff, 2005; Standen, Daniels, and Lamond, 1999). Job involvement may impact WFC in two ways. First, individuals who are highly involved and view their job as central to their self-concept may devote the majority of their time to that role, making it more difficult to comply with the expectations of the second role. Second, high role involvement may cause an individual to be mentally preoccupied with work when physically participating in family activities may lead to strain (Frone & Rice, 1987).

Interestingly, a negative relationship was found between job involvement and psychological strain, which goes against predictions. A disproportionate dedication of resources to one domain over another (work or family), makes it difficult to satisfy

conflicting demands, which is associated with higher levels of strain. Alternatively, it could be hypothesized that because work is situated in the home, virtual workers highly involved with their jobs can attend to work related requirements at any time of the day to reduce strain. These explanations would need to be tested by future research.

Family involvement results were in line with predictions, demonstrating a positive relationship with family to work conflict. This would support the notion that individuals who participate highly in family responsibilities are likely to feel that work demands conflict with family life when working from home (Greenhaus & Beutell, 1985; Pleck, 1979; Staines, Pleck, Shepherd, and O'Connor, 1978). Earlier studies with similar findings have suggested that increased participation in either work or family may result in role overload. Moreover, psychological involvement in a role may act primarily as a sensitizer to interference effects, making individuals more aware of problems within that role. This awareness in turn, may increase perceptions of conflict (Duxbury & Higgins, 1991).

Whereas job involvement was negatively related to strain in this study, family involvement was curiously found to be positively related to strain. A possible explanation for these inconsistent findings may be related to gender and role expectations. Duxbury and Higgins (1991) argue that, "a man's job involvement is viewed as consistent with his primary role as breadwinner, so there is little discrepancy between societal role expectations and role involvement" (p. 62). Therefore, men who are highly involved in family roles are behaving in a manner that is inconsistent with societal and organisational norms, which may lead to feelings of

anxiety and strain (Duxbury & Higgins, 1991). Given that the majority of respondents in this study were males (80.9%), perhaps this result was influenced by gender effects. Further testing on strain differences between men and women should be performed to determine if this is in fact the case.

Mediated Regression Relationships

Previous research has suggested that the flexibility provided by virtual work is beneficial to job satisfaction and well-being outcomes. The present study hypothesized that WFC would mediate the positive relationship between flexibility and job satisfaction. It was reasoned that flexibility in scheduling work and non-work activities would reduce perceptions of conflict, which would in turn impact job satisfaction. Results from the regression analyses suggested a partially mediated relationship. The partial mediation suggests that some of the effects of flexibility on job satisfaction may be a result of direct relationships with other variables and paths, thereby not operating solely through conflict.

It was also hypothesized that FWC would mediate the expected positive relationship between physical boundaries and job satisfaction. Results of this analysis were not significant indicating no mediation effect. This finding goes against original predictions to imply that having physical boundaries in the home separating work and non-work domains does not necessarily lead to FWC outcomes which influence satisfaction. A speculated explanation for such a finding could be the lack of a significant relationship between physical boundaries and job satisfaction, and the strong relationship between FWC and job satisfaction.

Limitations

The present study had a number of methodological limitations. Data collected were self-report measures, therefore, responses may have been influenced by common method variance. As mentioned in the results chapter, some of the variables exhibited high levels of skew, which may have altered the strength of observed correlations. Differences in demographics of the group (such as the large majority of males in the sample, virtual tenure, etc.) may have influenced findings. Additionally, the measure of boundaries used was highly experimental and analysis of the correlation between items of this scale showed poor consistency (.40). Based on the findings of the present study, future researchers investigating boundaries in the home may find it useful to collect data about boundaries from observations or other sources. Only one item of the flexibility scale was maintained for analysis, bringing the validity and reliability of the measurement into question as well. This may have distorted correlations and meditation findings. Given that the questionnaire in its entirety was quite lengthy, it is possible that respondents became disinterested towards the end of the survey and chose responses without putting a much thought into the questions. If so, the final data would not be truly representative of the workers' feelings.

