

Curtin Business School

**Work-Life Balance Experiences:
Tradespeople in Western Australia's Mining Industry**

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DECLARATION

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgement has been made.

This thesis contains no material which has been accepted for the awards of any other degree or diploma in any university.

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ABSTRACT

Work-Life Balance (WLB) has become a major focus for those employees whose main concern is for an appropriate relativity between the influences of quality on one's working life and non-working life. The increase in WLB interest is driven partly by concerns about work intensity and work hours, which are identified as key factors in the ability of people to cope with the desire to balance their life at work and home. Previous research on WLB has reflected on changing social, economic and workplace trends, with more attention given to white collar jobs. However, as Fly-In Fly-Out (FIFO; workers who live in one location and fly into their work location on a roster arrangement), Drive-in Drive-out (DIDO; workers who live in a location close enough to drive to their place of work on a roster arrangement) and Residential (workers who live close enough to their place of work to commute daily) commuting arrangements continue to grow in Australia, it is critical that the impact of such arrangements on the WLB experiences of trades people also be investigated.

Using a mixed methodology approach, the current research has been used to collect data from over 315 resource industry persons, the majority being mine employees under different roster models and at different, dry (no alcohol) mine sites. The first group of participants (300) were asked to answer questions from a distributed survey questionnaire; data from 181 participants were analysed using multiple regression. The survey process was followed by 15 detailed interviews carried out with a second, different group of participants and their partners, with NVIVO used to analyse qualitative data. Findings indicate that WLB is highly regarded by trades people and their partners. Nevertheless, FIFO and DIDO types of commute arrangements had some negative impacts on their WLB experiences including lack of time to spend with the family, engage in community activities or pursue extra studies. In this regard, the Residential commuting arrangements were found to be more favourable compared to the other two arrangements. However, there were positive aspects of FIFO, DIDO and Residential commute arrangements that were often unrecognised.

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CHAPTER 1:

INTRODUCTION

The term work-life balance (WLB) is a phenomenon in employment relations debate that has gained popularity, revealing rising expectations for women to be wage earners as well as home carers, for men to become more involved in domestic responsibilities and a desire for appropriate leisure time for all workers. As a result the WLB phenomenon is receiving increasing consideration among human resource professionals, employers' associations, government departments, trade unions, academics, voluntary organisations and think-tanks around the world as they seek better ways to manage the conflict between work and non-work life (McCarthy, Darcy, and Grady 2010).

Partly, the increase in interest is driven by concerns about work hours and work intensity, which are identified as key factors in the ability of people to cope with the desire to balance their work and home life. The debate on WLB encompasses tensions within individual lives, households, policy frameworks and work organisations. As such, it has been identified as a vital issue for everyone; women, men, parents and non-parents, singles and couples.

Previous research on WLB has reflected on changing social, economic and workplace trends. For example, from the 1960s when the influx of women into the labour force began to grow, research in certain contexts has tended to concentrate on working mothers or dual-earner families; issues about stress and burnout were illuminated in work–family conflict research (Lewis and Cooper 1999). Recently, a new shift towards work-life initiatives and organisational change has been identified (Kossek, Lewis, and Hammer 2010). At the same time, there has been a change in the terminology used to refer to WLB issues; in particular, a shift from the terms work–family and family-friendly policies with an implicit focus on women (especially mothers), to that of work life balance, a subject of recent international and multidisciplinary conferences.

The change in terminology has been prompted by the concept of including the needs of all employees, such as those who are single or married, parents or not; i.e., to include all employees, who desire balance in their non-work activities such as sports, study, and travel (Kalliath and Brough 2008). Despite wide, extensive research on the WLB phenomenon, limited research has been conducted in relation to trades people working in the Australia mining industry. However, the role of trades people is more significant now in response to the emergent challenge for Australian organisations to develop the capability to attract, motivate and retain a highly skilled, flexible and adaptable workforce.

By using both quantitative and qualitative methods, the current research has been used to collect data from over 315 resource industry persons, the majority being mine employees under different roster models and at different, dry (no alcohol) mine sites. The first group of participants (300) were asked to answer questions from a distributed survey questionnaire. The survey process was followed by 15 detailed interviews carried out with a second, different group of participants and their partners. The results of the overall study may well be used to inform those responsible for workplace policy recommendations by highlighting the significance of improving the institutional environment (work organisation) as a strategy to advance the achievement of WLB; and thereby, to develop the potential for improving retention rates in the increasingly competitive employment environment.

WLB is crucial in assisting Australians to integrate their paid work with other aspects of their lives such as family, study, leisure, sport, community services and caring for others. As such, it was deemed necessary to identify how trades people working in the mining industry achieve a balance between the various competing demands in their lives given that fly-in/fly-out (FIFO), drive-in/drive-out (DIDO) and Residential models not only have become predominant forms of commute arrangements but are the employment standard in new mining, petroleum and other types of resource development in remote areas.

The main objective in the current study was identified as the need to analyse the extent to which the three models affect the WLB of trades people. Consequently the following objectives were formulated:

- identify how trades people perceive WLB and evaluate the extent to which they value it,
- examine the extent to which trades people working in the mining industry in Western Australia achieve WLB as a precursor to analysing the coping mechanisms they apply,
- identify any variance of perceived WLB among employees involved in different commuting arrangements, and
- develop recommendations that will aid the improvement of work organisation models within the mining industry.

Research questions

Consequently, the major research question is: How is the WLB of trades people working in the Western Australian mining industry affected by FIFO/DIDO/Residential commute arrangements?

To answer this question, a number of sub-questions were developed;

- How is WLB perceived, defined and valued by trades people?
- What do respondents identify as positive aspects of their current WLB?
- What do respondents identify as negative aspects of their current WLB?
- What factors motivate trades people to work in mining sites in Western Australia under FIFO/DIDO/Residential commute arrangements?
- In terms of achieving WLB, what are the differences between employees involved in FIFO, DIDO and Residential commute arrangements?
- How do trades people working in the mine sites in WA cope with the challenges of FIFO/DIDO or Residential commute arrangements?
- What changes could be made to improve WLB for trades people engaged in these particular commute arrangements?

Background

WLB is about juggling the demands of a career and a personal life (Lockett 2012). The phenomenon is considered a major initiative in attracting and retaining employees both in Australia and internationally. Potential employees have indicated an increasing concern for the quality of working life and its influence on the broader aspects of non-working life (Blake-Beard et al. 2010). As a result, the need for employers to develop solutions to meet employee demands has increased at an unprecedented rate (Abendroth 2011; Pocock, 2008). Thus, development of associated policies from government, employers and employee groups has gained a high priority as both women and men place greater importance on WLB provisions when considering the role of jobs and workplaces (Cramer, Parris, and Saville 2011). Even though the emergence of WLB initiatives has been embraced by all stakeholders (Michel et al. 2009; Beauregard and Henry 2009), there are indications that such initiatives remain inconsistent and often constrained (McCarthy, Darcy, and Grady 2010).

Pertinent to issues of WLB are several significant long-term trends. According to the Australian Work and Life Index 2010, participation in paid work has been increasing steadily; in particular, by women who also are investing more in their qualifications (Pocock, Skinner, and Pisaniello 2010). Secondly, hours of work have increased to 48 or more a week. Thirdly, there is a significant rise in paid work being undertaken by people in dual-earner and sole-parent homes, leaving many employees pressed for time outside work. Fourthly, the Australian GDP has continued its relatively robust growth over the past decade. The profit share of GDP is now at a record level in Australia, partly indicative of falling unit labour costs and rising employee productivity; hence, workers are giving more to paid work, while taking home a declining share of the rewards. Finally, the age profile of the workforce is changing, with a much greater number of ageing workers remaining in employment. As a result, the demographic change is generating a strong public policy to increase employment rates, push the span of working life into old age and increase the hours of part-time employees including many women and mothers.

Within the mining industry in Western Australia, the topic of FIFO/DIDO/Residential commute arrangements has raised fears and concerns in many people's perceptions (Cheshire 2010; Guerin and Guerin 2009). However, research examining the impact of FIFO/DIDO/Residential commute arrangements on WLB has been limited. Previous literature has tended to analyse the subject from a specific effects perspective; for example, the negative effects on community development (Cheshire 2010), health issues (Joyce et al. 2012), negative psycho-social impacts (Torkington, Larkins, and Gupta 2011) and effects of physical separations from romantic partners (Diamond, Hicks, and Otter-Henderson 2008). In addition, there has been an overwhelming emphasis on the topic in relation to professional occupations in the industry.

Consequently, it is considered important to recognise a gap in the WLB phenomenon literature and its overall effects by targeting a specific group of persons that is a central part of the workforce in the mining industry; viz., trades people. Moreover, the importance of the study is supported by the fact that the mining industry has been the major driver in Australia's economy for some years now and, currently, there is an expectation that it is likely to underpin economic growth for many years to come. However, as with any driver in the economy, it is likely that growth in the industry will put pressure on the labour market; in particular, the scramble to find trades people to work in the mines. As such, organisations will need to develop strategies that will attract and retain skilled labour, and the contention is that the implementation of WLB strategies will provide an advantage for organisations.

Analysis of WLB

In the current study, it was crucial to separate the nature, causes and consequences of WLB as a foundation for developing a research agenda, hypotheses and, indeed, for evaluating what is already known. The determining factors of WLB are located within two domains, which are the work and home domains. The work domain is defined by demands that can be either too low or too high; and the level of demands often indicates whether the organisational culture is relevant to the development of sustainable WLB policies and practices.

In the home domain, alternative demands may exist in the family, in the community or through an individual's choice of leisure, sporting or community activities. Consequently, the demands of home reflect one's commitments and obligations outside of work; demands that may refer to life aspects such as the allocation of family duties, child care, care of elderly relatives and judgments about whether these should be undertaken by family members or contracted out.

