

SUPPORTIVE ORGANISATIONS: ASSESSING THEIR EFFECT ON CIVIL ENGINEERS

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In the past sixty years the relationship between work and family life, particularly in western industrialised countries, has undergone revolutionary changes. The number of workers with dependant care responsibilities has never before been so high and many struggle to balance their responsibilities as employees with those of parents or carers. Many of the job and organisational factors found to be negatively associated with family functioning are pertinent to civil engineers. Research suggests that work-family balance practices can enhance organisational attachment, improve job performance, increase job satisfaction and lower absenteeism and turnover. However it has also been shown that factors embedded in a company's organisational culture can undermine these policies rendering them ineffective. Research is underway in at the University of Melbourne to provide a better understanding of work and family issues in the civil engineering profession and in particular the effect of organisational culture. This research area has received little attention to date and the proposed quantitative study will survey 1000 members of the Australian civil engineering profession. The rationale for the work and the methodology being adopted, including details of the proposed measurement scales, are outlined.

Keywords: civil engineering, organizational culture, women, family, human resources.

INTRODUCTION

Many people today are finding it increasingly difficult to balance their family and work commitments. Most civil engineers work in the construction industry, whether as consultants, contractors or in other supporting roles. The industry has a demanding work environment: companies operate in a highly competitive market with relatively low profit levels to complete the design and construction of projects within tight dead lines. Many job and organisational factors found to be associated with negative impacts on family life are pertinent in this industry. These include long and/or irregular work hours, high job demands, job insecurity and frequent relocation (Williams and Alliger 1994, Greenhaus and Beutell 1985, Parasuraman *et al.* 1996, Shaffer *et al.* 2001, Hughes *et al.* 1992)

Work is underway at the University of Melbourne that will investigate the work-family experiences of civil engineers and in particular the effect of organisational culture that is supportive of work-family balance. The rationale for the work, that includes employment demographics, changing societal attitudes, legislative reforms and organisational performance issues, will be outlined along with a discussion on organisational culture and its effect on the work-family interface. Details of the

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proposed quantitative study, that will survey 1000 Australian civil engineers, will be presented along with the methodology being employed.

The general hypothesis underlying the study is that civil engineers reporting values conducive to a balanced commitment to work and personal life would have higher levels of commitment, be more satisfied and experience less work-family conflict and stress. If this is found to be the case then the study may ultimately encourage more companies to examine their organisation's values. This could lead to higher levels of organisational efficiency and also help overcome difficulties currently experienced in recruiting and retaining employees, particularly women.

DRIVERS FOR CHANGE

Changing attitudes about the role of women and men

The roles and expectations of women and men have changed significantly over the past 60 years. More women than ever before are in the workforce reflecting rising educational levels, changing societal attitudes and declining birth rates. The Australian Bureau of Statistics (ABS) report that women's overall participation in the paid work force in Australia has risen from 36% in 1966 to 54% in 1998 (ABS 1994 and 1997). Employment among Australian women in the 25 to 34 years of age group has risen considerably from 30 % in 1960 to 66% and is predicted to rise to 79% by 2011 (ABS 1994, 1995 and 1998). As a consequence the number of dual income couples overall has increased and in 59% of Australian two-parent families, both parents are in paid employment (ABS 1998). While women are still highly underrepresented in engineering their participation rates in Australia have risen from 0.5% in 1985 to 6.6% in 2000 and women now represent about 15% of the undergraduate cohort (Yates *et al.* 2001). However growth have substantially flattened since the mid 1990's to an annual growth rate of 0.5% (Greenwood 2002).

Although very few studies have looked at the effect of paternal employment demands on children, there has been a substantial shift in the expectation of fathers' involvement in parenting. A recent Australian study showed that fathers now spend more time with and are closer to their children than they were 15 years ago. However, 68% of fathers said they did not spend enough time with their children and 53% felt that job and family interfered with each other. Interestingly, 57% of fathers identified work-related barriers, such as expectations of longer hours and inflexibility, as being the critical factor preventing them from being the kind of father they would like to be (unpublished report by Russell cited in Russell and Bowman 2000). Another unpublished survey found that 63% of young Australian men that would refuse a job, promotion or transfer that had a negative impact on their family or their partner's career (cited in Russell and Bowman 2000). With the increasing acceptance of gender equity among the current and future generations, family is being seen more as joint responsibility, both from a financial and nurturing perspective.

Increase in the number of aged dependents

Recent changes from institutional aged care to home and community-based care means that responsibility for caring for elderly relatives now rests more heavily with family members. With Australia's aging population and increasing life expectancy, the number of workers with filial responsibilities is likely to rise. In fact it is predicted that, between 1996 and 2041, the aged dependency ratio will double from 18.1 to 34.8 (i.e. for every 100 workers there will be 34 aged dependents) (Gorey *et al.* 1992).