Respondents solicited for this study were all middle to high level sales employees from one organisation. Therefore, the sample may not be representative of the entire organisation or the larger population of virtual workers. Future replications of this study should consider assessing a sample of people from cross-

sections of multiple organisations. Further to this, it is believed that a comparison of scores between a sample of virtual workers and a sample of traditional workers would have provided a clearer understanding of the extent to which the effects of flexible work differ from those of the conventional office. Moreover, it cannot be determined whether the relationships found are due to other factors unique to the organisation and the individual that were not tested by this study. Efforts in the future may benefit from exploring the impacts of other variables on important outcomes.

Practical Implications

As suggested shifting workers into home offices does appear to significantly impact important individual and organisational outcomes. The positive and negative impacts on work and family conflict, job satisfaction, organisational commitment, and psychological strain stem from different sources related to the characteristics of virtual work, the home/work environment, and the individual worker. The relationships identified by this study highlight areas of concern and real challenges facing telecommuters.

Firstly, results suggest that individuals should carefully consider several personal and work related factors before deciding to work virtually. Those who are highly involved with work or family obligations should consider whether bringing work into the family domain will improve or harm levels of conflict and psychological strain.

Furthermore, individuals who value physical interaction with others should seriously consider whether or not this type of work will meet their social needs. As

demonstrated by this study, isolation is a real challenge facing virtual workers. Proactively seeking out opportunities for social interaction beyond working hours may be a step workers can take to reduce feelings of isolation and increase satisfaction. From an organisational perspective, management can easily safeguard against this issue by organizing events and opportunities for face-to-face interaction to increase employee perceptions of connectedness to the company and colleagues.

The present study highlights several sources of conflict in the home for virtual workers. With the knowledge that an over-commitment of resources to one domain over another is harmful to conflict and well-being for example, employees can take steps to manage their time in such a way to promote work-life balance. The provision of help around the house from a supportive spouse has also been shown by this study to help reduce feelings of conflict and strain, and improve satisfaction and commitment. Overall, for virtual work arrangements to be successful in improving balance, well-being, and job satisfaction for individuals, employees will need to utilize the flexibility and control afforded by flexible work to meet the demands of both work and non work domains.

Moreover, organisations should assist employees with the design, implementation, and follow-up of coping strategies for dealing with conflict and strain. Knowing which variables affect important outcomes, it should be the responsibility of the employer to protect employees against negative effects. Employers typically provide workers with the necessary technology to operate from a home office, however, perhaps they should look more closely at the level of emotional support they may or may not be providing. Findings illustrate that by providing such support,

organisations improve satisfaction, commitment to the organisation, and psychological strain, which in turn reduces the mounting costs of absenteeism, disengagement and turnover.

Lastly, it is apparent that conflict, satisfaction, commitment, and psychological strain are not mutually exclusive outcomes, but rather complexly intertwined constructs that impact each other. They are all related in some way, so it is important as a practitioner or an organisation to address them all. It would not be of benefit for example only to address antecedents of strain identified by this study in order to reduce strain, because strain is clearly influenced by levels of conflict, satisfaction, and commitment as well. To maximize the benefits of flexible work, individuals and organisations must target improvements in all the above areas by addressing all the variables identified as having an impact in this study.

Future Research

The present study was exploratory in its nature, attempting to identify barriers to well-being and satisfaction for virtual workers. The findings of this study provide a general understanding of the day-to-day issues facing those working from home. In line with previous research related to flexible work, some inconsistencies in results were found that need to be resolved. Mixed findings in the literature should be further investigated, in order to draw more concrete conclusions about how such arrangements affect individuals and organisations alike. A main shortcoming of research in this area is the lack of consistent definitions. The extent of telecommuting has been found to differentially impact outcome variables (Golden &

Veiga, 2005), therefore researchers should make better efforts to compare more similar samples of people. Future research should attempt to create and establish clearer theoretical models to explain the effects of working from home by examining issues in more depth, and investigating other possible outcomes. Moving forward, researchers should attempt to discover if in fact telecommuters experience issues that are different to those facing traditional employees.

