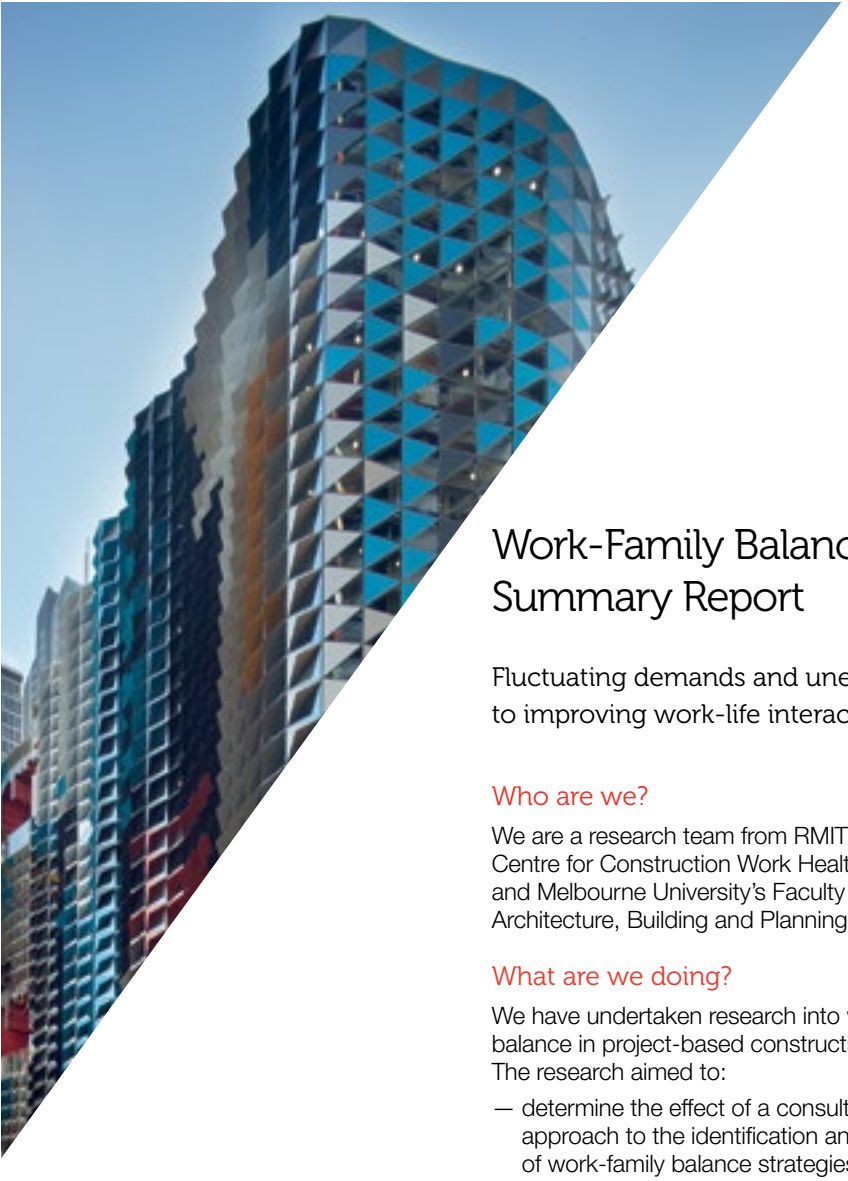

WHS Research

Centre for Construction
Work Health and Safety

Work-Family Balance
Summary Report

Fluctuating demands and unexpected events: An action research approach to improving work-life interaction in project-based work

Who are we?

We are a research team from RMIT University's Centre for Construction Work Health and Safety and Melbourne University's Faculty of Architecture, Building and Planning.

What are we doing?

We have undertaken research into work-family balance in project-based construction work. The research aimed to:

- determine the effect of a consultative approach to the identification and evaluation of work-family balance strategies on the work-family experiences of project-based construction workers
- examine the relationship between workload fluctuations and work-family experiences (both positive and negative) on project-based construction workers, and
- inform the development of industry policy and organisational support for positive work-family interaction in the construction industry.

Why did we do the research?

The issue of work-family balance is of great importance to Australia. Driven by demographic changes, the aging workforce, low birth rates, dramatic increases in dual earner couples and the changing expectations of younger generations of Australian workers, there is an urgent need to find practical solutions to the work-family balance problem.

In Australia, the longest average work hours are observed in blue-collar, traditionally male industries, including construction. Construction workers are expected to work non-standard work schedules, including regular weekend work.