Also, it is critical to make specific assessment of an individual's perceptions of WLB. These may include orientation to work and/or home; in particular, the extent to which work or home is a central life-interest. Similarly, an individual's personality determines factors relevant to the need for achievement; for example, the propensity for work involvement and the strength of a person's motivation.

Energy levels may be linked to issues of locus of control such as the sense of personal control and the capacity for coping with pressures of competing demands. The gender factor, which often refers to higher demands placed on women in the home, is indicative of a number of issues that may influence willingness to tolerate certain kinds of demands at work and at home; e.g., age of the employee, life-stage and career stage.

Significance of evaluating WLB of trades people

In the current study, it was determined to evaluate critically the WLB subject as it relates to trades people; primarily because they comprise a substantial and crucial group of workers employed in the mining industry. Secondly, it was necessary to identify what motivates trades people to engage in FIFO, DIDO or Residential commuting arrangements working in remote areas when, with a high demand for trades services (Karmel and Mlotkowski 2010), individuals have a choice of working in an established town. On the other hand, the significance of the mining industry as a major contributor to Australia's economy underscores the need to prioritise an examination of the nature of WLB policies available to trades people working within that industry. Most trades people are employed either in mining construction or mining operations.

The primary purpose in this study has been to develop a WLB model which can be used to inform workplace policy recommendations and to highlight the significance of improving the institutional environment (work organisation) as a strategy to advance the achievement of WLB and, thereby, improve retention rates in an increasingly competitive employment environment. In addition, research has been warranted because the FIFO/DIDO/Residential modes of work organisation have become common in Australia's mining industry only in the past two decades, with the number of employees engaged in these models of employment increasing 400% during that time (Chamber of Minerals and Energy Western Australia 2011).

However, despite the popularity of WLB as a topic for academic and practitioner debate and the increasing interest in the provision of WLB in the community, there is little empirical data that demonstrates the impact of modes of work on WA mining employees in general, and even less related specifically to trades people. Suggestions from preliminary empirical and anecdotal evidence indicate a potential for these commute arrangements to influence WA employees and partners negatively. For example, previous findings have determined that FIFO can be a major source of disruption and psychological stress (Torkington, Larkins, and Gupta 2011). Similar to the FIFO evidence, DIDO commute arrangements have been noted to cause the same effects on mining employees (Torkington, Larkins, and Gupta 2011).

As with any other industry, extended working hours and the use of night work have detrimental effects on workers as there is a reduction in the time employees have to relax, socialise with others and participate in the community; moreover, the timing of employees' leisure time does not align with other people's leisure time or when community services are available (McClean 2012). Secondly, extended working hours and shift work are known to be a common source of fatigue due to the limited resting time (Paech et al. 2010). This evidence suggests that due to the extended working hours prevalent in FIFO, DIDO or Residential commuting arrangements, these work practices may have a negative impact on trades people working in the WA mining industry and their partners. As discovered by Torkington, Larkins and Gupta (2011), the normal working hours in the mining industry are from 10 to 12 hours a day.

As FIFO, DIDO and Residential commuting arrangements continue to grow, it is critical that the impact of such arrangements on the WLB of trades people and their partners be fully investigated and understood (Gupta, Larkins, and Torkington 2011); i.e., the investigation should include how the trades people and their partners cope with the challenges of such commute arrangements. Previous literature has highlighted different strategies such as the buddy system, regular communication and maintaining a positive attitude (Taylor and Simmonds 2009) and the current study was designed to generate much-needed data and understanding of the effect of various mining work organisation methods.

Recommendations that could improve the working conditions of trades people have been drawn from the research outcome model. By expanding on extant theory of the discipline, the study will be significant to researchers, lecturers and students concerned with up-to-date knowledge and understanding of the topic; it is relevant to the domain of Human Resources and Industrial Relations educators as it extends the knowledge base that currently exists in those fields. In addition, organisational practitioners (employers, managers and decision makers), HR personnel (who administer trades people programmes), employee unions, employees and their families will benefit from improved understanding of WLB issues and, potentially, improved policies and procedures that can be implemented by stakeholders.

Also, the study enhances extant knowledge about blue collar workers, since most research on WLB has been concentrated at the white-collar employee level. Similarly, the research findings benefit human resources management practitioners as they develop new strategies and practices towards managing the wellbeing of employees. Increasingly, organisations are becoming aware of the cost implications associated with over-worked employees, such as operating and productivity costs, absenteeism, punctuality, commitment and performance (Karlsson, Bjorklund, and Jensen 2010). On the other hand, WLB programs have been known to improve the return on investment, recruitment and retention of employees, legislation, costs and union regulations (Kelliher and Anderson 2008), as a result, this approach might benefit mining companies.

Working definitions

In the current study, a number of well-established technical terms have been used to describe aspects of the mining industry operations; e.g.,

Residential commute arrangement: An arrangement in which employees live in at home with their families and travel to and from the work site for each shift or roster on a daily basis.

Fly-in/Fly-out commute arrangement: An arrangement in which employees fly in to a remote work/mine site for the duration of the work roster. Mining companies provide accommodation, catered meals, cleaning and recreation facilities for the duration of their work period.

Drive-in/Drive-out commute arrangement: An arrangement in which employees drive in to a remote work/mine site for the duration of the work roster. Mining companies provide accommodation, catered meals, cleaning and recreation facilities for the duration of their work period.

Roster: Rosters consist of a stipulated time at work and leave periods. Different rosters are prevalent at different mine sites, for example 4 in 1, 2 in 1 or 8 in 6.

Research methods

The research population has been defined as trades people who are working in the mining industry; workers engaged in a FIFO/DIDO/Residential mode of commuting arrangement in Western Australia. A purposive or judgemental sampling method was applied in determining the participants that would best facilitate the researcher to answer the research questions and ensure the research objectives are met. The method involved non-probability sampling techniques where the researcher selected persons to be sampled based on their knowledge and professional judgment. The rationale behind targeting the group of trades people as subjects of the study was based on the role they play in supporting the mining industry.

The mining industry in Australia is a significant primary industry and contributor to the national economy. The minerals sector provides employment opportunities and trades people form a major part of the workforce in Western Australia's (WA's) mining industry. Results compiled from the 2008-09 ABS Economic Activity Survey (EAS) and data reported to the Australian Taxation Office in Business Activity Statements (BAS) indicated Western Australia employed most persons in mining businesses (56,000), followed by Queensland (37,000), while New South Wales mining businesses employed 24,000 persons (Australian Bureau of Statistics 2010).

A mixed methodology approach was adopted, utilising both quantitative and qualitative research methods. Apart from capitalising on the respective strength of each approach, the combined approach was used as a recognition of the complexity of the phenomenon under examination and the need to generate statistically representative, as well as in-depth and context-sensitive, data which could be used to respond to the research objectives. Although mixed research methodological approaches have been criticised (e.g., by post-structuralists and post-modernists who argue that quantitative and qualitative research paradigms should not be combined), the pluralist approach as described by Creswell (2008) was used in this study as it was considered vital in developing a capacity to respond to all of the proposed research aims; it enabled the inclusion and comparison of 'fact-based' and 'perception-based' data and standpoints so as to derive the truth about WLB and the extent to which families manage the effects of FIFO/DIDO/Residential commuting modes. Furthermore, the methodological stance builds on the increasing use of mixed methodologies to evince assertions about complex phenomena in the social sciences (Teddlie and Tashakkori 2009).

The nature of the study is inductive; however, use was made of the quantitative approach due to the capacity to respond to the proposed research aims by enabling the comparison of facts and data in deriving the information about the effect of FIFO/DIDO/Residential modes of commuting arrangements on WLB. The questionnaire was developed from existing instruments which were modified specifically to suit this study and existing theories were tested.

By means of a purposive sampling method, questionnaires were distributed to trades people in dry mine sites engaged in FIFO, DIDO and Residential commuting arrangements. In the study, the researcher (who is also a qualified tradesman and engaged in FIFO employment) applied the judgemental or purposeful sampling method in order to select a sample based on experience or knowledge of the trades people group, choosing the desired number of individuals to participate in the study; a strategy suggested by Bryman (2012). The questionnaire was distributed via a single contact source at each site.

The sample size was considered to be the optimum number necessary to enable valid inferences to be made about the population. Mason (2010) recommends sample selection to the point of saturation or redundancy; therefore, in purposeful sampling, the size of the sample is determined by informational considerations. For example, if the purpose is to maximise information, the sampling is terminated when no new information is forthcoming from newly sampled units; therefore, redundancy of responses is the central decisive factor in determining the size of the sample.

Qualitative material, by means of semi-structured interviews, was obtained from primary sources, comprising couples involved in trades people. Qualitative fieldwork was undertaken to elicit information about employee and family management of FIFO/DIDO/Residential rosters. Therefore, participants in this phase included partners of the trades people. The strategy was augmented with information obtained from the survey questionnaires, facilitating a more comprehensive picture of the effects of these rosters both to the individuals and their families. Also, as anticipated, the interview schedule was informed by responses to questions posed in several 'pilot' interviews. The number of in-depth interviews was determined to provide a comprehensive body of data from which to respond to the research objectives. Similar to the quantitative sample, the interviewee sample was 'purposive', with individuals selected on the basis of their specific mining function (construction or maintenance) and rosters. In addition, given the existing resources, the researcher perceived this number to be manageable in the specified research timeframe.

The interviews were semi-structured in character in order to: i) reflect their usage of extant constructs and questions from limited previous research, ii) permit direct comparison of interviewees' responses and, at the same time, iii) enable the pursuit of new lines of inquiry in this under-researched area.