Legal requirements

Legislation, that stems from a social justice base, present a strong motive for companies to address the concerns of their employees with family responsibilities. In 1990, Australia ratified ILO Convention 156, dealing with workers with family responsibilities and legislative and industrial reforms have flowed through, prohibiting dismissal on the basis of family responsibility as well improving working conditions. Although mandated by legislation, benefits are often not accepted as part of the workplace culture. While the female employees are “allowed” to use such provisions for family reasons, both male and female employees who use such provisions may suffer severe career penalties.

Organisational performance

Grover and Crooker (1995) found that employees in companies with family supportive benefits had higher levels of affective commitment and lower intentions to leave, regardless of whether the employee individually benefited from the policy. They postulate that work-family benefits have a positive influence on employees’ attachment to the organisation because they signify corporate concerns for employee well-being. Affective commitment is associated with higher productivity (Meyer *et al.* 1989) and more positive work attitudes (Allen and Meyer 1996).

Organisational variables such as schedule flexibility, supervisor support and time overload has also been found to directly influence work-family conflict (Thomas and Ganster 1995, Parasuraman *et al.* 1996). Work place flexibility, for employees who were also parents, has been found to be related to lower intent to leave (Rothausen 1994). Job and parenting overload has been found to be related to work-family conflict (Parasuraman *et al.* 1996, Frone 1997) and less positive family relationships (Crouter *et al.* 2001). Role overload can be “buffered” by spousal support (Beutell and Greenhaus 1983) indicating the benefits of a supportive home environment. Frone and his colleagues found supervisor support to also be indirectly related to work-family conflict through its affect on work distress and work overload (1997).

Burke (2000) found that male managers who report working in an organisation that allows them to achieve a satisfactory work-family balance also report experiencing less job stress, a lower intention to quit, enhanced career and life satisfaction and more positive emotional and physical well-being. Well integrated employees can also be more effective in their jobs through the use of a combined set of skills those associated with domestic life (addressing emotions etc) and those traditionally valued by work places (e.g. linear thinking). (Bailyn *et al.* 1999). So a better balanced workforce could lead not only to greater gender equity but also assist in developing more innovative, “well rounded” professionals.

Organisational and personal consequences

While the number of workers with dependant care responsibilities has never before been so high, managers and professionals are experiencing increasing performance pressures, and hours spent at the workplace are increasing. Perhaps unsurprisingly, a recent report prepared by the Australian Bureau of Statistics (ABS) found, that in dual income couples, 70% of all mothers and 56% of all fathers reported that they always/often felt rushed or pressed for time. Only 25.2% of couples without children reportedly experienced this feeling with the same frequency (ABS 1999a). Civil engineers work in a demanding environment: companies operate in a volatile, competitive market. Half of all professional engineers work between 40 and 50 hours per week; and one quarter work in excess of 50 hours per week (APSEMA 2000).

Currently, 70% of all providers of personal care and home help for the aged, terminally ill or disabled persons are also in the Australian work force (ABS 1994). In addition an increasing portion of couples face the additional responsibility of dependent children and filial care simultaneously or sequentially. The changing workforce has also forced changes to work practices to accommodate those with family responsibilities, most notably 58% of men and women with care responsibilities taking time off to meet these responsibilities (ABS 1999b).

Employers also need to recognise the expenses of training staff in the workplace to the point where they are sufficiently productive to generate income. Employers who recognise the needs of their employees are more likely to retain staff and retention is likely to yield extensive cost benefits to an organisation.

ORGANISATIONAL CULTURE

Traditional model

Denison (1996: 624) defines organisational culture as “the deep structure of organisations, which is rooted in values, beliefs, and assumptions held by organisational members.” Attitudes still exist in many work places that promote the image of the “ideal” worker as a person who is able and willing to put their work first, within an ever-expanding time. Fielden and her colleagues (2000) feel that in the construction industry a lack of compliance with cultural norms, such as long hours, can adversely affect the promotion prospects of employees and even their job security. The traditional male model of work, which is the basis of many management practices, assumes that an employees’ work domain is totally isolated from their family domain and this is deeply embedded in many organisational cultures. This culture has been challenged in some industries however as women employees and their managers have typically driven the change process (Bourke 2000), it is perhaps not surprising that reform within the engineering profession has not been as evident. The profession appears to suffer a “cultural lag” with male values being the norm and the ones rewarded (e.g. long work hours, competition, full time working).

