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# The impact of job and organizational demands on marital or relationship satisfaction and conflict among Australian civil engineers

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The results of a survey of professional civil engineers working in the Australian construction industry are reported ($n$ = 182). The survey examined the effect of a range of job and organizational demands on the marital or relationship satisfaction of respondents. The effect of demographic characteristics was also examined. The results of correlation and regression analyses provide support for linkages between demographic characteristics, job or organizational sources of work-related stress and marital/relationship satisfaction and conflict. Different variables were significantly correlated with three dimensions of relationship quality. The results suggest that the single most important factor in determining civil engineers' experiences of relationship quality is the number of hours they work each week. It is argued that the implementation of work–life balance initiatives by engineering organizations may benefit employees. However, for such initiatives to be successful, engineering organizations and their employees must deviate from the socially constructed norm of rigid, long work hours that prevails in the Australian construction industry.

*Keywords*: Construction, job demands, relationship satisfaction, relationship conflict, work–life balance

## Introduction

Kanter (1977) suggested that the fate of both men and women is inextricably bound up with workplace structures and processes. The interface between the work and non-work experiences of people in paid employment has become an area of increasing concern as a result of the concurrent pressures associated with globalization and the dramatic changes to traditional family structures in most industrialized countries (Carnoy, 1999; Lobel *et al.*, 1999). Research has demonstrated that workers' occupational contexts influence the level of perceived conflict between work and non-work experiences (O'Neil and Greenberger, 1994), including perceptions of marital or relationship quality (Hughes *et al.*, 1992). Many of the job and organizational factors associated with low levels of marital or relationship satisfaction or high levels of marital or relationship conflict are likely to be pertinent to the work of construction industry professionals.

The construction industry is a demanding work environment in which participants are expected to work long hours. A recent survey of Australian engineers found that 44% of respondents work 45 hours per week or more, and 21% work over 50 hours. Of those working more than 50 hours per week, 67% expressed a preference for working fewer hours (APESMA, 2000). Research suggests that long work hours are negatively related to family participation and positively related to divorce rate (Aldous *et al.*, 1979). The APESMA survey did not examine the impact of hours on relationship satisfaction or conflict, but did find that 34% of respondents indicated some difficulty in taking accrued leave entitlements, and 33% expressed dissatisfaction on the balance between work and family. Construction industry employees are also required to

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work non-standard work schedules, including weekend work. Irregularity of work hours has been identified as the most important variable affecting low marital quality among shift workers (White and Keith, 1990) and non-standard work schedules have been found to affect separation or divorce rate among married people with children (Presser, 2000).

Furthermore, the industry is project-based and job security may be lower than in repetitive process industries, since continued employment is conditional on successful tendering for new projects in a highly competitive environment. Previous research has found job insecurity to be negatively related to marital and family functioning (Larson *et al.*, 1994). Job insecurity has also been identified as a determinant of burnout, for which there is a direct crossover effect from husbands to their wives (Westman *et al.*, 2002). Continued employment in the construction industry may require frequent relocation, with the consequence that an increasing number of dual career couples participate in 'commuter marriages'. People engaged in commuter marriages have reported significantly less satisfaction with partner and family life than people in single-residence families or relationships (Bunker *et al.*, 1992).

There are compelling reasons why the construction industry should be concerned with the impact of its demands on the quality of participants' experiences outside work. Both men and women have been found to experience home-to-work 'spillover' effects, whereby subjective experiences in one context impact upon performance in the other arena (Eckenrode and Gore, 1990; Barnett, 1994). A recent study by Adams *et al.* (1996) found that when work interferes with family life it also reduces the satisfaction from job and from life as a whole. Furthermore, this spillover effect is bi-directional, and the impact of home events on behaviour in the workplace has implications for organizational performance. In this context, research also suggests that the implementation of family-friendly work policies and practices leads to enhanced organizational efficiency, morale and productivity (Baden and Friedman, 1981; Fernandez, 1986; Butruille, 1990; Cass, 1993). Further research suggests that the quality of family and marital life moderates the impact of job role quality on psychological distress (Barnett *et al.*, 1992). Thus, workers with positive subjective experience of family and marital life are less likely to suffer mental health problems as a result of work-related stress. From a social policy perspective, Australia's ratification of ILO Convention 156 in 1990 obliges Australia to aim to enable employees with family responsibilities to work without discrimination or conflict between work and family (Cass, 1993). This commitment is reflected in a growing body of legislation imposing requirements on employers in respect of the family responsibilities of employees (Napoli, 1994).

The results presented in this paper are preliminary results in an on-going research project investigating work, family and employees' well-being in the Australian construction industry. In particular, this paper seeks to identify the effect of different job and organizational characteristics prevalent in the construction industry on the perceptions of marital or relationship satisfaction and conflict among a sample of practising civil engineers. Initially, a pilot study of civil engineers has been undertaken to trial the data collection and measurement methodology. However, it is intended that the full-scale study will not be restricted to one occupational group and will investigate the experiences of all categories of supervisory, professional and support workers in the Australian construction industry. Also, the follow-up study is to measure a greater number of variables, including work–life conflict and the bi-directional 'spillover' effect. Nevertheless, the results presented in this paper provide new and revealing information on the link between job demands and relationship quality in the construction industry. The effects of demographic characteristics identified in the literature to be associated with work–life conflict, such as age, parental status and age of youngest child, are also considered in this paper.