The researcher approached the study from an interpretivist/constructivist paradigm, with the intention of understanding the world of human experience (Blanche, Durrheim, and Painter 2008), suggesting that reality is socially constructed (Berger and Luckmann 2011). Hence, the researcher relied upon the participants' views of the situation being studied (Bryman 2012) and recognised the impact on the research of their personal and professional backgrounds and experiences. Considering this point of view, the study was designed to develop inductively a theory or pattern of meanings (Bryman 2012) throughout the research process. In tandem with the mixed methodology approach, qualitative data were utilised in a way that supports or expands upon quantitative data, effectively providing in-depth understanding. This is consistent with inductive reasoning which, by its very nature, is open-ended and exploratory.

Thesis outline

This thesis, as the report of the research study, is organised and presented in six chapters. In the first chapter, a brief background and context to the study has been provided, together with a short list of technical terms associated with the mining industry. Specifically, the major research question has been identified and a number of sub-questions identified with comments on the significance of the study and an overview of the projected research methodology used.

In Chapter 2 a review of current knowledge of relevant industrial relations and the WLB discourse has been undertaken to identify extant research on the topic, to note relevant definitions of terms and determine essential aspects of the WLB and commuting arrangements. Chapter 2 concludes with a hypothetical model which summarises the literature review as being the basic model from which the construction of research instruments could be formed and tested during the study.

The study, then will lead to the development of an up-to-date research outcomes model (R.O.M.) that can be used by theorists and practitioners alike. The new model also incorporated new findings from the study to ensure up to date relevance in the WLB field of study.

In Chapter 3, details are provided of the research methodology selected as most appropriate in order to collect valid, reliable data from which to answer the research questions. The research design is discussed in operational terms and indicates strategies used in sampling, research instrument development and data collecting/processing/analysis.

In Chapter 4, an analysis, discussion and evaluation of the quantitative research findings are presented. Shown in the findings section are the calculated descriptive statistics which include the return rate, demographic descriptions and the initial synopsis. This section is followed by an analysis which reveals the preliminary findings in relation to the research questions. The basic findings reported relate to the survey return rate, demographic data, type of rosters, age groups of trades people and their hours of work. Finally, the results from multiple regression analysis are shown. Analysis of the findings is discussed in relation to the influence of the key factors on WLB rating.

In Chapter 5, findings are reported and evidence highlighted in relation to the qualitative aspects of the study. A comparative analysis is presented of the current results as compared to extant literature (as in Chapter 2), the research questions used in the current study (see Chapter 1) and the hypothetical model of WLB (as in Chapter 2). Finally, the chapter is concluded with the presentation of the new research outcomes model which is a confirmation and advance in relevant knowledge from the original hypothetical model. Chapter 6 highlights the discussion of the findings in relation to extant literature. Chapter 7 is commenced with a brief statement on the overall development of the thesis topic, conclusions are highlighted and a statement provided of implications from the current research and future possible research arising from the study.

CHAPTER 2:

LITERATURE REVIEW

Introduction to the Chapter

This chapter brings into view the emergence, scope and nature of WLB. Research on the phenomenon has revealed significant insights into the challenges faced by most employees in combining family aspirations, work roles and leisure. The chapter begins with an analysis of the emergence of the WLB discourse, from the days of early communal living till the present day. The composition of work and family life domains has changed substantially over a period of time, with more women becoming engaged in full-time employment (including single mothers) and men becoming more involved in domestic responsibilities. In turn, this has created a broad set of daily challenges which tend to create imbalance between working life and personal/family life.

The second section is used to present a range of definitions on the concept of WLB, taking into consideration different perspectives shared by various research studies. In the present research study the Grzywacz and Carlson's (2007) definition is adopted, which asserts that WLB is an individual's achievement of role-related expectations that are negotiated and shared between an individual and his/her role-related partners in the work and family domains. This perspective is consistent with contemporary research studies, for example, Drenzo, Greenhaus and Weer's (2015) and Haar (2013). In the third section of the chapter, the scene is set on WLB perspectives, drawing on the significance of organisations, government and communities to recognise and account for the array of non-work roles that impact on employees' working-lives. By analysing both conflicting and supplementary views of the phenomenon, the section is focussed on political, societal and economic perspectives. Finally, the section offers an insight on theoretical perspectives on WLB, highlighting the shifted focus by research scholars from conflict theories towards the investigation of the positive interaction between work and life outside work.

The next sections include responsibility on WLB; history and effects of the FIFO commuting arrangements on WLB; values and their influence on WLB; and recruitment issues in the mining industry in WA. The chapter is concluded by a review of WLB determinants, presented as a hypothetical model of WLB knowledge in extant literature as a base on which the current study was built.

The WLB phenomenon

The modern concept of WLB emerged more clearly in an increasing growth of corporate support policies within Western contexts (Byrne 2005). During the 1960s and right through the 1980s, WLB issues were considered to be constant problems, predominantly for working mothers who struggled with the demands of work and family responsibilities (Bohen and Viveros-Long 1981). Interestingly, WLB programs existed as early as the 1930s; for example, W.K. Kellogg Company reduced the traditional three daily eight-hour shifts to four six-hour shifts and the change resulted in increased employee morale and efficiency. Secondly, the work of scholars such as Kanter (1977) brought the issues of WLB to the forefront of research and organisations. During that time, WLB issues were considered to be the responsibility of management and, therefore, subject to managerial influence; trade union representatives appeared to have little to no impact on the management agenda. Broad reasons for this perception were that WLB policies typically encompass flexible working, which was regarded as a threat to collective, protective rights and was usually employer-led rather than employee-led or union-led (Ackers 2002). Furthermore, trade union leadership and membership were considered male domains (Ravenswood and Markey 2011) and WLB issues were considered ‘women issues’; as such, they were considered to clash with masculine cultures (Wong and Ko 2009).

This ideological assumption was inherited in the 1980s by means of the work of Becker (1981) who advocated for an efficient family division of labour. He claimed that society was better-organised when it was organised within a framework of gender-based division of labour and low market wage rates for married women. Consequently, this marked the *economic view* of work and family life whereby the main role for women was to raise children, while men were the breadwinners.

Starting in the 1960s as the influx of women into the labour force increased, research on family and work issues tended to focus on working mothers or dual-earner families, while issues about stress and burnout were highlighted in work–family conflict research (Lewis and Cooper 1999). At the same time, those who advocated a feminist view preferred such terminology as *work–family* and *family-friendly policies*, with an implicit focus on women and, especially, mothers (Gatrell et al. 2011). The past few years have seen change in focus to the use of the term *work–life*, the precursor of the more recent *work–life balance* (WLB).

The terminology changes indicate broader, more inclusive ways of framing the ‘work versus life’ debate; ways that engage both men and women, both with and without children or other caring commitments. Besides, in the present-day world, as Magnus (2008) asserts, the issues have taken a different twist – in particular, the aging of populations, strong economies and historically low unemployment pose new challenges in terms of skill and labour shortages, productivity and worker retention. In response to the increasing pressures, organisations are embracing the development of new human resources practices, including the implementation of WLB.

It may be argued that WLB has gone mainstream, becoming a dominant theme built into the language of both large and small organisations as well as having hundreds of dedicated internet sites facilitating the spread of information. In addition, the enactment of legislation by government on work and family issues has augmented the relevance of WLB policies in the functioning of many organisations, both private and public.

A good example is the trend set in countries such as the United Kingdom, New Zealand and Australia that have supported WLB actively as an explicit policy goal, launching campaigns on promotional activities and the voluntary compliance of employers to design and implement WLB practices in their organisations (Donnelly, Proctor-Thomson, and Plimmer 2012). Such policies are more likely to have the greatest impact on WLB, specifically reducing the negative impact of work on other life activities.

Similarly, in the past few years numerous world bodies including the International Labour Organisation (ILO) and the United Nations Development Programme (UNDP) have become involved in issues pertaining to work and life. Coupled with the honouring of workers' rights, the balancing agenda has been promoted with the objective of utilising WLB initiatives as a tool for equality, business development, employment and educational and social development across the world (International Labour Organisation 2009).

In essence, the significance of maintaining WLB has increased remarkably over the past decades (Bradley et al. 2010). The transformation has been influenced mainly by both the nature of jobs and society's demographic mixture. The type of jobs has gradually become more complex and employees have been exposed to extreme pressure to produce quality results in shorter timeframes and, in some cases, with minimum resources (Batt 2012). Also, the demographic make-up of the labour force (i.e., gender, age, ethnicity, dual-career couples, religion, multi-generational workplaces etc) and the changes in the nature of employment contracts have compelled organisations to manage the employees' well-being, stress and job satisfaction more effectively (Zacher and Frese 2009).

Defining Work Life Balance

WLB is a contested phrase that has gained traction in both academic and practitioner debate; nevertheless, because previous literature has failed to provide one clear definition, the meaning of the phrase remains elusive as evident in the many and varied explanations of researchers (Potgieter and Barnard 2010; Wada et al. 2014). The main argument in the meaning of WLB stems over the term *balance* which has the strong connotation of a set of scales in a state of equilibrium.

This perspective tends to imply that WLB does possess both an objective and subjective meaning and can be measured; for balance occurs only when there is an equal distribution of weight or amount. However, such a definition does allow for confusion when practically applied to the phenomenon of WLB.

Since life can be characterized as fluid, attempting to schedule an equal number of hours for work and personal activities is usually futile and unrealistic. Nevertheless, the balancing aspects of life may find relevance mutually in the physical and psychological states. Empirically, it has been determined that employees may be subjected to a loss of balance due to long hours of work and stress (Skinner et al. 2014), or may achieve a better balance and be satisfied with their work and life. Though subjective, these feelings can be key indicators of the mental state of an individual.

