

Technology, Long Work Hours, and Stress Worsen Work-life Balance in the Construction Industry

Simon Holden¹, Riza Yosia Sunindijo^{1,*}

¹Faculty of Built Environment,
UNSW Sydney, NSW 2052, AUSTRALIA.

Received 01 January 2018; accepted 15 April 2018, available online 07 May 2018

Abstract: The aim of this research is to assess the level of work-life balance and to determine factors that affect work-life balance in the Australian construction industry. Questionnaires were used to collect data from 89 employees of a medium-sized construction organisation in Sydney, Australia. The results show that poor boundary management is responsible for the relatively low work-life balance. Technology, business culture, commute time, salary compensation, health, and the implementation of work-life balance initiatives are factors that influence work-life balance. On one hand, technology, long work hours, and stress can have negative impacts on work-life balance. On the other hand, work-life balance initiatives supported by appropriate business culture can promote better work-life balance in the construction industry. Construction organisations should make sure that work-life balance initiatives are made known to all employees and supported by top-level managers and those at the project level, so that employees are comfortable in using them. The initiatives should also cater the diverse needs of employees.

Keywords: Australia, Construction, Work-life balance.

1. Introduction

Good work-life balance has been found beneficial for businesses because it can reduce absenteeism, increase job satisfaction, promote better job autonomy, attract talents, improve employee retention, improve employee attitudes and behaviours, and improve productivity [1,2,3]. Despite these benefits, the construction industry is still known for its poor work-life balance [4,5]. For example, the average number of hours worked in the construction industry was 62.5 among site-based project staff, 56.1 among office-based project staff, and 49.0 among head or regional office staff [4], far longer than the typical 38-hour working week in Australia.

The male-dominated nature of the construction industry makes the culture of ‘work hard and play hard’ the norm of the industry [7,8]. The industry is also highly competitive, forcing construction organisations to reduce their labour cost, operate with low profit margin, and work with unreasonable time constraints [8,9]. This culture in the Australian construction industry drives employees to work longer hours than contractually obligated. The work-life balance of employees in the construction industry has been sacrificed for a large salary award, which has led to serious relationship strains and mental health issues, such as suicide and burnout [10]. Despite the efforts to implement work-life balance strategies and initiatives, the work-life balance in the industry remains poor because of a lack of enforcement and the industry culture [11,12].

This research aims to evaluate the level of work-life balance and to determine the factors that influence work-life balance in the construction industry in Sydney, Australia. This understanding is useful to formulate appropriate strategies and initiatives to promote improvements.

2. Factors Influencing Work-life Balance

Previous research has identified factors that can affect work-life balance:

- **Technology:** Technology development has given individuals a greater sense of mobility in their daily lives. This increased mobility and interconnectedness has enabled the workforce to become more itinerant, thus allowing individuals to work from home, communicate while in transit, and be available 24 hours a day, seven days a week [13]. Technology has the potential to improve work-life balance. For example, parents can complete work from home, thus, allowing individuals to start a family, while undertaking the majority of work roles and responsibilities on one mobile device. This offers greater flexibility to individuals than traditional office-based personnel and helps individuals manage both work and life commitments with greater ease [13,14].
- **Business culture:** Business culture defines the specific way the organisation works and sets the standard for how the employees should behave, such as common

works hours, work attitudes, and the formality of the workplace. A business culture that allows for operational flexibility, i.e., the flexibility to alter one's work, is associated with aspects of work-life balance, including work satisfaction and family wellbeing [15].

- Commute time: An employee's travel time to and from work can directly influence the available free time outside of work hours and impact on the employee's life requirements [16]. Although the initial decision of travel time lies with the individual when accepting a position, business relocations or project-based organisations can significantly change the travel time of individuals. For example, construction projects are temporary and, thus, project team members are constantly relocated between the head office and site offices. During the relocation process, the residential location of relocated individuals must be taken into consideration to ensure the employees travel time to and from work is reasonable.
- Salary compensation: Salary has traditionally been an important attribute for job choice. When entering the construction industry, individuals are faced with the reality of a high income and a long working week with a low work-life balance [9]. When an employee has already fulfilled these needs and is searching to fulfil 'higher-order' needs, the individual may seek to embrace a greater work-life balance lifestyle [17]. This allows organisations to scope work-life balance initiatives and salary awards around these needs to ensure that employees remain content and motivated.
- Health: The construction industry is renowned for its stressful work environment that can lead to a series of health issues, such as depression, exhaustion, hypertension, and heart palpitations [18].
- Work-life balance initiatives: The impetus behind work-life balance initiatives from a business perspective strongly resides around economic and efficiency gains [16]. Businesses implementing 'best practice' work-life balance initiatives had favourable return on their investment as there was a 3.8% decline in absenteeism, 3.6% reduction in staff turnover, 21% improvement in the rate of return to work from parental leave, and a 13% improvement in employee satisfaction. Common examples of initiatives currently implemented in many Australian construction organisations include accrued days in lieu for periods of excess overtime; office and site groceries; coffee accounts; flexible work hours; child care facilities or subsidisation; wellness programs, such as gym facilities and medical check-up programs; employee assistance programs, such as financial consultation or counselling; and employee discounts [17].