## Methodology

### Sample and procedures

The data for this study were obtained from civil engineers engaged in professional practice in consulting and contracting organizations in New South Wales and Victoria. Of the respondents, 92.3% were male (thus 7.7% were female), 45.1% were under and 54.9% were over 35 years of age, and 35.2% were between 25 and 34 years of age. Most respondents were married (65.4%). A further 17.6% of respondents indicated they were in a relationship, while 15.9% of respondents were single and 1.1% indicated that they were divorced. Under half (48.6%) of respondents reported that they had no children, while 36.4% had either two or three children and 10.5% had one child. Respondents were predominantly employed in consulting firms (84.6%). Only 11% of respondents indicated they worked for a contracting organization and only 1.6% reported working for a supplier. Reflecting this, 81.3% of respondents indicated that they spent most of their time at work in an office environment, with 7% reporting that they were site based, and 10.4% indicating that their job involved both office and site work.

In the first instance, a register of companies employing civil engineers was obtained from the Institution of Engineers, Australia. General managers or human resources managers of listed companies were approached and asked whether the company would participate in the study. At this stage, the managers were thoroughly briefed on the objectives of the study. Questionnaires were randomly distributed through the internal mail systems of the companies that agreed to participate. Completed questionnaires were returned directly to the researchers in unmarked postage-paid envelopes provided for this purpose. Each questionnaire was distributed with a copy of a plain language statement describing the objectives of the study. The statement also explained the voluntary nature of respondent participation and assured anonymity of respondents and confidentiality of responses. Of 500 questionnaires distributed, 182 completed and usable ones were returned, yielding a response rate of 36%.

### Questionnaire design

Demographic information collected from each respondent included each respondent's age, gender, relationship status, number of children and, where applicable, the age of the youngest child. The employment status of the respondent's partner was requested in order to identify differences between employees in dual- and single-income households. Information was also collected about a respondent's current job, including the job title, their typical work location (e.g. site or office based) and the average number of hours he or she works each week. Respondents were also asked to indicate the size of their employing organization and the nature of the work undertaken by this company (e.g. consulting or contracting).

Organizational and job conditions (stressors), identified in the literature to be associated with occupational stress (see e.g. Cooper and Marshall, 1976; Mauno and Kinnunen, 1999), were measured using a 36-item instrument. This instrument was designed specifically for assessing environmental sources of managerial stress. The scale was designed to tap dimensions likely to be relevant to the work of construction industry professionals, such as the effect of work schedule demands and responsibility for others. Twelve subscales were measured, including responsibility, role ambiguity, role conflict, subjective quantitative workload, participation in decision-making, uncertainty, control over work pace, working with others, relationship with co-workers and satisfaction with pay, promotion prospects and job security. Items were taken from several previously deployed instruments, including the Michigan Organizational Assessment Questionnaire (Cook *et al.*, 1981). Respondents were asked to rate items on a Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). Owing to the fact that this scale was developed using items from several existing scales, the results were factor analyzed. Following factor analysis, 23 items were retained. Table 1 provides descriptive statistics for the job demands subscales. As can be seen, the Cronbach's alpha coefficients for the social satisfaction and satisfaction with promotion prospects subscales were rather low and, accordingly, the results associated with these variables should be treated with caution.

Marital satisfaction and conflict were measured using an 18-item instrument developed by Orden and Bradburn (1968). This instrument asks respondents to rate the frequency with which they had engaged in nine satisfying activities or experienced conflict in nine key aspects of their relationship with their partner during the past few weeks.

## Results

Factor analysis was performed to establish the discriminant validity of the marital quality variables. It was expected that, because the scale had been used previously by its authors and found to have good psychometric properties, a two-factor model representing satisfaction and conflict would emerge. However, in our sample, principal components analysis with varimax rotation yielded a three-factor structure

**Table 1** Descriptive statistics for the job demands variables

| Job characteristic | No of items | Cronbach's alpha | Item mean | Scale mean | Scale SD | Item means variance |
|---|---|---|---|---|---|---|
| Quantitative overload | 4 | 0.87 | 4.73 | 18.91 | 5.02 | 0.34 |
| Responsibility | 4 | 0.66 | 5.62 | 22.48 | 3.34 | 0.05 |
| Role clarity | 4 | 0.68 | 4.53 | 18.10 | 4.33 | 0.17 |
| Pay satisfaction | 2 | 0.94 | 3.55 | 7.10 | 3.34 | 0.01 |
| Promotional satisfaction/worth | 4 | 0.59 | 4.30 | 17.19 | 4.00 | 0.08 |
| Role conflict | 3 | 0.65 | 4.56 | 13.67 | 3.33 | 0.29 |
| Social satisfaction | 2 | 0.49 | 5.37 | 10.74 | 1.89 | 0.62 |

for marital quality that accounted for 59% of the total variance overall. The first component had an eigenvalue of 5.8 and accounted for 32.4% of variance, the second had an eigenvalue of 3.5 and accounted for 19.4% of variance and the third component had an eigenvalue of 1.3 and accounted for 7.4% of variance in the model. Table 2 shows the results of this analysis. A minimum factor loading of 0.50 was used when considering an item to load on a particular factor. An examination of the items showed that the items designed to measure relationship satisfaction loaded on two separate factors. The wording of the items suggested that these two factors differed in terms of whether the satisfaction was derived from interaction between the two partners, for example, eating out together at a restaurant, or from interacting with others as a couple, for example, entertaining friends in their home. These two dimensions of marital quality were labelled 'relationship satisfaction' and 'social relations', respectively. In order to remain consistent with Orden and Bradburn's (1968) interpretation of the scale, these factors were interpreted to measure satisfaction with two qualitatively different aspects of an interpersonal relationship. Perceived marital conflict was represented by a single factor. As may be noted, there was minimal problem with double loading of items, which attests to the discriminant validity of the variables.