It is important also to recognise that there is no universal solution to WLB issues; the right balance is a very individual thing that changes for different people and at various stages of a person's life (Galea, Houkes and De Rijk 2014). This notion indicates that, to some extent, the right balance is determined by the particular 'career' or 'stage of life' that a person occupies. For instance, the characteristics of the 'right balance' at the start of a new career will be defined by different dimensions than when individuals are nearing retirement. Similarly, the 'right balance' for single men/women may take on a different dimension when they get married, or when they have children. In the same vein, some persons may favour having more leisure time in order to achieve the balance, while others may choose to spend long hours at work in order to accomplish career objectives, or even perhaps because of limited life opportunities outside work. WLB defined from this perspective posits more on achieving a balance based in an individual context rather than universal application. Therefore, the basic tenet of the issue surrounds accommodating life choices, as opposed to the pursuit of a common 'right balance'.

The second area of contention on the WLB phrase is from the assumed separation of work and life, with some academic professionals and practitioners suggesting terms such as 'work-life integration', 'work-life interface', work-life mosaic, work-life reconciliation or work-life coordination (Lotte 2011; Vanderkam 2015; Stefano 2014; Stephens and Grzywacz 2014). The alternative terminology points to the movement away from the conflict viewpoint towards integration, indicating that, for some, integration as opposed to balance may be the objective.

In essence, the dichotomy between the two perspectives is characterized on one hand by separating the two components *work* and *life* while, on the other, attempting to compartmentalise them (Kossek, Lewis, and Hammer 2010). The separation of work and life is complicated further by the lack of boundaries between the two domains. In this regard, work is considered as all-pervasive and, usually, the explanation is simply expressed as a difference of context, whereby work is conceived as being within the framework of paid employment and life includes activities outside of paid work (Gregory and Milner 2008).

Hart (2010) contends that employment is the purchase of a workers' time and presence, but only for a certain time; therefore, spaces and times of employment have boundaries. As a result, employees need to negotiate the boundaries, both in the sense of establishing where they lie and in managing the course of crossing from one domain to another. From this standpoint, WLB is highly dependent on the connection between the time spent in the work institution and time spent in the life culture, and spaces of work and non-work in societies where income is predominantly generated.

Concerns about WLB attributes are related to context issues. Kelliher and Anderson (2008) have asserted that WLB is mainly attributed by achieving a certain measure of control over when, where and how individuals work. In the same way, other scholars have argued that attaining a balance between work and life is more about the achievement of role-related expectations that are negotiated and shared between an individual and his/her role-related partners in the work and family domains (Grzywacz and Carlson 2007). To this end, such viewpoints indicate the key elements of WLB as control, satisfaction and superior functioning at work and at home, with a minimum of role-conflict. These viewpoints do not suggest that work is wrong or bad, but that it should not impede on other things that matter to people, such as spending time with family, taking part in sport and recreation, leisure and volunteering or undertaking supplementary studies. The current research study is based on the concept of integrating these factors in a more holistic approach, one that can engage the employees, employers, community and government.

Perspectives on WLB

In the face of a rapidly changing work environment, which is characterised by increases in downsizing, work intensification, unpaid overtime, and expectations for higher employee performance, the phenomenon of WLB has been perceived from different angles, including political, economic and societal standpoints. Differences may exist between these views; however, they all have a bearing on the provision, nature and extent of WLB policies (Abbott and De Ciere 2008). Drawing on a deep understanding of trades people's perspective on WLB will enhance the development of integration strategies that will result in the achievement of sustainable WLB policies for employees as well as high performance workplaces (Chandra 2012).

The economic perspective for WLB practices as espoused by many organisations is premised on attracting better applicants and reducing work-life conflict among existing employees so as to improve retention rates and organisational performance. On the other hand, the societal standpoint views the promotion of WLB initiatives as a panacea to prevalent societal issues, such as broken marriages and unruly youths. As such, most organisations are prompted to provide a comprehensive range of WLB policies (Abbot and De Ciere 2008). It is noted that, often, bigger and globalised companies provide more WLB initiatives for their employees. However, according to Beauregard and Henry (2009), policies derived only from an economic perspective may not be effective as such initiatives may leave employees with less choice and more structural constraints in their access to, and utilisation of, WLB.

On the other hand, where the organisation has embraced both economic and social perspectives, employees as individuals or through trade unions, may have an input in the design and implementation of WLB policies. The researcher proposes, therefore, that in examining experiences of trades people in the Western Australian's mining industry, it is imperative to understand the wide range of perspectives on issues relating to WLB. This is valuable particularly for human resource management (HRM) scholars, practitioners and trade unions charged with designing WLB strategies.

The economic perspective

The emergence of WLB initiatives can be observed as a reaction to global pressures on the structure and functioning of labour markets, to shifting patterns of household formation and the age mix of the population (Bloom, Krestschmer, and Van Reenan 2009). As a result, post-industrialised economies have recognised the significance of maximising the labour market participation of the working-age population, while recognising that certain labour market sectors will be transformed by work that is low-paid and/or insecure (Dean 2007), thereby facilitating the dual objectives of labour supply and greater flexibility. In the same context, some organisations operating in the highly competitive economic environment are making an effort to attract better recruits by offering WLB policies alongside competitive remuneration packages and, at the same time, reducing costs by improving staff retention rates (Gold 2008; Patel 2007).

The economic view on WLB initiatives also indicates that such developments are driven to maximise employee satisfaction, thereby enhancing labour force productivity (Bloom, Krestschmer, and Van Reenan 2009). Often this is achieved when there is a reduction in extended work hours which have been proved to be a major cause of stress and fatigue, issues that are detrimental to employee performance and productivity. Similarly, WLB initiatives can result in considerable organisational costs saving by reducing high levels of employee absenteeism, turnover, and compensation claims. In addition, by getting involved in the well-being of an employee, organisations get to manage and shape the ‘negotiation’ process that employees engage in and, therefore, can raise performance expectations.

The latter view aligns with Bakker and Schaufeli’s (2008) suggestion of an exchange framework whereby, in return for the provision of WLB policies, employees offer discretionary effort and increased productivity. In addition, a substantial proportion of the literature affirms the implementation of WLB policies as a potential strategy to minimise pressure and contribute to a safer and healthier workplace, thus reducing the chance of accidents occurring in the workplace (Wickham and Fishwick 2008; Brown et al. 2009).

Based on these factors, employers are likely to espouse the business case rationale for introducing WLB policies as they will improve bottom-line business outcomes such as recruitment, retention and performance (Hyman and Summer 2007; Gregory and Milner 2009). Besides assisting with the supply of low-skilled, low-paid labour required in service industries and throughout the labour market, effective implementation of WLB policies will enable the retention of the highly skilled manpower (Dean 2007). Similarly, employers may offer concessions to older workers in order to retain superior experience (Frerichs et al. 2012) or to professionally skilled workers, particularly if the employer has invested previously in their training and careers (West 2010). In extensive action research carried out in the UK hospitality industry to investigate the effectiveness of WLB initiatives in helping female employees progress to senior management, Doherty (2004) found the business case factor to be a strong motivator for organisations to implement WLB policies. The same conclusion has been reported in New Zealand; in a survey conducted by the Equal Employment Opportunity Trust (2006); the results indicated that, in comparison with all other motivators, the main driving factor behind the adoption of WLB policies was to recruit employees possessing rare skills.

In the same report, productivity and general business benefits also were significant; however, social responsibility featured as the last reason (Equal Employment Opportunity Trust 2006). Consequently, given the on-going labour shortage in countries such as Australia and New Zealand, particularly for skilled workers (Department of Employment 2012; New Zealand Conservative 2008), introducing policies for these reasons could be seen as an imperative for employers.

The societal perspective

The societal perspective of WLB is premised on the view that, in societies and communities, the excessive demands of work present distinctive issues that need to be addressed. The pressures of work have intensified, promulgated by recent developments in information technology and information load, the need for speed of response, the importance attached to quality of customer service and its repercussions for constant availability (Macky and Boxall 2008).

This pressure is reflected in long hours of work and more fatigue due to the growth of evening and weekend work, leaving less time for employees to spend on quality family time. The effect is heightened apprehension that the quality of community and home life is deteriorating. The consequences are evident also in the growth in single parent families, increases in juvenile crime, more drug abuse and a reduction in community participation. Although it is not considered as a panacea, addressing WLB issues is considered as one solution that could improve the society. As a result many employers and employees are embracing more flexible working conditions.

In adopting the social perspective, employee groups or trade unions have played a vital role in advocating for employee well-being and bargaining for a reduction in working hours in the expectation of better family-friendly working conditions. By representing a diverse population through a collective voice, trade unions have facilitated the representation of low skilled workers (Pollert and Charlwood 2009) as well as women seeking to break through the glass ceiling (Gregory and Milner 2009).

Trade unions also bear a significant role in the design of social policy by playing a mitigating role in alleviating the corrosive nature of the wage labour process while also facilitating particular forms of the household and shaping the relationship between work and home (Kossek et al. 2011). In essence, the WLB phenomenon encapsulates the way in which these aspects of social policy are shifting. However, the subject of debate goes further than the direct regulation of terms and conditions of employment; instead, it is more about the boundaries between the market and families in terms of sources of income on one hand and sources of care on the other.

Previous research clearly indicates that household strategies are fast changing to adapt to more flexible working patterns (Allen and Shockley 2012). This can be regarded as an interrupted change in the household structure since the time of Becker's (1981) economic theory; the application of this theory was directed at the most sensitive and crucial family decisions, such as choosing a spouse or having children.

Established on the efficient division of labour in households, Becker (1981) suggested the basic economic concepts of maximising behaviour to analyse the allocation of time to child care as well as careers. However, the traditional household structure has evolved substantially due to a number of recent trends. These include the influx of women in the workforce and the changing attitudes of men towards child care. As such, the role of men as the breadwinners in the family structure has been transformed.