3. Research Methods

This research adopts a case study research design. Case study research is commonly utilised in psychological and sociological research to determine

factors affecting or test theories present in an existing specific population in great depth. A case study research design can provide insight for further research based on findings. Although there are limitations of the case study research design, particularly in relation to its generalizability and replication, due to the current research gap in existing literature regarding work-life balance trends in differently sized construction organisations and the selected organisations current business analysis and development, a case study research design was utilised for this study.

This research utilised quantitative data sourced via a questionnaire survey as mathematical trends can be identified and analysed statistically to provide conclusive and objective findings on the work life balance of employees in case study organisation. The questionnaire has three sections: demographic-related questions, questions to measure the level of work-life balance (11 items), and questions on factors affecting work-life balance (23 items). A five-point Likert scale format ranging from strongly disagree to strongly agree was used in the last two sections. Pilot testing of the questionnaire was conducted by asking ten construction personnel to undertake a preliminary review of the questionnaire. From this, discrepancies or confusion in the wording of the questions was identified and amended to improve clarity. The questionnaire was then sent by email to 130 employees of a medium-sized construction organisation based in Sydney, Australia. As such, this research adopted a probabilistic random sampling method in its data collection process.

4. Analysis and Discussion

Eighty-nine valid responses were received. The profile of the respondents is presented in Table 1. The majority of the respondents were males (92.1%), reflecting the male-dominated culture of the industry. Nearly 72% of the respondents aged between 25-44 years, while the national median age is 37 years.

There is a good spread of respondents across the different positions offered by the case study organisation. Scrutinizing the data further reveals that 83.2% of employees were site based while the remaining 16.8% typically operated from the head office.

The weekly work hours reflect the current work trends of the Australian construction industry as 76.4% of the respondents worked more than 50 hours a week. Some of these employees on average would be working about twelve hours per day in a five-day working week. In 2013-14, 23% of people commute more than 45 minutes to work on the average weekday in Sydney [19]. In comparison, 52.8% of the respondents travelled more than one hour per day, significantly longer than the average Sydneysiders.

4.1 Work-life balance

The levels of work-life balance in the case study organisation are presented in Table 2. The average mean was 2.82, indicating a relatively low level of work-life

balance, aligning with the results of previous studies. Items 7 and 9 were the two lowest items, showing how the employees were struggling to separate work from their mental state while in a life environment [20,21]. When prolonged, this can lead to increased exhaustion, increased stress, and work-life conflict as shown in items 4, 6, and 8.

Table 1: Respondent profile

Demographic	Category	Freq.	%
Gender	Male	82	92.1
	Female	7	7.9
Age	18-24	10	11.2
	25-34	33	37.1
	35-44	31	34.8
	45-54	8	9.0
	55-64	7	7.9
	Cadet	6	6.7
Position	Project Coordinator	5	5.6
	Contract Administrator	13	14.6
	Contracts Manager	2	2.2
	Project Engineer	9	10.1
	Project Manager	12	13.5
	Foreman	8	9.0
	Site Manager	5	5.6
	Design Manager	4	4.5
	Construction Manager	6	6.7
	Estimator	7	7.9
	Safety Manager	6	6.7
	General Manager	2	2.2
	Other	4	4.5
Average work hours per week	31-40	3	3.4
	41-50	18	20.2
	51-60	36	40.4
	61+	32	36.0
Daily commute to and from work	0-0.5	17	19.1
	0.5-1	25	28.1
	1-2	29	32.6
	2-3	13	14.6
	3-4	5	5.6