Pearson product moment correlations of variables used in the study are reported in Table 3. Significant correlates differed between the three dimensions of relationship quality, and included both demographic and job/organizational demands. Of the demographics, age ($r$ = –0.325, $p$<0.001), number of children ($r$ = –0.345, $p$<0.001) and tenure ($r$ = –0.346, $p$<0.001) were negatively correlated with relationship satisfaction. Age ($r$ = –0.170, $p$<0.01) and tenure ($r$ = –0.179, $p$<0.01) were also negatively correlated with relationship conflict. Of the job/organizational demands variables, hours worked per week ($r$ = –0.223, $p$<0.01), perceived overload ($r$ = –0.175, $p$<0.01) and responsibility ($r$ = –0.184, $p$<0.01) were negatively correlated with relationship satisfaction. Hours worked per week ($r$ = 0.244, $p$<0.01) and role conflict experienced in the work context ($r$ = 0.236, $p$<0.01) were positively correlated with relationship conflict. Satisfaction with pay ($r$ = –0.219, $p$<0.01) was negatively correlated with relationship conflict. Only one variable, satisfaction with promotion prospects ($r$ = 0.214, $p$<0.05), was correlated significantly with the social relations dimension of relationship quality, and this correlation was relatively weak.

One-way ANOVA tests were conducted to determine whether perceived relationship quality differed by gender, marital status or parental demands. There were no significant differences in perceived relationship quality among men and women. The difference between the perceived relationship conflict or social relations between respondents who were married and those who indicated that they were 'involved' were not significant. However, married respondents reported a significantly lower level of relationship satisfaction than those who were 'involved' ($F$ = 15.559, $p$ = 0.000). In considering the effect of parental demands, comparisons were made between parents and non-parents. An independent samples $t$-test revealed no significant differences in relationship

**Table 2** Factor loadings for the three-factor model of relationship quality

| Item | Factor 1 | Factor 2 | Factor 3 |
|---|---|---|---|
| Spent an evening chatting with one another | 0.839 | –0.173 | 0.011 |
| Been affectionate towards one another | 0.831 | –0.173 | –0.069 |
| Had a good laugh together or shared a joke | 0.816 | –0.124 | 0.104 |
| Gone out together: to a cinema, to play sport or other entertainment | 0.756 | 0.005 | 0.294 |
| Ate out together in a restaurant | 0.734 | –0.023 | 0.373 |
| Did something the other particularly appreciated | 0.708 | –0.074 | 0.077 |
| Taken a drive or walk for pleasure | 0.623 | –0.121 | 0.298 |
| How to spend leisure time | –0.242 | 0.785 | –0.042 |
| Time spent with friends | 0.020 | 0.750 | –0.202 |
| Your partner's job | 0.012 | 0.724 | –0.178 |
| Being away from home | –0.098 | 0.699 | 0.005 |
| Household expenses | –0.115 | 0.658 | 0.222 |
| Not showing love | –0.387 | 0.651 | 0.127 |
| In-laws | 0.192 | 0.630 | –0.230 |
| Irritating personal habits | –0.233 | 0.611 | 0.160 |
| Being tired | –0.099 | 0.561 | 0.246 |
| Entertained friends in your home | 0.277 | 0.059 | 0.799 |
| Visited friends together | 0.430 | –0.029 | 0.716 |

**Table 3** Pearson product moment correlations for demographic, relationship quality and organizational/job demands variables

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Relationship satisfaction | 1.000 | | | | | | | | | | | | | | | |
| 2. Relationship conflict | 0.000 | 1.000 | | | | | | | | | | | | | | |
| 3. Social relations | 0.000 | 0.000 | 1.000 | | | | | | | | | | | | | |
| 4. Age | –0.325[a] | –0.170[b] | 0.059 | 1.000 | | | | | | | | | | | | |
| 5. Number of children | –0.345[a] | –0.047 | 0.041 | 0.699[a] | 1.000 | | | | | | | | | | | |
| 6. Hours worked per week | –0.223[b] | 0.244[b] | 0.027 | 0.160[c] | 0.217[b] | 1.000 | | | | | | | | | | |
| 7. Tenure | –0.346[a] | –0.179[b] | 0.071 | 0.968[a] | 0.703[a] | 0.152[c] | 1.000 | | | | | | | | | |
| 8. Overload | –0.175[b] | 0.117 | –0.061 | 0.150[c] | 0.115 | 0.366[a] | 0.137 | 1.000 | | | | | | | | |
| 9. Responsibility | –0.184[b] | –0.051 | 0.039 | 0.383[a] | 0.308[a] | 0.266[a] | 0.391[a] | 0.000 | 1.000 | | | | | | | |
| 10. Role clarity | –0.009 | –0.008 | –0.018 | 0.022 | 0.121 | 0.014 | 0.008 | 0.000 | 0.000 | 1.000 | | | | | | |
| 11. Pay satisfaction | –0.049 | –0.219[b] | –0.051 | 0.293[a] | 0.219[b] | 0.059 | 0.324[a] | 0.000 | 0.000 | 0.000 | 1.000 | | | | | |
| 12. Promotional satisfact/worth | 0.146 | –0.062 | 0.214[c] | 0.021 | 0.107 | 0.011 | 0.028 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | | | | |
| 13. Role conflict | 0.089 | 0.236[b] | –0.025 | –0.185[c] | –0.055 | 0.172[c] | –0.191[c] | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | | | |
| 14. Social satisfaction | 0.029 | 0.003 | –0.013 | –0.181[c] | –0.112 | –0.122 | –0.159[c] | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | | |
| 15. Pace control | –0.001 | –0.025 | –0.004 | 0.103 | 0.136 | 0.114 | 0.134 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | |
| 16. Job security | 0.040 | –0.090 | –0.007 | –0.175[c] | –0.021 | –0.177[c] | –0.156[c] | –0.236[b] | –0.044 | 0.143 | 0.081 | 0.242[a] | 0.062 | 0.247[a] | 0.120 | 1.000 |