Project-based construction work is subject to varying levels of intensity. In projects, there are critical points at which components must be completed. Immediately prior to these critical points, the intensity of work is very high. During these periods work hours can be very long, impacting negatively upon work-family experiences. The impact of peaks and troughs in work intensity on the work-family experiences of construction workers is not well understood.

What did the research involve?

The research evaluated the effect of a employer-worker consultation concerning work-family interaction and the implementation of selected project-specific work-family balance strategies in a series of case study construction projects. The research helped to build a strong partnership between government and the construction industry, for the purpose of promoting positive work-family interaction among the construction workforce.

Negative work-family interaction

Work-family conflict (WFC) has been defined as "a form of interrole conflict in which role pressures from the work and family domains are mutually incompatible in some respect". Two directions of WFC have been identified: work interference with family life (WIF), and family interference with work life (FIW). WIF has been linked to job dissatisfaction, life dissatisfaction, intention to turnover, general well-being, psychological strain, psychiatric disorders, substance abuse and problem drinking.

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Australian Government
Australian Research Council

Previous research in the Australian construction industry revealed that project-based construction workers experience high levels of WIF, which is predicted by excessive job demands, including long and irregular work hours.

WFC can take three forms as follows:

1. time-based conflict, which occurs when time spent on activities in one role prohibits the fulfillment of responsibilities in another role;
2. behaviour-based conflict, which occurs when behaviour in one role cannot be adjusted to be compatible with behaviour patterns in another role; and
3. strain-based conflict, which occurs when pressures from one role interfere with fulfilling the requirements of another role.

Results of the baseline survey undertaken at the beginning of the research indicated that Australian construction workers[1] report higher levels of strain- and time-based work interference with family life than other industry groups in international research (Figure 1). High levels of time- and strain-based WIF is concerning because research shows a strong and consistent linkage between WIF and workers' health and health-related behaviours.

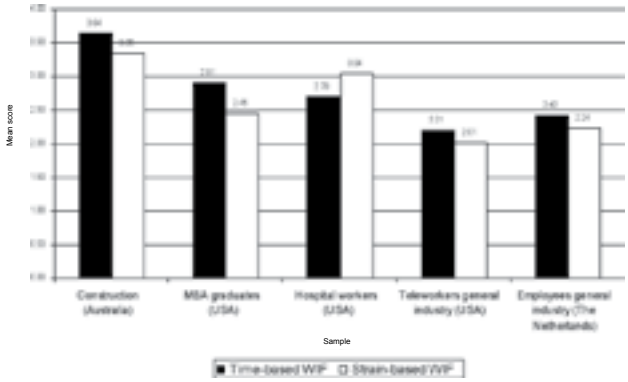

Figure 1: Strain- and time-based work-family conflict in Australian construction workers relative to international norm scores.

Positive Work-Family Interaction

The relationship between work and family life does not need to be negative and there is a growing interest in the possibility of positive work-family interaction. Work–family enrichment has been defined as the extent to which experiences in one role improve the quality of life in the other role. Again, two directions of work-family enrichment have been identified: work-to-family enrichment and family-to-work enrichment.

Positive work–family interaction has been linked to higher levels of employee wellbeing, effort in and satisfaction with work, organisational commitment, job performance, home performance, home commitment, home satisfaction and general life satisfaction. Positive work–family interaction is associated with lower levels of psychological distress, turnover intention and employee burnout.

In the research we examined whether work-related supports, such as supervisory support, flexibility, work schedule control and time adequacy, were related to work-to-family enrichment. We also examined whether these supports were associated with work-to-family enrichment to the extent that they are perceived to provide a good work–family fit by workers (see Figure 2).

Our research confirmed that these work supports are positively linked to work-to-family enrichment. Moreover, the beneficial impact of work supports is explained by the impact that these supports have on workers' perceptions of how well their work schedule fits with their own and their family's expectations.

Figure 2: Work-resources, schedule fit and work-to- family enrichment.

The 'Rhythms' of Project Life

Most previous work-family research has taken place in stable organisational environments. However, construction projects are dynamic and subject to fluctuating workloads and changing demands. The research aimed to examine the impact of project events and opportunities for recovery on work-family experiences.

At one large civil engineering construction project, a sample of waged and salaried workers were invited to complete a weekly diary over a twenty-one week period. Participants included male and female representatives, waged and salaried workers and workers in different age brackets and family circumstances.

Diary data indicated that weekly work hours predicted workers' capacity to complete tasks at work and at home. The relationship between work hours and capacity to complete tasks at home was stronger than it was with capacity to complete tasks at work.