The political perspective

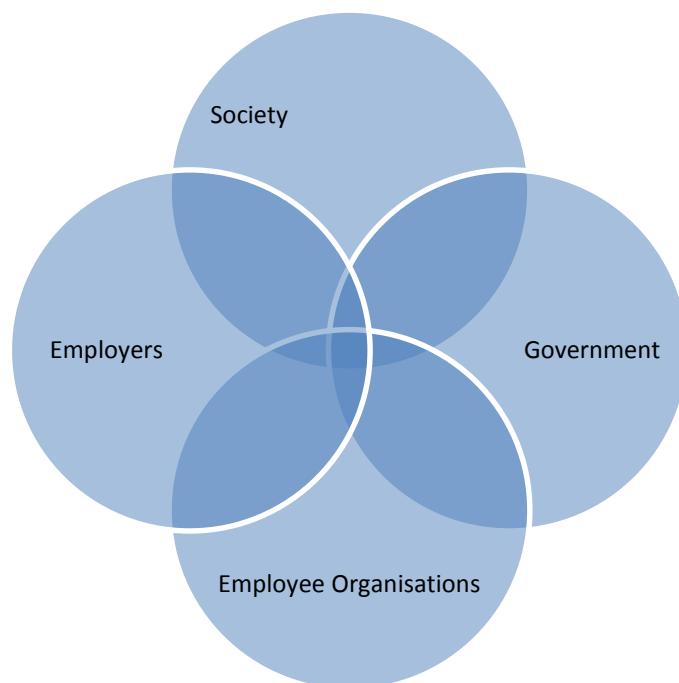
The world has transformed considerably as characterised by the revolution in the ideas and practice of rule across the majority of Western nation states, including the UK, New Zealand and Australia. Premised not on universal social protection or social welfare, the majority of Western states have embraced a relationship of mutual interdependencies between the state, citizens and the economic market leading to the development of policy projects that encourage the participation of every citizen in the workforce (Giddens 2007; Krings 2009). The main focus is to integrate into the workforce those who have been marginalized, including minority groups such as women, the handicapped and those from various ethnicities.

As the forces of globalisation, new technologies and business restructuring continue to develop, new challenges are emerging that distort the long-established patterns of paid work and impose new challenges on families, individuals and households. The propensity to work long hours continues and the likelihood of achieving a satisfactory WLB is becoming an elusive objective for many workers; hence the increasing call for government intervention (Ravenswood 2008). State engagement with WLB issues will strengthen the mutual stakeholder interdependence between governments, trade unions (employees) and employers (see Figure 1 below). Although employers have adopted WLB policies due to a number of business motives (Kossek and Friede 2006), most initiatives are created in compliance with government regulation. Legislation provides employee protection and sometimes enhances employee sense of entitlement to additional employer support (Lewis and Smithson 2001).

The reconciliation model (Figure 1, below) developed in this study ensures the resolution of high and often conflicting demands of paid work and family responsibilities. The model reflects the stakeholders involved in shaping up the work environment to enable the achievement of WLB and these are government, trade unions, employers and the community. As previous research suggests (Beauregard and Henry 2009; Tariq et al. 2012; Bloom, Kretschmer, and Van Reenan 2009), there are high stakes involved in achieving WLB, as it aids employee recruitment and retention; reduces absenteeism; improves the quality of peoples' working lives; matches people who would not otherwise work; and, thereby, benefits families and communities

In support of working parents, various forms of government legislation related to WLB have been passed. Some of the laws have been introduced to enhance maternity rights, the improvement of parental leave, the right to take time-off to care for dependents, paternity leave, the right to request flexible working hours and the rights of part-time workers.

Figure 1: The Reconciliation Model



Source: *Developed by the author*

Apart from compliance issues, legislation has implications for work patterns. For example, the Federal Workplace Relations Act (1996) includes a range of provisions to assist employees in balancing work and life. The main objective of the Act is to –

provide a framework for cooperative workplace relations, which promotes the economic prosperity and welfare of the people of Australia by: assisting employees to balance their work and family responsibilities effectively through development of mutually beneficial work practices with employers; and respecting and valuing the diversity of the workforce by helping to prevent and eliminate discrimination on the basis of race, colour, sex, sexual preference, age, physical or mental disability, marital status, family responsibilities, pregnancy, religion, political opinion, extraction or social origin. (Federal Workplace Relations Act 1996 p.40).

Deery (2008) asserts that improvements in organisational policies alone cannot achieve balanced work and life conditions for the majority of employees. Consequently, it is considered essential to facilitate the effectiveness of WLB policies with government legislation in resolving work–life conflict issues. A good example is the Swedish government, a social-democratic welfare state whose national government has taken responsibility for the provision of WLB policies (Abendroth 2011).

In conclusion, a holistic approach is needed to the way WLB facilitates the design of comprehensive policies that will meet the demands of all stakeholders. While the economic perspective is usually associated with short-term solutions (Parkes and Langford 2008) it is argued that a broader understanding of economic, social and political approaches would result in the medium-term to long-term needs of the employer and economy being met. The essence of this approach is premised on labour efficiency, which is an aid to good policy development.

Theoretical Perspectives

The connection of work and family studies is firmly challenged by the lack of commonly accepted definitions and key constructs (Beauregard and Henry 2009). To this end, there is no consensus that is universally accepted; as a result, researchers rely on a range of theoretical perspectives (Wada, Backman, and Forwell 2010).

However, for the purposes of meeting the objectives in this study, it was critical to analyse other theories that have been applied to the WLB phenomenon in relation to the integration perspective. These include the complementary theoretical bases of the spillover, work–family conflict and integration models (Baral and Bhargava 2010; Maertz and Boyar 2011).

The *spillover theory* is based on the interdependence of the work and life domains as the effects, either positive or negative, from one domain are carried over to the other. These effects can be defined in terms of affect (mood and satisfaction), values (importance of work and family) and skills (Brown et al. 2009). Carlson et al. (2011) articulated the work–family interface as bidirectional, with some effects, either positive or negative, travelling from work to family and vice versa. Negative effects are reflected in one’s work life, home life and/or one’s own mental health (Naithani 2010). In the same way, positive spillover occurs when positive affects in one domain cross over to colour issues and perceptions in the other domain; for example, when skills and behaviours from one domain aid in goal accomplishment in another. Positive spillover (Ferguson, Carlson, and Kacmar 2014), work–family facilitation (Stephens and Grzywacz 2014) and work–family enrichment (Kacmar et al. 2014; Carlson et al. 2014) are common phrases used to describe the positive effects that can be exchanged or shared between work and family. Literature from the past few decades also has termed positive spillover as generalisation, isomorphism, continuation, extension, familiarity and similarity (Edwards and Rothbard 2000; Staines 1980; Zedeck 1992).

Role conflict theory posits that work and family roles are structured in line with the expectations of different stakeholders and from what is perceived to be appropriate behaviour for a particular position; however, meeting the demands in one domain makes it difficult to meet the demands in another (Carlson, Grzywacz, and Zivnuska 2009; Beauregard and Henry 2009; Grzywacz and Butler 2008). Essentially, the theory is about inter-role conflict in which the demands of work and family roles are incompatible, such that participation in either the work or the family role becomes difficult because of participation in the other role.

Role conflict theory also has been referred to as opposition theory or incompatibility theory (Edwards and Rothbard 2000). The conflict of roles can arise from two major facets of the work–family interface. The first involves issues linked with the time required to perform work and family roles; essentially, time spent in one role is not available for duties associated with the other (Carlson, Grzywacz, and Zivnuska 2009).

Secondly, the inter-role conflict can emerge from the psychological carryover of gratification or strain from one role to the other, with either a positive or a negative effect on psychological availability and the amount of energy available for performing the other role. In examining the relationship among work role characteristics, family structure demands and work–family conflict, Voydanoff (1988) revealed that the amount and scheduling of time, job demands and the presence of children in the home are related to work–family conflict. Nonetheless, perceived control over the work situation moderates the relationship.

In a study of parents and non-parents in New Zealand, Haar (2013) applied a new concept of the role theory by suggesting a balance of roles. The concept embraces three key factors in achieving the balance; the absence of work family conflict, high involvement across multiple roles and high effectiveness and satisfaction across multiple roles which, in turn, facilitate the achievement of additional benefits beyond the influence of conflict and enrichment. To this effect, WLB is perceived as the ability to manage multiple roles in different domains, such as the work environment, family, sport, community or religious commitments.

Finally, *integration* theory takes the universal perspective which assumes that a healthy system of flexible and permeable boundaries can better facilitate and enhance the family–life, work–life and community–life domains (Kossek, Lewis, and Hammer 2010; Peng, Ilies and Dimotakis 2011). This perspective is taken on the basis of understanding that responsibilities and activities are fluid and evolving, for example, family roles are changing and working periods are becoming fragmented.

As a result, the objective is to meet the expectations in each domain in a culture of flexibility, transparency and trust between employers and employees. The theory suggests the integration of additional contextual elements (such as community) into the body of knowledge regarding WLB (Morris and Madsen 2007).

Furthermore, integration theory calls for present-day understandings that replace the traditional work–life paradigms, making all stakeholders (government, employers, workers and communities) active participants with equal voices in the creation of a holistic model of WLB (Kossek, Lewis, and Hammer 2010; Morris and Madsen 2007). McCarthy, Darcy and Grady (2010) assert that an approach to the debate of WLB that engages all stakeholders and recognises their shared responsibility will yield greater outcomes in both domains than solutions created in isolation.