[a]Correlation is significant at the 0.001 level (2-tailed).
[b]Correlation is significant at the 0.01 level (2-tailed).
[c]Correlation is significant at the 0.05 level (2-tailed).

conflict or social relations between respondents with children and those without children. However, relationship satisfaction was significantly higher among non-parents compared with parents ($t$ = 5.560, $p$ = 0.000). Parental demands were also coded by age of a respondent's youngest child. The one-way ANOVA indicated that relationship satisfaction and social relations were not significantly related to the age of a respondent's youngest child. However, relationship conflict was significantly related to age of youngest child ($F$ = 3.585, $p$ = 0.009). Respondents whose youngest child was an infant or teenager reported higher levels of relationship conflict than those whose youngest child was primary school-age or over 18. Differences between respondents who reported spending their time in different work contexts were also tested, because previous research has found work context to be significantly related to conflict between work and family (Wallace, 1999). The difference in relationship satisfaction and social relations was not significantly different for respondents who worked on site or in the office. However, relationship conflict was found to be higher for site-based than for office-based engineers, and this difference was found to be significant ($F$ = 3.993, $p$ = 0.021).

To test the predictive ability of these relationships, a stepwise multiple regression analysis was conducted. Because of the large number of independent variables, only those demographic and job/organizational demand variables that were significantly correlated with the relationship quality variables were included in the regression model for each dimension of relationship satisfaction. In all cases, relevant demographic variables, such as age, were entered into the regression model before job demands to ensure that these variables were 'controlled', and any effects attributed to job demands occurred over and above the effect of demographic variables. The results of this regression analysis are presented in Table 4.

Generally the amount of variability 'explained' by the regression models was relatively small. The models accounted for 16% of variability in relationship satisfaction, 14% in relationship conflict and only 5% in social relations. The beta coefficients indicate that some demographic and job/organizational demands are significant predictors of relationship quality. Significant predictors of relationship satisfaction included tenure ($\beta$ = –0.333, $p$ = 0.000) and hours worked per week ($\beta$ = –0.188, $p$ = 0.018). Significant predictors of relationship conflict were hours worked each week ($\beta$ = 0.206, $p$ = 0.011), satisfaction with pay ($\beta$ = –0.212, $p$ = 0.008) and role conflict at work ($\beta$ = 0.194, $p$ = 0.017). Only one independent variable, promotion prospects, yielded a significant beta coefficient for social relations ($\beta$ = 0.214, $p$ = 0.011).

## Discussion

Clearly the correlations in Table 3 are meaningful and provide support for linkages between demographic characteristics, job or organizational sources of work-related stress and marital/relationship satisfaction and conflict. Different variables were significantly correlated with the three dimensions of relationship quality. Perceived subjective overload, responsibility and the number of children were found to be negatively correlated with lower levels of relationship satisfaction. These variables relate to demands on a person's resources both at work and at home. The correlations suggest that, as the demands on an individual's resources increase, the less satisfied he or she will be in marital or relationship life. Interestingly, these variables were not significantly correlated with relationship conflict, suggesting that sources of relationship satisfaction and conflict are different.

One interpretation for the correlation with relationship satisfaction but not conflict could be linked to

**Table 4** Regression results predicting relationship quality dimensions[a]

| Variables | Cumulative $R^2$ | Standardized beta ($\beta$) | $p$ |
|---|---|---|---|
| Relationship satisfaction | | | |
| Tenure | 0.121 | –0.333 | 0.000 |
| Hours worked each week | 0.156 | –0.188 | 0.018 |
| Relationship conflict | | | |
| Hours worked each week | 0.057 | 0.206 | 0.011 |
| Satisfaction with pay | 0.105 | –0.212 | 0.008 |
| Role conflict | 0.142 | 0.194 | 0.017 |
| Social relations | | | |
| Satisfaction with promotion prospects | 0.046 | 0.214 | 0.011 |

[a]Note that $R^2$ values are cumulative and represent the change in $R^2$ as each variable is entered into the model.

couples' coping strategies. Thus, the individual may discuss problems experienced at work or at home with his/her partner, which may serve to inhibit the extent to which conflicts arise. Demands that prohibit participation in home life and therefore reduce relationship satisfaction do not lead to higher levels of conflict between partners. In a similar manner, Mauno and Kinnunen (1999) suggested that partners can provide emotional support for the relief of negative reactions evoked by a stressful work day.

Alternatively, this effect may be an artefact of the gender composition of the sample. The overwhelming majority of survey respondents were male, many of whom were involved in 'two-person, single-career' partnerships in which both members of a married or de facto couple work together to fulfil the demands of the husband's job. Both partners in such families devote their resources to supporting the career of one partner. In such circumstances, it is reasonable to expect that increasing demands could result in lower relationship satisfaction for the individual experiencing them, without being a source of conflict for the couple.