There are also positive aspects of work-life balance in the case study organisation as conveyed in items 2, 5, 10 and 11. While it is clear that the employees experienced increased exhaustion and stress on a weekly basis, they also made time to wind down and relax as seen in items 5 and 10. This indicates that they still allocated time during the week to separate work from their life to regenerate, avoid over-stress, and manage their work-life balance. Despite the indication of work-life conflict in item 6, employees still managed to participate in social or family events regardless of their work commitments as seen in item 2. This seemingly conflicting result may be due to the difference in expectations between the employees and their family and friends. The employees understand the norm in the construction industry, while their family and friends feel that the typical norm of the construction industry indicates poor work-life balance. The employees also felt

satisfied with their current work role, indicating that although individuals may be satisfied in their current work role due to mental engagement or other reasons, they can still have a poor work-life balance.

Table 2: Level of work-life balance

No	Item	Mean	Ranking
1	I have adequate control over my work life balance.	3.04	5
2	I manage to participate in social or family events despite my work commitments.	3.55	3
3	I am able to spend adequate quality time with my family and friends on a weekly basis.	2.96	6
4	I do not experience increased exhaustion throughout my working week.	2.26	9
5	I make time to relax and wind down on a weekly basis.	3.27	4
6	My family and friends are happy with my working hours.	2.33	8
7	I normally don't think about work outside of work hours.	1.7	11
8	I feel relax whilst at work.	2.63	7
9	I normally don't work through my lunch break on a weekly basis.	1.87	10
10	I am able to maintain my temper at work.	3.72	1
11	I feel satisfied in my current work role.	3.71	2
Average		2.82	

Note: For means, 1 = strongly disagree and 5 = strongly agree

Pearson's correlation analysis as presented in Table 3 was undertaken to find the relationships between work-life balance and its potential predictors.

4.2 Technology

The use of information and communication technologies (ICTs) is supposed to be good for work-life balance because it increases the flexibility of employees, allowing them to complete work in a non-work environment, thus, facilitating social and family needs. However, the results show that ICTs have strong negative impacts on work-life balance because they blur the boundary between work and life. In this case, the increased flexibility and ability to spend more time with friends and family is foreshadowed by the fact that, although employees may spend more time with friends and family, ICTs become a hindrance for the employees to separate work from these occasions. Today ICTs are the primary medium through which communication

occurs. There is an expectation from employers that their employers use these technologies to work outside of work hours [13]. Although ICTs can provide increased flexibility to the work environment, individual employees and work demands determine the permeability of ICTs within their life boundary.

Table 3: Factors affecting work-life balance

No	Item	Mean	Corr.	p
1	I frequently use ICTs on a daily basis for work.	4.39	-.126	.240
2	I frequently use ICTs on a daily basis for personal use.	3.58	.100	.353
3	I frequently use ICTs to work at home on a weekly basis.	3.55	-.041	.701
4	ICTs have increased the flexibility of my work role.	3.47	.187	.079
5	ICTs hinder my ability to separate work from home.	3.71	-.454**	.000
6	I regularly work long hours.	4.24	-.608**	.000
7	I am able to work my own nominated hours as long as my assigned work is completed.	2.81	.386**	.000
8	My employer promotes a business culture that encourages work-life balance.	3.15	.324**	.002
9	My daily commute to and from work takes too much time.	3.03	.062	.566
10	My direct superior takes into consideration my daily commute when working back late.	2.98	.425**	.000
11	My residential location is considered when moving to new site-based projects.	2.89	.026	.812
12	I am satisfied with my salary in my current work role.	3.08	.169	.113
13	I am adequately compensated when I need to work longer hours.	2.52	.340**	.001
14	I use effective coping strategies to manage stress at work.	3.22	.240*	.024
15	I exercise regularly.	3.04	.196	.066
16	I believe that I have a healthy eating habit.	3.21	.120	.264
17	I bottle up stress and my emotions.	3.26	-.259*	.014
18	I generally feel healthy.	3.39	.267*	.011
19	I am aware of the work life balance initiatives offered to me by my	3.36	.173	.105

No	Item	Mean	Corr.	p
	employer.			
20	My employer currently provides me with sufficient work life balance initiatives.	2.94	.397**	.000
21	I use work life balance initiatives offered to me by my employer.	2.75	.264*	.012
22	Current work life balance initiatives offered by my employer facilitate the needs of all employees.	2.56	.343**	.001
23	My employer provides me with sufficient support to manage my work life balance.	2.96	.480**	.000

Note: ** = correlation is significant at the 0.01 level (two-tailed)
 * = correlation is significant at the 0.05 level (two-tailed)

4.3 Business culture

Business culture can directly impact the work-life balance of employees positively and negatively. Promotion of work-life balance within an organisation is a key factor which encourages employees to use work-life balance initiatives implemented in the organisation. If work-life balance is not encouraged by the managers, employees do not feel comfortable to take advantage of the offered initiatives [16].