Responsibility for WLB

Trade union role on WLB issues

The strong trade union movement has embarked on a strategy to bolster its presence in Australia’s mining industry. Amongst others, the Australian Workers Union and the Construction, Forestry, Mining and Energy Union, two of the nation's largest unions, have embarked on a major campaign to enlist the support of mine workers to negotiate collective agreements on their behalf. In the same way, in many developed countries where there is a public policy interest in WLB, trade unions seem to have a significant role to play in resolving employee well-being issues (Gregory and Milner 2009; Hyman and Summers, 2007).

In addition, trade unions have a major influence on labour market outcomes such as the wages, benefits and working conditions of their own members and which, indirectly, affect those of non-members. By providing workers with a collective voice, unions create a medium of communication between company owners, the employees and/or the government. Similarly, collective voice measures are also significantly related to the utilisation of available WLB policies (Berg et al. 2014).

In a case study of a New Zealand local government organization carried out by Ravenswood and Markey (2011), it was revealed that the characteristics of a union organisation and the relationship with the organisation are some of the crucial factors in effective bargaining or communication (including the implementation of WLB policies) between employees and the employer.

A recent upsurge in convergent approaches and strategies to achieve gender equality has shown a shift towards WLB (Milner and Gregory 2009). Moreover, as trade unions are becoming feminised in terms of membership and leadership, opportunity structures on WLB balance policies are starting to open up; these include the regulation of working time which has shown to be clearly related to the degree of trade-union involvement in bargaining on WLB. Secondly, trade unions can facilitate the resolution of WLB issues in the workplace through lobbying for changes in legislation and supporting employees in the exercise of existing legal rights (Milner and Gregory 2009).

A third opportunity structure is available by fostering a good partnership between trade unions and employers. As suggested by Ravenswood and Markey (2009), organisations are key actors in the complex, multi-level dynamics that result in WLB policy design and practice, and critical to the outcome effect is the significance of the unions' relationship with employers. In the same context, Donnelly, Proctor-Thompson and Plimmer (2012) argue that without the collective voice of trade unions the implementation of flexible working conditions is constrained.

In response to labour market and social changes, trade union intervention might be expected to resolve WLB issues by engaging in positive workplace flexibility; this entails the implementation of sustainable WLB policies for employees within a high performance workplace. This strategy can be effective as demonstrated in the economic, labour market and social pressures, as well as a strong European Union agenda that have been influential in the implementation of flexible working arrangements in the UK (Milner and Gregory 2009). Capitalising on the environment, trade unions signed up for the high performance workplace, utilising the European model of social partnership to adapt working arrangements to the needs of employees.

Even though this approach is inclined to the economic perspective, by developing a flexible and competitive economy it provides employee security and enhances the reconciliation of work (organisational objectives) and family life (employee expectations).

The reconciliation approach between employers' organisations and trade unions can be critical in building foundations of equality legislation and workplace equal opportunity policies to develop sustainable models of positive flexibility and WLB. Initiatives in the UK became successful in transforming the relationship between management and trade unions; changing the previous relationship characterised and defined by an adversarial setting, to one requiring a mutual understanding of problems and the development of joint resolutions (Milner and Gregory 2009). As a demonstration of the effectiveness of taking a collaborative approach, both parties in the relationship established new ways of delivering services, thereby meeting both employee needs and businesses objectives.

Secondly, trade union intervention in issues of WLB can be applied through facilitating the promotion of policies into take-up and ensure that legal entitlements to equal treatment result in genuine changes in the workplace. Regardless of increasing attention on the WLB phenomenon, its success has been mired by poor implementation strategies and lack of support to assist employees in managing their work and life outside work (Rigby and O'Brien-Smith 2010).

Predominantly, this disconnect is attributed to the lack of adoption and implementation of policies by employers, leaving employees feeling inhibited about taking advantage of opportunities (McCarthy, Darcy, and Grady 2010). As a result, the discontent provides an opportunity for trade unions to capitalise on and bring WLB issues to the forefront of bargaining. At the same time, there is an opportunity for trade unions to extend provisions to those in lower-class forms of work and ensuring practice bends to social justice, and not a pure business logic (Rigby and O'Brien-Smith 2010).

The third influence that trade unions can have in resolving WLB issues includes engaging in national strategies, such as evidence-based campaigns aimed both at legislative and national bargaining. In a qualitative study aimed at exploring the meaning of WLB issues to union representatives and the development of union strategy, Rigby and O'Brien-Smith (2010) exposed the effectiveness of leading work and life issues from the top. After comparing the two trade unions, National Union of Journalists and Union of Shop Distributive And Allied Workers, Rigby and O'Brien-Smith (2010) suggested that adoption of a strategic integrative approach at all levels (political, corporate and employee levels) is more effective than depending on a traditional distributive bargaining approach. Moreover national campaigning and legislation can play a significant role in establishing a favourable context for negotiation and the advancement of policies.

Trade unions have a substantial role in assisting organisations in the design of appropriate policies, citing not only diversity in cultural factors like member expectations, but also structural factors such as the gender of the membership. Rigby and O'Brien-Smith (2010) suggest that the level to which women are members and leaders of trade unions enhances the degree of union support for WLB issues. Often trade unions with a higher proportion of women leaders have the power, personnel and commitment to advocate for greater WLB benefits; as a result, the characteristics of union membership, leadership and the internal systems have a bearing on the nature of bargaining activity related to WLB.

Management role on WLB issues

Management plays an active role in HRM decision-making, including WLB decisions (McCarthy, Darcy, and Grady 2010); as such, support by senior managers is critical in the design and effective implementation of WLB practices. In the same vein, with the devolution of human resources management responsibility, line managers have direct contact with employees; hence, they have a direct opportunity to make decisions on whether employees have access to and can utilise available policies or not. Thus, it is of paramount importance that managerial discretion is improved by proper education about the significance of WLB.

Managers are more committed to implement policies successfully when they can understand why the policies have been introduced and how they are expected to augment organisational performance (Wang and Verma 2012). On that basis, successful implementation of WLB policies requires management support and supervisory engagement to recognise and account for the array of non-work roles that impact on the employees. Management strategies in implementing WLB arrangements include being fair, consistent and reasonable in making decisions about leave and adjustments to work arrangements, and help all staff members to understand the rationale and process for these decisions.

The influence of values on WLB

WLB issues are prevalent in families of dual parents, single parents and even those who have no family responsibilities. Serious issues can arise as a result of employees making compromises on personal values while seeking personal promotion or organisational success. Often, psychological effects can be evidenced by stress, depression, burnout, anxiety, anger, damaged personal relationships, lack of self-confidence and self-esteem.

Nevertheless, often there is a belief that meeting employment obligations has become such a dominating force in the life of employees that they do not have any personal choices to make. A good example is when employees compromise on WLB, reducing the time they need to meet other responsibilities outside work. Trades people working on different rosters in the mining industry are known to spend most of their time on site (Torkington, Larkins, and Gupta 2011).

Previous studies suggest differences in values along gender lines as employees endeavor to deal with WLB issues. In particular, though anecdotally, men are considered to sacrifice time at home for career advancement and more take-home pay whereas women sacrifice career advancement and higher pay for time spent with family. As individuals strive to achieve WLB, it is critical to determine trades people's most important values, such as raising a family, pursuing a career, health, religion, integrity or financial freedom.

Often, taking the time to establish priorities carefully is considered the most effective way to unravel the mystery of how to achieve WLB. The alignment of values with the life pattern of an individual plays a crucial role in meeting the demands of both work and family commitments. For example, if an employee values health above everything else, work hours should allow ample time to exercise on a regular basis. The same will apply if one values religion; the job should not hinder them from attending of religious services.

The issue of values also plays a part in the dichotomy between work and life outside work. In the conception of adult activities, some societies assume there must be a separation of work and leisure. From this viewpoint, work is considered as the main activity and one's duty, consists of the labour given to an employer. Consequently, life, consisting of everything else outside of work, is considered of marginal importance. Such perspectives can emanate from differences in cultural norms, indoctrination and levels of societal trust as to what can be considered normal, true, real and/or factual. Nonetheless, fundamentally it is a potential error to attempt to pre-package WLB without taking into account the individuals' values.

The mining industry in WA

Australia is a leading producer of minerals, accounting for about seven per cent of its gross domestic product (GDP). In 2009 the industry exports were worth approximately \$114 billion (excluding petroleum), with the major markets being Japan, China, Korea and India (Geoscience Australia 2010). Western Australia accounts for a third of the area of Australia and has become the major state with the largest proportion of mining output and exports. The mining industry in Australia employs a subset of approximately 90,000 people, of which about 53,000 (Australian Bureau of Statistics 2010) are within Western Australia (WA). Currently, WA has more than 153 mine-sites and refineries in operation (Department of Mines 2012). Since the majority of these mine sites are located in remote areas, it is difficult to recruit the required number of skilled workers, as three-quarters of the WA population live in the coastal capital city of Perth (Garnett 2012). Hence, the FIFO mode of work organisation has become an effective tool in overcoming recruitment issues.

Essentially, FIFO working arrangements in Western Australia's resources sector are characterised by the employers' provision of food and lodging accommodation to employees working on the mine site. In this arrangement the employer organises and pays for transportation to and from the worksite and for worker accommodation and other services at or near the worksite. It also refers to long distance commuting (LDC) which can include ship in/ship out (SISO) or drive in/drive out (DIDO) arrangements using either private vehicles or company buses. In FIFO the employees live and work at the mine site for a period of time until such a time when they get 'rest and recreation' leave (R&R) and return to their homes in-between rosters. This arrangement may attract employees who are willing to work in the mining industry but would prefer to live in a city and retain an urban lifestyle. In Western Australia, the majority of LDC employees commute on a FIFO basis, even though there is a minority group that utilises the DIDO or SISO arrangements. However, primarily the current research study will reference FIFO as a descriptor of non-residential workforces, unless otherwise specified.