### Role conflict

Work-related role conflict was found to be associated with conflict in an engineer's relationship with spouse or partner. Role conflict occurs at work when two or more job demands cannot be met simultaneously. Typically the management of construction projects involves a trade-off between cost, time and quality. Added to these are safety and environmental imperatives and the threat of personal liability in the event of unforeseen incidents. In this environment, role conflict is likely to be high. Indeed, Bacharach *et al.* (1991) suggested that, for engineers, role conflict (e.g. conflict between professional standards and budget constraints) may be more strongly associated with more severe, 'life and death' consequences than in other occupational groups. Our findings suggest that there may be a 'spillover' effect between conflict at work and conflict at home. Thus, the existence and severity of role conflict in the workplace is an important area for work–life balance research in the construction industry.

### Gender

It is important to note that much of the research on the effects of work on experiences in other areas of one's life has focused on the experiences of working women. Our sample is somewhat unusual in that it is predominantly male. Our findings are consistent with those studies that have examined the experiences of both men and women in that they suggest that it is not only women who experience difficulties balancing commitments in their work and non-work life, and that gender differences in work experiences are minor and diminishing (Mauno and Kinnunen, 1999). In some cases, men have reported more acute difficulties than women. For example, Wallace (1999) found that male lawyers actually reported higher levels of time-based conflict, in which the time pressures associated with work interfere with time spent with family, than their female counterparts. Furthermore, the more hours that men worked the more they felt that their work invaded their non-work life.

Traditionally, men have performed the 'breadwinner' role in family life. Despite the fact that women's education levels and participation in paid employment continue to increase, recent research suggests that married couples still assign more income-earning responsibility to the husband (Gorman, 1999). Gorman also suggested that this assignment leads married men to pursue higher earnings goals than single men, and shapes their behaviour in deciding to remain in an existing job or seek a new employment opportunity. She also suggested that married men may work longer hours and devote more effort to their work. It is possible that the predominantly male respondents in our sample view their work in this light and that this view contributes to the reduced relationship satisfaction reported by some respondents. In particular, married respondents with children, who may be presumed to experience the highest degree of 'breadwinner' responsibility, report significantly lower relationship satisfaction than involved or single respondents without children.

The 'breadwinner' proposition is also consistent with the positive correlation observed between satisfaction with pay and relationship conflict. It is possible that respondents' justification for working long hours and weekends is that they are 'bringing home the bacon', but that conflict arises where partners perceive pay to be insufficient to justify this level of job involvement. Dissatisfaction with pay emerged as an important theme in qualitative data provided by many of the respondents in a space provided at the end of the questionnaire. A recurrent theme in these comments was a sense of frustration that professional engineers do not enjoy remuneration commensurate with their contribution to society. More work is needed to investigate this issue. In particular, experiences of both partners in a relationship need to be considered. However, it is possible that excessive work involvement that is justified in terms of fulfilment of the 'breadwinner' role exacerbates the negative effect of work on relationship quality.

### Age and tenure

Respondents' age and tenure, expressed as the number of years that they had worked in their current

employment, were both significantly correlated with relationship satisfaction and conflict. Unexpectedly, the relationship with both of these dependent variables was in the negative direction. Thus, as age and tenure increase, both relationship satisfaction and relationship conflict decrease. One possible explanation for this finding is that, over time, couples adjust to lower the level of satisfaction they expect to derive from their relationships. Alternatively, these findings could lend further support to the 'male breadwinner' theory described above, since trends in workforce demographics suggest that older employees are more likely to participate in 'two-person, single-career' families than younger employees.

### Work hours

The correlations and regression analyses suggest that the single most important factor in determining civil engineers' experiences of relationship quality is the number of hours they work each week. Engineers' concern with work hours they perceive to be excessive is evident from the APESMA (2000) study cited in the introduction to this paper. Furthermore, the objective number of hours worked seems to be a more important determinant of relationship quality than subjective overload. This finding is inconsistent with previous research findings. For example, Crouter *et al.* (2001) found that couples do not evaluate relationships less positively when men work longer hours but, when men suffer from subjective role overload, partners' evaluations of relationship quality are less positive. Wallace (1999) also found subjective feelings of excessive workload to be more important determinants of work to non-work conflict than the actual number of hours worked.

These inconsistent results may be due partly to the industry from which the samples were drawn. For example, Wallace's (1999) study comprised a single industry (lawyers) and she concluded that, for lawyers, overload may have more serious consequences than hours because lawyers enjoy a significant degree of control over their work schedules. This control serves to minimize the potential for time-based work to non-work conflict. It is likely that where professionals do not enjoy such control, long hours will be more damaging. Our findings may therefore reflect the fact that civil engineers in Australia do not have a great deal of control over their work schedule.

### Work–life balance initiatives

The results of the study suggest that work-related role stress is related to the relationship quality experienced by Australian civil engineers. This study does not explore the mechanism by which this effect occurs. There are different theoretical interpretations of the impact of work on relationship quality. Some theorists believe that the relationship is direct, in that high involvement in work discourages high involvement in one's relationship. For example, Hochschild (1997) suggested that a danger for parents with 'desirable' jobs is that they come to feel more appreciated and competent at work than at home. The consequence of this is that home comes to feel like a 'workplace' characterized by the need to fulfil mundane chores. Other theories hold that the relationship is indirect, and the effect of work stressors on relationship quality being mediated by the individual's perception of work–family conflict or emotional well-being (Bedeian *et al.*, 1988; Mauno and Kinnunen, 1999). Yet other theories suggest that employees suffering from work–family conflict find it difficult to interact in a nurturant manner with their partner. For example, Matthews *et al.* (1996) suggested that work–family conflict affects marital quality through lowered marital warmth and supportiveness. Now that our study has confirmed that job demands are related to relationship quality, future research should explore the validity of different theoretical explanations for this linkage.