Week 17 marked a major project milestone. In the four weeks leading up to this event, work hours increased and workers' reported capacity to complete tasks at home and work deteriorated. Workers' capacity to complete tasks at home was more negatively impacted than their capacity to complete tasks at work during this period, suggesting that home life suffers to a greater extent than work performance during periods of high work intensity (Figure 3). This was also reflected in comments provided by diary participants. For example: '…it is impossible to keep up with family and home. When you have to work to keep it going, something must give and normally it's at home.'

When major project events/milestones were incorporated into the analysis, the percentages of variance in workers capacity to complete work and home tasks increased to 79% and 85%.

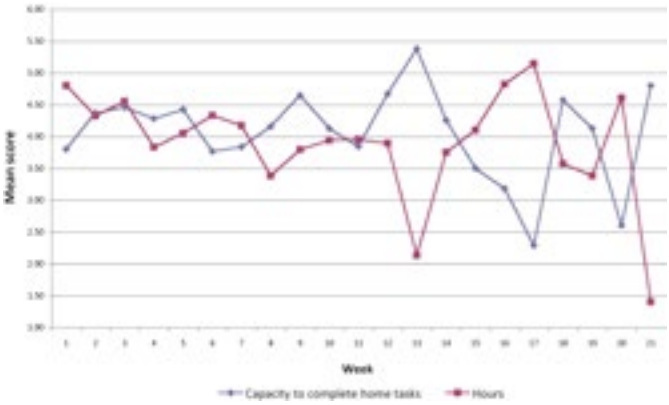

Figure 3: Weekly work hours and capacity to complete tasks at home.

Importance of Recovery

Recovery is important because the need for recovery has been associated with lower levels of concentration at work and job performance which could have occupational health and safety consequences in the construction context.

Working long hours impact in two ways:

1. because effort is expended over a longer period, it increases the psychological and physical 'costs' of work, increasing the need for recovery; and
2. it reduces the time available to workers to engage in restorative recovery activities outside work.

Recovery opportunities afforded by Rostered Days Off and periods of leave (taken by salaried participants) were incorporated into the analysis (Figure 4). Opportunities for recovery demonstrated a statistically significant immediate positive effect on participants' satisfaction with work-family balance and capacity to complete tasks at home. The importance of recovery was reflected in comments written by diary participants. For example:

'[I] am tired and looking forward to taking some leave. [I] have been doing lots of overtime so am ready for time away from work.'

'To me the greatest balance tool is the Rostered Day Off as this allows a sleep in and the availability to go to businesses, shops etc that are not open Sunday.'

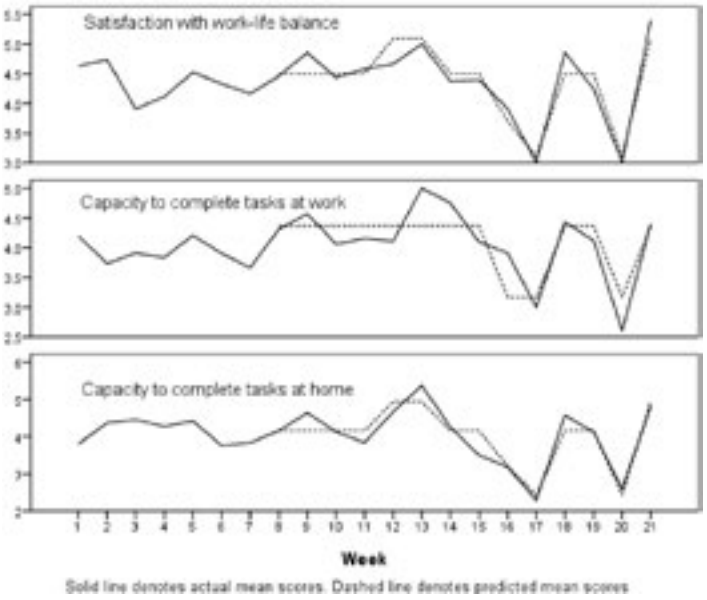

Figure 4: Ability of recovery opportunity to predict satisfaction with work-life balance and capacity to complete tasks at work and at home

However, some comments suggested that some participants were experiencing insufficient recovery. For example:

'As usual [I have] too much to do—not enough hours in the week. Time flies by and you look at what you meant to achieve at the end of the day and end up carrying most of it over to the next day. I came into work at 4 am one morning to try to get ahead on work.'

'[I] was a bit sleep-fatigued due to an error one morning that carried over for a day or two.'

If experienced over an extended period, insufficient recovery among project-based construction workers could result in a situation in which a high need for recovery leads to withdrawal from household tasks, leading to greater home-related stress that then impacts upon one's ability to complete work tasks.

Job Demands-Control and Support

A median-split method was used to position people who responded to the baseline surveys into quadrants according to Figure 5.

a. their reported work time demands and work time control.