The results also show that the respondents regularly work long hours, which is the norm in the construction industry. This culture has a very strong negative correlation with work-life balance. Although the organisation may promote work-life balance, managers and industry culture may impede the flexibility individuals in managing their work-life balance. This shows a gap between the offered flexibility and the practiced flexibility due to managerial and external influences [22].

4.4 Commute time

Managers' consideration on employees' commute time when working late is related to greater work-life balance. When a manager appreciates an employee's daily commute when working back late, the employee feels a greater sense of worth due to reduced stress and increase job satisfaction. Correlation analysis between average total daily commute time and overall work-life balance, however, reveals no significant relationship. This may be due to the fact that the respondents did not feel that the daily commute time takes too much time as indicated by item 9 in Table 3.

4.5 Salary compensation

There is a significant correlation between being adequately compensated when working longer hours and

greater work-life balance. The respondents, however, perceived that they are not adequately compensated when working longer hours. This is because most of the respondents were salaried employees, who are paid a monthly salary, which does not vary according to the work hours. Therefore, even though they normally work long hours, they receive the same amount of income, which explains why they felt inadequately compensated. It should be noted, however, that the respondents were not dissatisfied with their salaries in their current work roles.

4.6 Health

High stress and long working hours are common occurrences in the construction industry and they can take a toll on its employees. Health is, therefore, a factor that affects work life balance, as employees who struggle either physically or mentally may struggle to balance work and life. Excessive work hours are linked to increased stress, which eventually leads to depression [20]. The results show that bottled up stress and emotions affect work-life balance negatively, thus stress management in the construction industry is particularly important.

4.7 Work-life balance initiatives

Work-life balance initiatives are specific support and recompense systems that an organisation specifically implements to attract new employees and provide current employees with ongoing work-life balance support to boost morale. It is no surprise, therefore, to find that these initiatives positively affect work-life balance. These initiatives should be made aware to all employees and, more importantly, they should be supported by managers so that employees are willing to use the initiatives. In the case study organisation, the respondents were still reluctant to use the available work-life balance initiatives. This can be caused by inadequate support from managers or by the employees perceiving that the initiatives are irrelevant to them. Organisations, therefore, should also ensure that work-life balance initiatives cater the needs of different employees.

5. Conclusions

The aim of this study was to assess the work-life balance trends in the Australian construction organisation and to identify factors affecting work-life balance. The construction industry has been notoriously known for its poor work-life balance for many years. Despite the implementation of work-life balance initiatives, the condition persists today. The main concerns are related to increased stress, exhaustion, and poor work-life separation, suggesting that construction employees experience an interference boundary management style that causes work-life conflict.

Literature suggests that technology, business culture, commute time, salary compensation, health, and work-life balance initiatives are factors that influence work-life

balance. These factors have been confirmed to also influence the work-life balance in the construction industry. Technology arguably has the largest negative impacts on work-life balance because it allows employees to be constantly connected to work, thus causing difficulties for them to separate work from life. As expected, work-life balance initiatives provide the most positive impacts on work-life balance, although the business culture must align with the initiatives so that their implementation is supported by managers and employees are comfortable to use them. The results, therefore, point to areas of work-life balance that construction organisations need to focus on.

This research used a case study research design, thus limiting the generalisation of the results. Collecting a larger sample size and comparing the work-life balance trends between different sized construction organisations will provide a richer picture of the real conditions in the industry. Alternatively, a qualitative approach can be used to get deeper insight on the work-life balance issues in the construction industry so that effective initiatives can be developed to counteract their adverse impacts on individual and business performance.