Whatever the mechanism, our results suggest that construction industry professionals in Australia experience some interference between work and their non-work life. Ways to mitigate this interference should be considered. Increasing compensation through paying higher salaries may not be the answer. This may reduce some sources of relationship conflict but is unlikely to improve the relationship satisfaction of industry participants. Research suggests that exaggerated compensation systems increase employees' belief that they must continue their involvement in an organization because the personal costs of leaving are high. This leads to a sense of being 'trapped', which would not benefit the individual and has a limited effect on organizationally valued outcomes (Mellor *et al.*, 2001).

By contrast, there is evidence that the provision of other work–life balance initiatives, such as flextime or childcare/eldercare services pays greater dividends in terms of increasing employees' commitment to the organization and yields beneficial outcomes for both the individual and organization (Perry-Smith and Blum, 2000).

However, construction industry organizations need to pay close attention to the types of work–life balance initiatives they provide. Research suggests that employees who fulfil different roles in their non-work environments, for example parents compared with non-parents, will have different experiences at the work–life interface (Vinokur *et al.*, 1999). This suggests that different employees will value different initiatives and that their needs will change over time. In the context of

an increasingly diverse workforce and the changing nature of family structures, employees' non-work obligations will take many different forms. Helping employees to meet these obligations will require more flexible 'cafeteria-style' benefit programmes that can be suited to individual and changing needs. In deciding what to provide and how to provide it, firms should seek to meet the needs of key constituent employee groups (Bardoel *et al.*, 1999).

Finally, in considering the possible beneficial effects of work–life balance initiatives, the widely reported lack of take-up of such initiatives, particularly by men (Haas and Hwang, 1995), must be noted. It is likely that this poor take-up is related to traditional gendered assumptions about separation of family and home and division of labour that result in greater valuing of male employees or those without family commitments. Lewis (2001) argued that only in the context of dramatic cultural change will the negative effects of work on non-work experiences be overcome. It could be argued that the need for cultural change is particularly acute in the construction industry. If the negative impact of work demands on the relationship satisfaction of employees is to be curtailed, construction organizations and their individual employees will need to deviate from the socially constructed norm of rigid, long work hours that predominates in the construction industry.

## Conclusions

Our results suggest that aspects of working life experienced by Australian civil engineers have a damaging effect on the quality of their personal relationships outside work. Furthermore, different aspects of work and demographic characteristics are related to relationship satisfaction and conflict. In the light of research linking work–family issues to organizational performance and Australia's strong social policy commitment to work–life balance, this situation is unhealthy. Arguments for assisting employees to better balance their work and non-work life abound. Our results suggest that the Australian construction industry should examine its methods of working and consider ways to create a productive workplace that is also supportive of employees' non-work responsibilities.

### Limitations

The limitations of the study must be acknowledged. First, the cross-sectional design of the study limits the inferences that can be drawn from its results. While an attempt is made to identify the effects of demographic and work-related variables on relationship quality, longitudinal data would enable causal relationships between variables to be identified. Second, the analysis was limited to a single profession, namely civil engineers. Some of the findings reported may be limited to this profession or to engineers in general. It is important to determine whether the results are generalizable to more professionally diverse groups of men and women. Research, examining a broader range of variables among a sample of employees from other professions involved in the construction industry is on-going. This research will include a qualitative component in which in-depth interviews will be conducted with a sub-set of the sample. This will provide a better understanding of the social construction of work and family experiences and the meaning participants place on the satisfaction they derive from work and family life. Finally, several key variables were not considered. The effect of working away from home was not measured in the study and future research should address this issue as it is likely to have an impact on relationship quality. Also, owing to the under-representation of contractor-based engineers in our sample, no meaningful comparison between employees' experiences in contractor and consulting firms was possible. However, job demands experienced by contractors' employees are different from those of consultants. For example, most employees of contractors are required to work a six-day week, while consultants typically work a five-day week. Future research should attempt to obtain more data from engineers working in contracting firms as well, so that comparisons can be made.

## References

Adams, G. A., King, L. A. and King, D. W. (1996) Relationships of job and family involvement, family social support and work-family conflict with job and life satisfaction. *Journal of Applied Psychology*, **81,** 411–20.

Aldous J., Osmond M. W. and Hicks M. W. (1979) Men's work and men's families, in *Contemporary Theories about the Family*, Burr, W. R., Hill, R., Nye, F. I. and Reiss, I. L. (eds), The Free Press, New York.

APESMA (2000), APESMA Working Hours and Employment Security Survey Report.

Bacharach, S. B., Bamberger, P. and Conley, S. (1991) Work–home conflict among nurses and engineers: mediating the impact of role stress on burnout and satisfaction at work. *Journal of Organizational Behavior*, **12**, 39–53.

Baden C. and Friedman D. E. (1981) *New Management Initiatives for Working Parents*, Office of Continuing Education, Wheelock College, Boston, MA.

Bardoel, E. A., Moss, S. A., Smyrnios, K. and Tharenou, P. (1999) Employee characteristics associated with the provision of work–family policies and programs. *International Journal of Manpower*, **20**, 563–76.