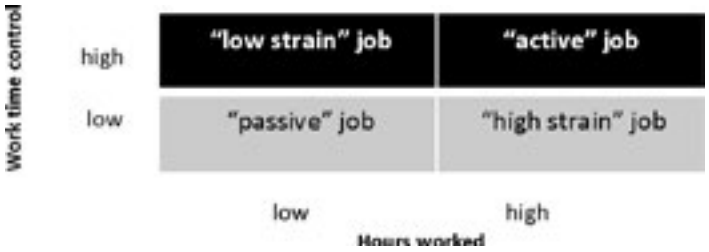

Figure 5: A job demand control framework for understanding work-family interaction.

Statistical analysis showed that time- and strain-based work interference with family life (WIF) was highest among workers who reported high work time demands and low work time control (i.e. 'high strain') jobs and lowest among respondents who reported low work time demands and high work time control (i.e. 'low strain') jobs. This suggests that reductions in WIF may be achieved through the management of work time demands coupled with strategies to increase work time control.

The highest levels of work-to-family enrichment were not reported among respondents in 'low strain' jobs, but among those who reported high levels of both work time demands and work time control (i.e. those in 'active' jobs). The lowest levels of work-to-family enrichment were reported among respondents who reported low work time demands and low work time control (i.e. those in 'passive' jobs).

Work-Family and Workforce Diversity

The research is significant because of the high participation of on-site construction workers as well as salaried professionals and managers. Significant differences were found in the experiences of these groups of workers.

On-site 'blue collar' construction workers experienced lower levels of supervisor support, flexibility, family-to-work enrichment and schedule control, as well as longer work hours, and higher levels of strain- and time-based work interference with family (WIF).

Further statistical analysis revealed that the nature of the relationship between work hours and time- and strain-based WIF varied depending upon whether a worker is waged or salaried. This is shown in Figure 6.

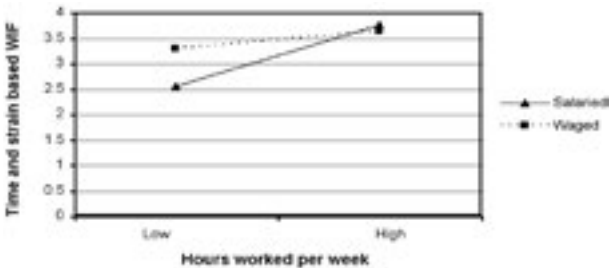

Figure 6: Moderating effect of employment type on the relationship between hours worked and WIF

The relationship between work hours and time- and strain-based WIF is positive for both groups of workers (i.e., as hours increase, so too does the experience of WIF). However, the relationship is significantly stronger for salaried workers than it is for waged workers, i.e. salaried workers are more likely to experience higher levels of time and strain-based WIF as their hours increase than waged construction workers.

Further research is needed to better understand the work-family experiences of different groups of workers in the construction context.

Concluding Remarks

The research highlights the significance of work-family imbalance as a problem for the Australian construction industry. Levels of time-and strain-based work-to-family conflict are high relative to international research in other industries. However, the research also suggests that experiences at the work-family interface do not need to be negative and there is an opportunity to promote work– family enrichment among construction industry workers through the provision of supervisor support, flexibility, time adequacy and control. The research highlights the impact that fluctuations in workload occurring in project-based construction work have on workers' work-family experiences. The evidence suggests that increasing work hours has a greater negative impact upon workers' family life than upon their ability to complete tasks in the work domain. The research also highlights the importance of recovery opportunities for achieving work-family balance. Recovery opportunities afforded by time away from the workplace have a significant positive impact upon satisfaction with work-family balance and capacity to complete tasks at home. Work activity 'peaks' reflect periods of work overload for construction workers but work activity 'troughs' may conversely provide the opportunity for workers to re-energise, recover and restore their work-family balance. Construction organisations may be able to support effective recovery by carefully planning and scheduling work activities to 'build in' opportunities for recovery for project-based workers during periods of reduced work intensity.

Although work-family interaction has not traditionally been considered work health and safety (WHS) issue, long hours and work-family conflict are increasingly recognised to be workplace hazards. Available data on long hours and the occurrence of occupational injuries is very limited, however according to an International Labour Organisation report, injury data in two countries indicates a rise in injury rate after nine hours of work and experimental data from cognitive psychology predicts an increase in worker errors after eight hours of work. Other researchers have concluded that long hours of work, especially weekly schedules at the 60 hour or above range, present significant WHS risk. Thus there is a growing acknowledgement that work hours and work-family interaction should be managed as part of an organisation's WHS programme and there is a need for further research into the relationship between work hours, work-family interaction and occupational health and safety outcomes in the construction context.

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