References

- [1] Beaugard, T.A. and Henry, L.C. Making the link between work-life balance practices and organizational performance. *Human Resource Management Review*, Volume 19, (2009), pp. 9-22.
- [2] Chimote, N.K. and Srivastava, V.N. Work-life balance benefits: From the perspective of organizations and employees. *The IUP Journal of Management Research*, Volume 12, (2013), pp. 62-73.
- [3] Thakur, S.J., Bhatnagar, J. Mediator analysis of job embeddedness: Relationship between work-life balance practices and turnover intentions. *Employee Relations*, Volume 39, (2017), pp. 718-731.
- [4] Lingard, H., Brown, K., Bradley, L., Bailey, C., and Townsend, K. Improving employees' work-life balance in the construction industry: Project alliance case study. *Journal of Construction Engineering and Management*, Volume 133, (2007), pp. 807-815.
- [5] Yang, F., Li, X., Zhu, Y., Li, Y., and Wu, C. Job burnout of construction project managers in China: A cross-sectional analysis. *International Journal of Project Management*, Volume 35, (2017), pp. 1272-1287.
- [6] Lingard, H. and Francis, V. The work-life experiences of office and site-based employees in the Australian construction industry. *Construction Management and Economics*, Volume 22, (2004), pp. 991-1002.
- [7] Lindgren, M. and Packendorff, J. What's new in new forms of organizing? On the construction of gender in project-based work. *Journal of Management Studies*, Volume 43, (2006), pp. 841-866.

- [8] Zou, P.X.W. and Sunindijo, R.Y. *Strategic Safety Management in Construction and Engineering*. Chichester, UK: Wiley Blackwell, 2015.
- [9] Coyle, E.F., Van Leer, E., Schroeder, K.M., and Fulcher, M. Planning to have it all: Emerging adults' expectations of future work-family conflict. *Sex Roles*, Volume 72, (2015), pp. 547-557.
- [10] Townsend, K., Lingard, H., Bradley, L., and Brown, K. Working time alterations within the Australian construction industry. *Personnel Review*, Volume 40, (2011), pp. 70-86.
- [11] McCarthy, A., Darcy, C., and Grady, G. Work-life balance policy and practice: Understanding line manager attitudes and behaviors. *Human Resource Management Review*, Volume 20, (2010), pp. 158-167.
- [12] Daverth, G., Cassell, C., and Hyde, P. The subjectivity of fairness: Managerial discretion and work-life balance. *Gender, Work & Organization*, Volume 23, (2016), pp. 89-107.
- [13] Wajcman, J., Rose, E., Brown, J.E., and Bittman, M. Enacting virtual connections between work and home. *Journal of Sociology*, Volume 46, (2010), pp. 257-275.
- [14] Nam, T. Technology use and work-life balance. *Applied Research in Quality of Life*, Volume 9, (2014), pp. 1017-1040.
- [15] Clark, S.C. Work cultures and work/family balance. *Journal of Vocational Behavior*, Volume 58, (2001), pp. 348-365.
- [16] Lingard, H., Francis, V., and Turner, M. Work-life strategies in the Australian construction industry: Implementation issues in a dynamic project-based work environment. *International Journal of Project Management*, Volume 30, (2012), pp. 282-295.
- [17] Shields, J., Brown, M., Kaine, S., Dolle-Samuel, C., North-Samardzic, A., Mclean, P., Johns, R., O'leary, P., Plimmer, G., and Robinson, J. *Managing Employee Performance and Reward: Concepts, Practices, Strategies, 2nd ed.* Cambridge, UK: Cambridge University Press, 2015.
- [18] Milner, A., Niven, H., and LaMontagne, A. Suicide by occupational skill level in the Australian construction industry: Data from 2001 to 2010. *Australian and New Zealand Journal of Public Health*, Volume 38, (2014), pp. 281-285.
- [19] Australian Broadcasting Corporation. *Fact check: Do nine in 10 Australians spend more than 90 minutes a day commuting?* Sydney, Australia: Australian Broadcasting Corporation, 2016.
- [20] Ashforth, B.E., Kreiner, G.E., and Fugate, M. All in a day's work: Boundaries and micro role transitions. *The Academy of Management Review*, Volume 25, (2000), pp. 472-491.
- [21] Hunter, E.M., Clark, M.A., and Carlson, D.S. Violating work-family boundaries: Reactions to interruptions at work and home. *Journal of Management*, (2017), In Press.
- [22] Kossek, E.E., Lautsch, B.A., and Eaton, S.C. Telecommuting, control, and boundary management: Correlates of policy use and practice, job control, and work-family effectiveness. *Journal of Vocational Behavior*, Volume 68, (2006), pp. 347-367.