Conclusions

The results of the present study found that characteristics of the type of work, the home environment, and the individual significantly impact on the outcomes of work-family conflict, job satisfaction, psychological strain and organisational commitment for virtual workers. Significant relationships were also observed between these outcome variables. The identification of these relationships will help employees and organisations to create and implement strategies to protect against negative outcomes of working from home. Further research is needed to confirm observed relationships.

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APPENDIX A

EMPLOYEE QUESTIONNAIRE

INTRODUCTION LETTER

Dear Colleague,

For my Master's thesis in industrial/organizational psychology at the University of Waikato in Hamilton (New Zealand) I am conducting a survey which aims to understand how certain aspects of virtual work and the virtual worker affect important outcomes such as opportunities for improved balance between work and family life. Virtual work situations are quickly becoming more prevalent in organizations around the world, and it is important that we study this form of work in order to better understand the effects it can have on the lives of virtual workers.

It would be greatly appreciated if you could fill out this questionnaire, which should take around 30 minutes to complete. The questionnaire is completely anonymous and individuals will not be identified at any stage. On the completion of the study, a summary of the general findings based solely on aggregate data, will be provided to the organization, and this summary will be made available to you via a website link that will be emailed to you at a later date. Again, you will not be asked to provide your name at any point in the questionnaire, and individual information will be kept strictly confidential and undisclosed.

Thank you very much for devoting some of your valuable time to completing this questionnaire and contributing to my research. If you have any questions about the survey, please do not hesitate to contact me at the email address provided below.

[Participate in the Questionnaire](#)

Kind Regards,

Marisa Witzel

JOB AND FAMILY INVOLVEMENT

Please indicate the extent that each of the following statements reflects how you feel about your involvement in your job and family life. Use the following scale to indicate your agreement or disagreement with each statement.

	strongly disagree	moderately disagree	slightly disagree	neither disagree nor agree	slightly agree	moderately agree	strongly agree
I am very much involved personally in my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have very strong ties with my present job which would be very difficult to break.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try not to invest too much energy in my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A lot of my interests are centered around my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to be absorbed in my job most of the time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I do not feel very committed to my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider my job to be very central to my existence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Many of my personal life goals are job oriented.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To me, my job is only a small part of who I am	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am very much involved personally in my family life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have very strong ties with my family life which would be very difficult to break.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try not to invest too much of my energy in my family life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A lot of my interests center around my family life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to be absorbed in my family life most of the time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I do not feel very committed to my family life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider my family life to be very central to my existence.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Many of my personal life goals are family oriented.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To me, my family life is only a small part of who I am.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

FLEXIBILITY

Please indicate the extent that each of the following statements reflects how you feel about the flexibility you experience in your job.

	none	a little	some	a lot	Complete flexibility
How much flexibility do you have in selecting the location of where you work?	<input type="radio"/>				
How much flexibility do you have in scheduling what work you will do?	<input type="radio"/>				

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
I have sufficient flexibility in my job at Dow to maintain adequate work and personal family life balance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

CONTROL

Please indicate the extent to which each of the following statements reflects how you feel about the control you have over your job.

	a great extent	quite a bit	to some extent	a little	not at all
To what extent do you have influence over the things that affect you on the job?	<input type="radio"/>				
To what extent do you have input in deciding what tasks or parts of tasks you will do?	<input type="radio"/>				
To what extent do you have the opportunity to take part in making job-related decisions that affect you?	<input type="radio"/>				
To what extent can you set your own work deadlines?	<input type="radio"/>				
To what extent does your job allow you the opportunity for independent thought and action?	<input type="radio"/>				
To what extent do you control the pace and scheduling of your work?	<input type="radio"/>				