Barnett, R. (1994) Home-to-work spillover revisited: a study of full time employed women in dual-earner couples. *Journal of Marriage and the Family*, **56**, 647–56.

Barnett, R., Marshall, N. L. and Pleck, J. (1992) Men's multiple roles and their relationship to men's psychological distress. *Journal of Marriage and the Family*, **54**, 358–67.

Bedeian, A. G., Burke, B. G. and Moffett, R. G. (1988) Outcomes of work–family conflict among married male and female professionals. *Journal of Management*, **14**, 475–91.

Bunker, B. B., Zubeck, J. M., Vanderslice, V. J. and Rice, R. W. (1992) Quality of life in dual-career families: commuting versus single-residence couples. *Journal of Marriage and the Family*, **54**, 399–407.

Butruille, S. G. (1990) Corporate caretaking. *Training and Development Journal*, **44**, 48–55

Carnoy, M., (1999) The family, flexible work and social cohesion at risk. *International Labour Review*, **138**, 411–29.

Cass, B. (1993) The work and family debate in Australia. Paper presented at the AFR/BCA Conference on Work and Family: The Corporate Challenge, Melbourne, 1 December 1993.

Cook, J. D., Hepworth, S. J., Wall, T. D. and Warr, P. B. (1981) *The Experience of Work: A Compendium and Review of 249 Measures and their Use*, Academic Press, London.

Cooper, C. L. and Marshall, J. (1976) Occupational sources of stress: a review of the literature relating to coronary heart disease and mental ill-health. *Journal of Occupational Psychology*, **49**, 11–28.

Crouter, A. C., Bumpus, M. F., Head, M. R. and McHale, S. M. (2001) Implications of overwork and overload for the quality of men's family relationships. *Journal of Marriage and the Family*, **63**, 404–16.

Eckenrode, J. and Gore, S. (1990) *Stress between Work and Family*, Plenum Press, New York.

Fernandez, J. P. (1986) *Child Care and Corporate Productivity: Resolving Family/work Conflicts*, Lexington Books, Lexington, MA.

Gorman, E. H. (1999) Bringing home the bacon: marital allocation of income-earning responsibility, job shifts and men's wages. *Journal of Marriage and the Family*, **61,** 110–22.

Haas, L. and Hwang, P. (1995) Company culture and men's usage of family leave benefits in Sweden. *Family Relations*, **44,** 28–36.

Hochschild, A. R. (1997) When work becomes home and home becomes work. *California Management Review*, **39**, 79–97.

Hughes, D., Galinsky, E. and Morris, A. (1992) The effects of job characteristics on marital quality: specifying linking mechanisms. *Journal of Marriage and the Family*, **54**, 31–42.

Kanter, R. M. (1977) *Men and Women of the Corporation*, Basic Books, New York.

Larson, J. H., Wilson, S. M. and Beley, R. (1994) The impact of job insecurity on marital and family relationships. *Family Relations*, **43**, 138–43.

Lewis, S. (2001) Restructuring workplace cultures: the ultimate work–family challenge? *Women in Management Review*, **16**, 21–9.

Lobel, S. A., Googins, B. K. and Bankert, E. (1999) The future of work and family: critical trends for policy, practice and research. *Human Resource Management*, **38**, 243–54.

Matthews, L. S., Conger, R. D. and Wickrama, K. A. S. (1996) Work–family conflict and marital quality: mediating processes. *Social Psychology Quarterly*, **59**, 62–79.

Mauno, S. and Kinnunen, U. (1999) The effects of job stressors on marital satisfaction in Finnish dual earner couples. *Journal of Organizational Behavior*, **20**, 879–95.

Mellor, S., Mathieu, J. E., Barnes Farrell, J. L. and Rogelberg, S. G. (2001) Employees' nonwork obligations and organizational commitments: a new way to look at the relationships. *Human Resource Management*, **40**, 171–84.

Napoli J. (1994) *Work and Family Responsibilities: Adjusting the Balance*, CCH Australia, North Ryde.

O'Neil, R. and Greenberger, E. (1994) Patterns of commitment to work and parenting: implications for role strain. *Journal of Marriage and the Family*, **56**, 101–18.

Orden, S. and Bradburn, N. M. (1968) Dimensions of marriage happiness. *American Journal of Sociology*, **73**, 715–31.

Perry-Smith, J. E. and Blum, T. C. (2000) Work–family human resource bundles and perceived organizational performance. *Academy of Management Journal*, **43**, 1107–17.

Presser, H. B. (2000) Nonstandard work schedules and marital instability. *Journal of Marriage and the Family*, **62**, 93–110.

Vinokur, A. D., Pierce, P. F. and Buck, C. L. (1999) Work–family conflicts of women in the Air Force: their influence on mental health and functioning. *Journal of Organizational Behavior*, **20**, 865–78.

Wallace, J. E. (1999) Work-to-nonwork conflict among married male and female lawyers. *Journal of Organizational Behavior*, **20,** 797–816.

Westman, M., Etzion, D. and Danon, E. (2002) Job insecurity and crossover of burnout in married couples. *Journal of Organizational Behavior*, in press.

White, L. and Keith, B. (1990) The effect of shift work on the quality and stability of marital relations. *Journal of Marriage and the Family*, **52**, 453–62.