Contrary to FIFO, some large mining companies have provided local residences for employees and their families; a practice which is often referred to as a Residential system whereby the mining company provides accommodation for its employees in nearby towns at no, or subsidised, cost.

History of FIFO

The development of minerals was accompanied by the convenient establishment of new towns built to service the mining industry and, subsequently, they were located immediately adjacent to the major resources (Brereton et al. 2009). For example, Kalgoorlie–Boulder was developed following the discoveries of gold by New South Wales Inc.; Tom Price, Newman, Leinster and the port facilities of Dampier and Wickham were based on iron ore discoveries. Similarly, due to the increasing distance of natural gas worksites from the shore making it more difficult for workers to commute on a daily basis, FIFO work arrangements have become a viable alternative (Guerin and Guerin 2009).

Originally, FIFO work arrangements and the establishment of temporary accommodation at the worksites originated in the 1940s in the offshore oil industry in the Gulf of Mexico. This method gathered momentum in the 1970s in both Canada and Australia, encouraged by the expansion of mining activity into increasingly remote areas at a time when corporate interests were focussing on lean and flexible modes of production (Storey 2009).

While these same driving forces remain imperative today, labour shortages and strong and rapid growth in demand for labour in the mining industry have facilitated the further use of FIFO modes of work organisation as a viable means of delivering labour to remote locations. In addition, other factors that have driven the adoption of FIFO arrangements include:

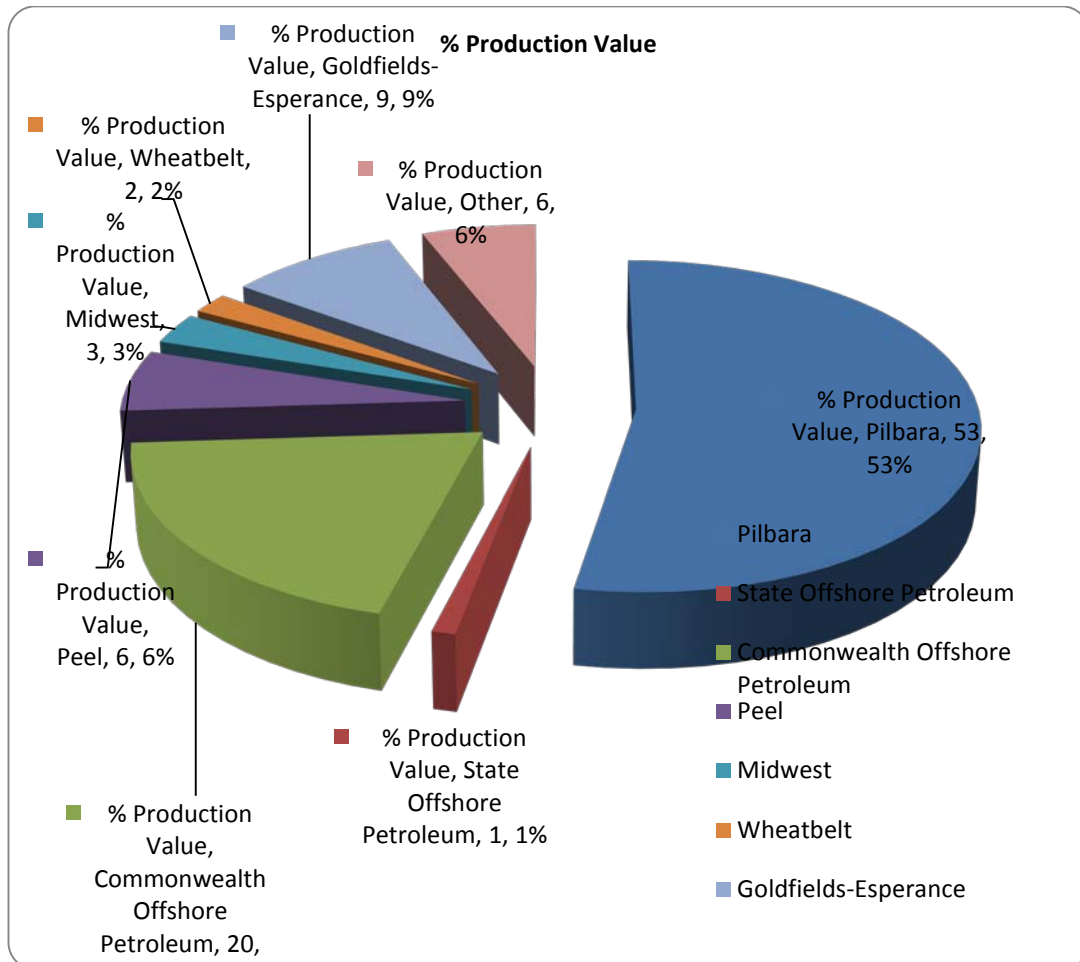
- cost of building and operating new resource towns;
- absence of government financial support for new town development;
- longer lead time for new town approvals and construction;
- environmental implications of new town construction;
- administrative implications of managing a town in addition to a mine;
- increased costs associated with town closure, once a resource is exhausted or no longer economically viable;
- improvements in aircraft and aircraft safety, and relatively lower air travel costs;
- lower turnover and absenteeism levels than in resource towns; at the same time allowing companies to widen their recruitment options in tight labour markets;
- preference for metropolitan over rural living by many workers and their families;
- viable way to develop new projects and increase minerals output whilst responding to skilled labour shortages without disruptive relocations for workers and their families.

In WA, and Australia at large, the resources sector is a major contributor to the economy, with a total export income worth more than \$100billion and \$4.9billion royalty income for the WA Government. WA is one of the most productive and diversified mineral regions in the world and the mining industry has grown extensively in recent years with strong growth expected to be sustained well into the future.

Before the late 1950s, gold was considered the major mineral export; however, from the 1960s the production of other minerals increased. Currently there are over 50 different minerals in commercial production, which include iron ore, gold, liquefied natural gas (LNG), bauxite, coal and nickel as the main minerals. Iron ore is Australia's largest export earner with a forecast value of AU\$56b in 2010/2011, followed by coal AU\$45b and crude oil - LNG at AU\$21.1b (Webster 2011).

Commercial production of iron ore exports has improved from 150 million tonnes in 2000, to over 400 million tonnes in 2010. In addition, there is a significant growth in LNG production, headlined by the Gorgon Project, valued at over \$42 billion, followed by the recently announced Chevron's \$29 billion Wheatstone project. In terms of export production of WA's resources, the Pilbara region is the major supplier; see Figure 2 which illustrates the value of mineral and petroleum by region, with a total of \$91.6 billion in 2010.

Figure 2: Value of Resources Production in WA Regions



Source: *Minerals & Energy: Major Development Projects, Australian Bureau of Agricultural & Resource Economics (New, Ball, and Copeland 2011).*

Within WA, the resources sector operations vary considerably, with the Pilbara region being the major iron ore producer, while the Goldfields–Esperance and Mid-West regions concentrate more on gold- and nickel-mining operations. The Kimberley, which is located on the far north of WA is a major producer of diamonds and zinc/lead. The South-West and Peel regions tend to concentrate on the commercial production of coal, bauxite and mineral sands. Figure 3 shows the WA regions and location map.

Figure 3: WA Regions Location Map



Source: *Government of Western Australia: Department of Mines and Petroleum (2013).*

In 2011, there were more than 39 projects at an advanced stage of development in WA, with total capital expenditure soaring over \$109.5 billion (Chamber of Minerals and Energy of Western Australia 2011). Most of these developments are occurring in areas remote from established towns. Table 1 below shows the list of projects being developed in regional and remote WA as in April 2011.

Table 1: Current Developing Resources Projects in WA

Project	Commodity	Location	Status	Capex (US\$bn)
Jimblebar mine and rail (BHP Billiton)	Iron Ore	Pilbara	Committed	US\$3.6bn
Brockman 4 Project (Phase B) (Rio Tinto)	Iron Ore	Pilbara	Committed	US\$1.1bn
Macedon Gas Project (BHP Billiton/Apache)	Gas	Pilbara	Construct	US\$1.5bn
DeGrussa (Sandfire Resources)	Copper	Mid West	Construct	US\$400m
Karara (Gindalbie Metals/Ansteel)	Iron Ore	Mid West	Construct	US\$2.6bn
Extension Hill Magnetite (Asia Iron Holdings)	Iron Ore	Mid West	Approved	US\$2.5bn

Source: *Minerals & Energy: Major Development Projects, Australian Bureau of Agricultural & Resource Economics (2011).*

Employment issues surrounding the mining industry in WA

The adoption of FIFO in the WA mining industry has increased rapidly over the past few years, with metropolitan Perth becoming the State's main source of labour and the base for major mining supply and service companies. As with any economic growth, it is likely that the expansion of the resources industry will put pressure on the labour market; in particular, the competition for trades people to work in the mines. According to the State growth outlook forecast by the Chamber of Minerals and Energy of Western Australia (2011), there is a great demand for employees to meet current growth plans in the minerals and energy sector. The demand peaked at over 119,500 people in 2012, showing a difference of 43,800 above the 2009 sector workforce of 75,600. The additional operations workforce was required in areas such as Perth/Peel, Midwest and Pilbara; however, the majority demand was driven by existing construction projects. Since most mining operations in WA are remotely located, far from any nearby regional centre that has sufficient infrastructure, services or existing population base necessary to attract the number of people to support future growth, FIFO commuting arrangements are expected to grow, with a forecast of 30,000 in 2015 (Chamber of Minerals and Energy of Western Australia 2011).