Research has shown even when family-friendly policies have been instituted factors embedded in the organisational culture undermine these policies rendering them ineffective (Lewis 2001) and that it is only through cultural change that organisations can become more family friendly (Galinsky and Stein 1990). For instance if the underlying cultural assumption is that an employee's presence at work is seen as a clear indicator of their commitment and contribution, employees put their careers at risk, in terms of poor performance evaluations or promotions, if they participate in work-family programs that make them less visible at work (e.g. working from home).

Supportive work culture

Bailyn (1997) identified three characteristics of family-friendly work cultures: flexible work scheduling, flexible work processes and an understanding by organisational leadership that family needs are important. Research has shown that supervisors play a key role in the effectiveness of work-family policies and employees whose supervisor supported their efforts to balance work and family were less likely to experience work-family conflict (Thomas and Ganster 1995). Thompson *et al.* (1999: 394) goes further to define work-family culture as the “shared assumptions, beliefs, and values regarding the extent to which an organisation supports the values and integration of employees’ work and family lives.” They consider a negative work-family culture to have at least three components; organisational time demands or expectations that

employees prioritise work over family, negative career consequences associated with utilising work-family benefits, and lack of managerial support and sensitivity to employees' family responsibilities.

RESEARCH AIMS

This research has three main aims. Firstly, the research will determine the prevalence of supportive organisational values and the level of work-family conflict perceived by civil engineers.

Secondly, the research will examine the relationship of perceived organisational values supportive of work-family balance to other variables, such as level of organisational commitment, work and non-work satisfaction, level of work-family conflict, and life stress.

Finally a comparison will be made between male and female civil engineers to determine what gender differences exist.

RESEARCH METHOD

The sample

The sample will be recruited with the help of an Australian professional organisation for engineers. Data will be collected using a self administered questionnaire sent to 1000 members of the organisation. Because of the desire to make a comparison of male engineers to female engineers a stratified systematic sampling technique will be used so that half the sample is female. The sample will be further distinguished as those between the ages of 25 to 50 years as the analysis will be restricted to engineers who are partnered with or without dependent children. The sample size has been selected to ensure a response rate that will allow for statistically significant comparisons to be made in terms of gender, life stages and dual income couples.

Measures

All the scales have been used in previous studies by a number of researchers and have been found to have high levels of internal consistency. Their reliability will be determined for Australian civil engineers.

Organisational values. The twenty-item scale developed by Thompson *et al.* (1999) will be used to assess respondents' perceptions of the overall extent to which their organisation facilitates employees' efforts to balance their work and family responsibilities. Three components of the work-family culture will be examined namely managerial support, negative career consequences and organisational time demands. Example items for these components include "In general, managers in this organisation are quite accommodating of family-related needs"; "Many employees are resentful when men in this organisation take extended leave to care for newborn children" and "To get ahead in this organisation, employees are expected to work more than 50 hours a week, whether at the workplace or at home". The scale uses a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Family supportive benefits. A list of benefits commonly offered by organisations will be developed and respondents asked about their availability and use. This list will have three categories of benefits commonly associated with work-family balance namely: flexible work arrangements, dependent care support and leave policies.

Work-role overload: Work-role overload refers to the perception that the quantity of work exceeds the time or resources available to complete it. A four-item scale from Caplan *et al.* (1975) will be used to measure this variable. A sample item is “There is a great deal to be done at work.” with responses made on a five-point scale ranging from 1 (strongly agree) to 5 (strongly disagree).

Work time demands: Work-related time demands will be measured by using a single item to indicate by the number of hours worked in a typical week in the past three months.

Work-family conflict. Researchers began investigating work-family conflict as a unidirectional concept i.e. how work interfered with family (Greenhaus and Beutell, 1985) however the bi-directional nature was soon recognised with work’s interference with family and family’s interference with work being investigated (Gutek *et al.* 1991, Frone *et al.* 1992).

While more recently different forms or dimensions of work family conflict have started to be considered (Carlson *et al.* 2000, MacDermid 2000) these scales that have not undergone widespread testing and due to length (between 18 and 50 items) and the nature of this exploratory study will not be used. The 8-item scale developed by Gutek *et al.* (1991) will be used – it has been widely used and measures both work interference with family, as well as family interference with work. For instance “My work often interferes with my family responsibilities”.

Organisational commitment. Affective, normative and continuance commitment will be measured using Meyer, Allen, and Smith's (1993) 18-item commitment scale. This scale has been widely used and found to be reliable. Affective commitment describes the emotional attachment an employee feels for the organisation, normative commitment describes the feelings of obligation an employee has to remain with an organisation and continuance commitment describes the attachment (whether because of the absence of alternatives or financial or other losses that may be incurred by moving) the employee has to continue (Meyer *et al.* 1993). Example items for each commitment include “This organisation has a great deal of personal meaning to me”; “I would not leave my organisation right now because I have a sense of obligation to the people in it” and “I feel that I have too few options to consider leaving this organisation”. The scale uses a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). Therefore an employee maybe “committed” to the organisation but it could be for different reasons, and accordingly, each type of commitment produces different effects.