## Appendix

### Job and family questionnaire

We are a research team from the University of Melbourne. We are conducting some research to investigate professional civil engineers' experiences of job demands, stress and family life. We are interested in your personal experience of working as a civil engineer and would be very grateful if you would take the time to complete this questionnaire. The information you provide us with will be treated with strict confidentiality. We cannot identify or trace your individual response and nobody except the research team will ever see your completed questionnaire.

The questionnaire will take approximately 15 minutes to complete. There are no right or wrong answers. When thinking about your answers, please be honest and consider how you feel *at the present time*, not how you have felt in the past or how you expect to feel in the future.

**Demographic information**

Q1 What is your age? (please circle)

20-24 years 25-29 years
30-34 years 35-39 years
40-44 years 45-49 years
50-54 years 55 and over

Q2 Are you male/female? (please circle)

Q3 Marital/relationship status (please circle)

Single
Involved
Married
Separated
Divorced

Q4 Does your partner work? Y/N

Q5 If so, is your partner in full or part time employment?_____

Q6 How many children do you have?_____

Q7 What is the age of your youngest child?_____

Q8 How many years have you worked as a civil engineer?_____

Q9 What is your current job title/position?_____

Q10 Are you site or office-based?_____

Q11 On average, how many hours a week do you work?_____

Q12 How many people work at your company?_____

Q13 Do you work for a contractor or a consulting company?_____

**Job characteristics**

Please consider the truth of the following statements and indicate the extent to which you agree and disagree with them in your *present job*. Indicate your agreement or disagreement by circling the relevant number.

| | Strongly disagree | Disagree | Slightly disagree | Neither agree nor disagree | Slightly agree | Agree | Strongly agree |
|---|---|---|---|---|---|---|---|
| It's hard, in this job, to care very much whether the work is done right | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I often have to deal with new problems in my job | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Dealing with people is an important part of my job | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I am very happy with the amount of money I make | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| To satisfy some people on my job, I have to upset others | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| In this job, I feel responsible for the work of my colleagues | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I have enough time to do what is expected of me in my job | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| My job allows me to control my own work pace | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Clear, planned goals and objectives exist for my job | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I feel I should personally take the credit or blame for the results of my work in this job | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I never seem to have enough time to get everything done | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I receive incompatible requests from two or more people | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The people I work with are friendly | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Decisions are sometimes made without consulting the people who have to live with them | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| In this job, I know exactly what is expected of me | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| In this job, the chances for promotion are good | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| In my job, I often have to handle unpredictable situations | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | Strongly disagree | Disagree | Slightly disagree | Neither agree nor disagree | Slightly agree | Agree | Strongly agree |
|---|---|---|---|---|---|---|---|
| In my job, I can't satisfy everybody at the same time | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I am usually not told about important things that are happening in the company | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| In this job, most of my tasks are clearly defined | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Considering my skills and effort, I am very satisfied with my pay | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| In this job, the safety of others depends on me | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I feel certain about how much authority I have | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| In my company, promotions are handled fairly | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I determine the speed at which I work | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| My performance depends on my ability to work with others | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| In this job, the job security is good | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| In this job, I have a lot of opportunity to make friends | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| It often seems like I have too much for one person to do | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I feel a very high degree of personal responsibility for the work I do on this job | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| To some extent I can perform my job independently of others | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I know how to divide my time between tasks properly | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The amount of work expected of me is fair | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| This company gives everyone a chance to get ahead | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| In this job, the people I work with take a personal interest in me | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Experiences of family life (If you are single, please go directly to the next section).**

The following list of things that couples often do together. Please could you indicate how frequently you and your partner have done each of these things together in the *past few weeks.*

| | Not at all | Very infrequently | Infrequently | Frequently | Very frequently |
|---|---|---|---|---|---|
| Had a good laugh together or shared a joke | 0 | 1 | 2 | 3 | 4 |
| Been affectionate towards one another | 0 | 1 | 2 | 3 | 4 |
| Spent an evening chatting with one another | 0 | 1 | 2 | 3 | 4 |
| Did something the other particularly appreciated | 0 | 1 | 2 | 3 | 4 |
| Visited friends together | 0 | 1 | 2 | 3 | 4 |
| Entertained friends in your home | 0 | 1 | 2 | 3 | 4 |
| Taken a drive or walk for pleasure | 0 | 1 | 2 | 3 | 4 |
| Ate out together in a restaurant | 0 | 1 | 2 | 3 | 4 |
| Gone out together – to a cinema, to play sport or other entertainment | 0 | 1 | 2 | 3 | 4 |

The following is a list of things about which couples sometimes agree and sometimes disagree. Please could you indicate how frequently you and your partner have disagreed or had differences of opinion about each of these things in the *past few weeks.*

| | Not at all | Very infrequently | Infrequently | Frequently | Very frequently |
|---|---|---|---|---|---|
| Being tired | 0 | 1 | 2 | 3 | 4 |
| Irritating personal habits | 0 | 1 | 2 | 3 | 4 |
| Household expenses | 0 | 1 | 2 | 3 | 4 |
| Being away from home | 0 | 1 | 2 | 3 | 4 |
| How to spend leisure time | 0 | 1 | 2 | 3 | 4 |
| Time spent with friends | 0 | 1 | 2 | 3 | 4 |
| Your partner's job | 0 | 1 | 2 | 3 | 4 |
| In-laws | 0 | 1 | 2 | 3 | 4 |
| Not showing love | 0 | 1 | 2 | 3 | 4 |

If you have any further comments, would like to add any information or feel we have not asked about an important issue, please use the space below to tell us.

Thank you for completing the questionnaire. We appreciate your time.