WORK AND FAMILY LIFE

Please indicate the extent to which each of the following statements reflects how you feel about the control you have over your job.

	strongly disagree	moderately disagree	slightly disagree	neither disagree nor agree	slightly agree	moderately agree	strongly agree
The demands of my work interfere with my home and family life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The amount of time my job takes up makes it difficult to fulfill family responsibilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Things I want to do at home do not get done because of the demands my job puts on me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My job produces strain that makes it difficult to fulfill family duties.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Due to work-related duties, I have to make changes to my plans for family activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The demands of my family or spouse/partner interfere with work-related activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have to put off doing things at work because of demands on my time at home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Things I want to do at work don't get done because of the demands of my family or spouse/partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My home life interferes with my responsibilities at work such as getting to work on time, accomplishing daily tasks, and working overtime.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family-related strain interferes with my ability to perform job-related duties.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

FEELINGS ABOUT YOUR ORGANISATION

Thinking about your organization, indicate the extent of your agreement or disagreement with each of the following statements.

	strongly disagree	moderately disagree	slightly disagree	neither disagree nor agree	slightly agree	moderately agree	strongly agree
I do not feel a strong sense of belonging to my organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not feel "emotionally attached" to this organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This organization has a great deal of personal meaning for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not feel "part of the family" in this organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be very happy to spend the rest of my career with this organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy discussing my organization with people outside it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I really feel as if this organization's problems are my own.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think I could easily become as attached to another organization as I am to this one.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Right now, staying with this organization is a matter of necessity as much as desire.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
One of the major reasons I continue to work for this organization is that leaving would require considerable personal sacrifice. Another organization may not match the overall benefits I have here.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel I have too few options to consider leaving this organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
One of the few negative consequences of leaving this organization would be the scarcity of available alternatives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It would be very hard for me to leave this organization right now, even if I wanted to.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Too much in my life would be disrupted if I decided I wanted to leave my organization now.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It wouldn't be too costly for me to leave my organization in the near future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am afraid of what might happen if I quit my job without having another one lined up.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

JOB SATISFACTION

The next set of items deals with various aspects of your present job. Please indicate to what extent you are satisfied or dissatisfied with each feature of your job listed below.

	very satisfied	satisfied	slightly satisfied	slightly dissatisfied	dissatisfied	very dissatisfied
The physical work conditions.	<input type="radio"/>					
The freedom to choose your own method of working.	<input type="radio"/>					
Your fellow workers.	<input type="radio"/>					
The recognition you get for good work.	<input type="radio"/>					
Your immediate boss.	<input type="radio"/>					
The amount of responsibility you are given.	<input type="radio"/>					
Your rate of pay.	<input type="radio"/>					
Your opportunity to use your abilities.	<input type="radio"/>					
Industrial relations between management and workers in your firm.	<input type="radio"/>					
Your chance of promotion.	<input type="radio"/>					
The way your firm is managed.	<input type="radio"/>					
The attention paid to suggestions you make.	<input type="radio"/>					
Your hours of work.	<input type="radio"/>					
The amount of variety in your job.	<input type="radio"/>					
Your job security.	<input type="radio"/>					
Now taking everything into consideration, how do you feel about your job as a whole?	<input type="radio"/>					

FAMILY SUPPORT

In this section, we look at how often your family members provide you with support in general. Please indicate the degree to which each of the following is present in your family life.

	all the time	very often	often	occasionally	rarely	never
Appreciation.	<input type="radio"/>					
Recognition.	<input type="radio"/>					
Opportunity to "take time off" when needed.	<input type="radio"/>					
Sharing of duties.	<input type="radio"/>					
Sharing of responsibilities.	<input type="radio"/>					
Emotional support.	<input type="radio"/>					

WORK ENVIRONMENT

This section deals with the level of isolation you may or may not feel in your work-at-home situation. Please indicate your agreement or disagreement with each situation.