Job satisfaction: The general satisfaction scale incorporated into the Survey of Organizations developed at the University of Michigan will be used to measure job satisfaction. It is widely used in organisational research (Taylor and Bowers 1972). This scale asks respondents to rate their satisfaction with various aspects of their job, including people in their work group, supervisor, job security, the organisation as a whole, pay in relation to skill and effort, progress to date and chances for career progression in the future. Satisfaction is rated on a five-point scale ranging from very dissatisfied (1) to very satisfied (5).

Job performance. Job performance will be assessed using a five-item scale developed by Williams and Anderson (1991) to assess in-role behaviour. A sample item from the scale is “On average, how often do you feel you fulfil responsibilities specified in your job description?” Each item uses a five-point frequency-based response scale.

Absenteeism and turnover intent: Absenteeism will be assessed by asking respondents to report the number of days they had been absent from work over the past twelve months. They will then be asked to allocate these absences between days off due to illness and absences due to other non-work responsibilities such as a sick child. Turnover intent will be assessed through a single item question.

Family time demands: Family-related time demands will be assessed by asking respondents how much time would they spend interacting with their family on a typical working day and on a nonworking day. A weekly average will then be determined.

Family performance. Family performance will be assessed by modifying the five items developed by Williams and Anderson (1991) to assess job performance. This variation of the scale has been used in previous studies by other researchers. A sample item will be “On average, how often do you feel you fulfil your family responsibilities?” Each item used a five-point frequency-based response scale.

Well-being: Well-being will be measured by considering non-work satisfaction and life stress. Two aspects of non-work satisfaction will be included. Life satisfaction, which assesses an individual's perceptions regarding the quality of their life in general, will be measured using a five-item scale developed by Diener *et al.* (1985). A sample item from this scale is “I am satisfied with my life.” Family satisfaction will be measured using a three-item scale by Kopelman *et al.* (1983). It has been used subsequently by other researchers (Parasuraman *et al.* 1992). The items use a five-point rating scale, ranging from 1 (strongly agree) to 5 (strongly disagree). An sample item is “Generally speaking, I am very satisfied with my family.” Life stress gauges the psychological response state in relation to stressors in one's life and will be assessed by a ten-item scale developed by Parasuraman *et al.* (1992). The scale items ask individuals to indicate the extent to which they experience various feelings about things in their life such as being upset, frustrated, under pressure, feeling “blue” and “tired or worn out.”

Demographic variables: Gender, household classification, family responsibilities, employment status, organisational tenure, organisational size, managerial level, and partner's work status will be measured. The household classification question will be structured to account for partnered and non-partnered respondents with or without dependent children. Dependent children will be classified as those under the age of 24. The Responsibility for dependent (RFD) scale developed by Rothausen (1999) will be used to assess the dependent responsibility that an individual has by weighting the number of dependents of various ages and for different living arrangements. The scale also factors in other care giving responsibilities such as elderly partners or disabled adult. Higher scores indicate a greater degree of family responsibility. Several control variables, which will include some of the demographic variables, will also be collected that have been found to affect perceptions of conflict. These include variables such as age of youngest child, single or dual income couple, gender. Questionnaire data will be analysed using multiple regression analyses and modelling techniques to test for main and interaction effects in relationships between variables.

CONCLUSIONS

For organisations to succeed they must be cognisant of the needs of workers with family responsibilities and will be compelled to from two standpoints. Firstly, by changes in legislation, which stem from a social justice base and secondly, from an

organisational effectiveness perspective. However the change needed in engineering will not come easily. Indeed, it has been noted that, however accepting of change they may be at the start of their career, male entrants inadvertently reinforce current attitudes and practices by emulating the behaviour of the managers who influenced their own career development (Dainty *et al.* 2000).

This research will provide a better understanding of work and family issues in the civil engineering profession and may ultimately assist firms to achieve higher levels of organisational efficiency and to overcome difficulties currently experienced in recruiting and retaining employees, particularly women. The research will reveal if any gender differences exist. Dainty *et al.* (2000) found that female construction managers were disadvantaged through stereotyped expectations of their career and personal priorities and these doctrines effectively rendered the combination of a fulfilling family life and a successful career impossible. Also since managerial men receive less research consideration in the work-life area finding benefits to men from supportive organisational values might encourage more firms to examine their values on these issues. This may indeed have a greater impact on the engineering profession than attempting to create change from an equity perspective given the low number of female engineers.

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