	Strongly disagree	moderately disagree	slightly disagree	neither disagree nor agree	slightly agree	moderately agree	strongly agree
I have friends available to me at work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have one or more co-workers available who I talk to about day-to-day problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have co-workers available whom I can depend on when I have a problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have enough people available in my organization with whom I can talk about my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have people around me at work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have people I can turn to at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am well integrated with the department/company where I work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am kept in the loop regarding company social events/functions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am part of the company network.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Upper management knows about my achievements.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor communicates my achievements to upper management.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am regularly part of my company's social group events.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am on my own if something goes wrong with my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the opportunities to interact with others in my organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

WORK STRAIN

The questions below address the amount of strain you are experiencing in your work. Please indicate your agreement or disagreement with each statement.

Have you recently...

	all the time	very often	often	occasionally	rarely	never
Been able to concentrate on whatever you are doing?	<input type="radio"/>					
Lost much sleep over worry?	<input type="radio"/>					
Felt that you are playing a useful part in things?	<input type="radio"/>					
Felt capable of making decisions about things?	<input type="radio"/>					
Felt constantly under strain?	<input type="radio"/>					
Felt you couldn't overcome your difficulties?	<input type="radio"/>					
Been able to enjoy your normal day-to-day activities?	<input type="radio"/>					
Been able to face up to your problems?	<input type="radio"/>					
Been feeling unhappy and depressed?	<input type="radio"/>					
Been losing confidence in yourself?	<input type="radio"/>					
Been thinking of yourself as a worthless person?	<input type="radio"/>					
Been feeling reasonably happy all things considered?	<input type="radio"/>					

WORKSPACE

The questions below look at how you use space in your home to separate "work" and "home" domains. Please use the following scales to indicate how your workspace is setup, and how often other non-work activities occur in your workspace/office area.

Please answer yes or no to the following question.

The room I use for my office has a door. Yes No

For the following questions please use the scale below. If you have indicated previously that your office space does not have a door, then answer "never" to the first question below.

	all the time	very often	often	occasionally	rarely	never
I keep the door to my office closed while I am working.	<input type="radio"/>					
The room I use for work is also used for other activities (i.e. family activities, leisure, socializing, etc.)	<input type="radio"/>					

PERSONAL CHARACTERISTICS

Here are a number of characteristics that may or may not apply to you. Please indicate the extent to which you agree or disagree that the statements below are representative of you.

	strongly disagree	disagree a little	neither disagree nor agree	agree a little	strongly agree
Is talkative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Does a thorough job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is depressed, blue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is reserved.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Can be somewhat careless.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is relaxed, handles stress well.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is full of energy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is a reliable worker.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Can be tense.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generates a lot of enthusiasm.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tends to be disorganized.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worries a lot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tends to be quiet.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tends to be lazy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is emotionally stable, not easily upset.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has an assertive personality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perseveres until the task is finished.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Can be moody.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is sometimes shy, inhibited.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Does things efficiently.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Remains calm in tense situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is outgoing, sociable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Makes plans and follows through with them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Gets nervous easily.	<input type="radio"/>				
Is easily distracted.	<input type="radio"/>				

DEMOGRAPHICS

The following information is asking about a few personal characteristics that may have an influence on some of the other variables previously addressed. Please type the answers to the questions in the spaces provided. Just a reminder, this information **will remain confidential**. *Please do not use commas in the spaces provided.*

Are you: Male Female

How old are you?

How long have you worked for Dow?

How long have you been working virtually (either with Dow or another organization)?

How many hours do you work a week?

Which of the following best describes your situation:

- I live alone
- I am married and living with my spouse
- I live with a partner
- I live with others (either friends, relatives or co-workers).

Do you have children? Yes No

If answered 'yes' to question 6, please list the ages of all your children.

(list each child's age per line, please **DO NOT** use commas)

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Please indicate how many of these children live with you (either some or all of the time).

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