The growth in mining projects and operations around WA has created a skilled labour market that is tight, competitive and reliant upon flexibility and adaptability. Besides, generally in Australia, the skills shortage problem has been worsened further by increasing attrition, which is "a reduction in the number of people in an occupation or apprenticeship due to those leaving the occupation or apprenticeship" (Huntly Consulting Group 2007, p.2). Despite an increase in the number of employed trades people in Australia (14.1%) between 2001 and 2007, only 17.3% over 49 years of age are still working in their home trade, implying that over 80% of them have exited their trade (Huntly Consulting Group 2007). In turn, this has caused a surge in skills shortage across WA mining industry. The report by Deloitte Access Economics (2013) indicated key occupations at risk of shortage in the resources sector, which include electricians, drillers, production technicians, mechanical fitters and boilermaker-welders. Significant shortages are also reported for professional skills such as engineers and geologists.

FIFO arrangements have become the major viable method used to address the skills shortages, even though mining companies offer residential arrangements. The type of commuting arrangements implemented by each company is dependent on the skills set required at each site and the stage of the project, such as construction, operational or maintenance/shut-down. Each workforce model requires different skill sets and different accommodation options at different times. Similarly, to alleviate the problem of skills shortages, some employers have invested in skills and training, and increased workforce diversity by employing more women and Indigenous workers. Also, it has been suggested that the state government could alleviate the current and future skill shortages in the resource sector by developing a flexible skilled migration program. By applying this strategy, Australia already has witnessed a huge surge in skilled migrants entering Australia on skilled worker visas; in particular, those from the Asia-Pacific region (Khoo, McDonald, and Hugo 2009) and Europe (Khoo, Hugo, and McDonald 2011). Secondly, the government could intervene through supporting the education sector by means of encouraging students to study maths, science and engineering, and developing more pathways to the industry (Australian Petroleum Production and Exploration Association 2011).

Effects of FIFO and DIDO commuting arrangements

Extant empirical and anecdotal data suggest a potential for FIFO to have negative impacts on WA employees and partners. Previous Australian and overseas studies have suggested that FIFO can be a major source of health and well-being issues (Scott, MacPhail and Minichiello 2012; Taylor and Simmonds 2009). Similarly, according to preliminary Australian research conducted by Muurlink (2012), FIFO does have a negative impact on the employees' lifestyle, with at least two thirds of Australian FIFO employees reporting their work prevented social community interaction and participation in sporting events and clubs. Similarly, previous literature suggests that, even though FIFO or DIDO workers earn big wages, the personal cost to their mental health, relationships and family lives can often outweigh the easy money. (Clifford 2009). These cases are often evident through the increased demand by FIFO or DIDO workers for family support services, counselling, and financial assistance (Solomon, Kats, and Lovel 2009).

Mainly, these effects are indicated by the separation from family and/or partner, lack of support, difficulties when children become ill, missing out on social occasions and family events, isolation and long distance commuting (Torkington et al. 2011). Due to such factors, a large number of employees in the resources industry become vulnerable to elevated risks of high stress levels, depression, sleep disturbance, binge drinking, substance abuse and strained marital relationships (Clifford 2009).

Research carried out by Storey and Shrimpton (1989) showed that after working on FIFO or DIDO patterns of commuting arrangements for a while, most workers felt worn out. Hence, the issue is not about employees hating FIFO, but rather that it strained them. In the same study, the scholars examined a 28 days-on/28 days-off roster and they discovered evidence that supports family adaptation to the work pattern that could be maintained in the long term. This implies that FIFO patterns that approximate even-time provide a greater opportunity for FIFO/DIDO workers and their immediate families to adopt the pattern.

Older studies drawn from the other parts of the world regarding the effects of FIFO on the partners of the offshore oil employees suggest difficulties in adjusting to regular separations and reunions and coping with disruptions to social life, loneliness and anxiety during the absence and prior to their partners' return (Storey and Shrimpton 1989). The most common challenges cited in these studies include the childcare, dropping off and picking up children from school and coping with the distance apart. These studies provide insight into the potential impact of FIFO; however, due to changes in time, social activities, industry and geographic differences between countries, the results cannot be generalised to other parts of world, in particular Australia.

Moreover, some studies from Australian populations have reported positive impacts from FIFO commuting arrangements, including strengthening of relationships, improved coping skills and better incomes (Chamber of Minerals and Energy of Western Australia 2011). A large number of employees working in the mining industry sector, and their families, have benefited substantially from receiving attractive incomes while retaining a residential base in a main city. A good example is the research conducted by Macbeth, Kaczmarek and Sibbel (2012) in which it was discovered that FIFO provides opportunities for a better lifestyle and family relationships.

FIFO commuting arrangements have enabled resources sector employees to maintain stable employment in their industry while ensuring they, and their families, are able to enjoy a good level of government and commercial services in the metropolitan areas (Chamber of Minerals and Energy of Western Australia 2011). In addition, the arrangement provides an opportunity for employees to move from one company to another, without incurring relocation costs. Similarly, by maintaining a family base in metropolitan areas, the miners' partners have managed to pursue their own careers and objectives since; in some cases, these opportunities may not be available in the resources sector regions.

FIFO and residential employment are complementary rather than supplementary approaches in a total workforce management package; hence, opportunities exist for individuals to move from FIFO to residential employment and vice versa. Due to the limited services that a small town can offer, some employees have moved from residential work in a small town to a period of FIFO employment to ensure their children have access to a preferred secondary and tertiary education in a metropolitan centre. On the other hand, there is anecdotal evidence to suggest that some older workers are reverting to residential employment once their children have reached an age of independence from the family.

FIFO or DIDO commuting arrangements are critical to the resources industry and the system can be beneficial to the local indigenous people who live in remote and isolated areas away from main cities that present relatively more employment opportunities. The system reflects the need to attract and retain mobile skilled labour. As such, while maintaining the family base in their particular social and cultural environments, indigenous people can engage in FIFO or DIDO from their small town or local region.

Despite considerable research on FIFO highlighting different effects, most research has centred on the economic and social impacts of FIFO; little or no research has been done concerning the impacts of FIFO or DIDO commuting arrangements on the WLB of WA mining employees. In the same way, research on WLB has concentrated relatively more on the white collar professional employee level, prompting the current research study focus on blue collar trades workers. In this study, blue collar workers are employees whose job entails physical labour, such as boilermaker welders, mechanical fitters and riggers.

According to Solomon, Katz and Lovel (2008), there are challenges to the implementation of WLB policies within the mining industry. These include, but are not limited to; remoteness, shift lengths, roster patterns and skills shortages. Much of Western Australian's minerals wealth is located in the North West and Eastern Goldfields regions of the State, in remote and often harsh environments away from the State's major population centres. Secondly, long working hours have been associated with the resources industry mainly due to operation types, location and commodity demand. Thirdly, roster patterns differ depending on each site, and they include alternatives such as 4 weeks on and 1 week off, 3 weeks on and 1 week off, 2 weeks on and 1 week off or 8 days on and 6 days off.

Lastly, there is a high demand for skilled manpower in the resources industry. However, some mining companies have introduced various initiatives in an effort to address the effects; e.g., employee assistance programs, family on-site visits and/or stay, FIFO handbooks for employees and their family members, improved communication facilities, healthy lifestyle programs, significant changes to roster and shift patterns and greater access to on-site facilities/activities (Hutchings, De-Cieri and Shea 2011).

In analysing the influence of FIFO on the WLB of WA resources workers and their partners, it is critical to compare different commuting arrangements, in this case the FIFO, DIDO and residential arrangements. In addition, since most mining workers are engaged in compressed rosters (Sharma 2009), it will be significant to analyse the impact of various rosters on the well-being of miners.

Compressed rosters consist of long working hours in a few days' time; for example, 12, 11 or 10 hour shifts for a certain number of continuous days. The whole objective is to minimise, as far as practicable, the number of days employees live on-site while maximising the number of days spent off-site. Due to the increasing competition for skilled labour in the WA resources sector, mining companies are endeavouring to provide a wider range of shift arrangements to ensure that potential employees can select arrangements that best suit them and their families. However, the type of roster is determined by the employers depending on the site stage; whether, it is still under construction or has reached the partially-operational or fully-operational stage.

Trades people

A tradesman is considered to be a person who is manually skilled in a particular trade or craft; e.g., boilermaker, fitter and turner or plumber. Primarily, trade skills are acquired through three pathways; education, formal training or accumulated career experiences. The education system enables individuals to develop basic communication and analytic skills as well as a broad awareness of the world, whilst the vocational training equips the person with the basic technical skills essential for the respective field, and lastly, work experience provides the primary vehicle for the acquisition of tacit work skills (Cooper, Orrell, and Bowden 2010). Most trade occupations require, either in principle or by regulation, apprenticeship training.

Apprenticeship is a system of training a new generation of practitioners in skills by combining training and employment leading to a nationally recognised qualification. However, some organisations administer short ad hoc formal training programs to employees through their place of employment. In this regard, general education is followed by in-house training (not necessarily an apprenticeship) and subsequent experience as a skilled worker (journeyman). Often, the journeyman is trade-tested by accredited government agencies in order to obtain a qualification. The current researcher is a dual trade, boilermaker/welder and fitter/turner who went through both vocational and apprenticeship training before undertaking university studies and academic research.

Modern apprenticeship training covers a variety of industries and occupations including engineering and construction; however, a large proportion of all those undertaking apprenticeships are male (Australian Bureau of Statistics, 2012). For example in 2011, there were 226,500 people aged 15-64 years who were employed as apprentices and of these, almost four-fifths (79%) were men (Australian Bureau of Statistics, 2012). In 2011 the most popular apprenticeships training programmes for men were in the technicians and trades workers' field, 34% were in construction, 23% were in automotive and engineering and 21% were in electrotechnology and telecommunications (Australian Bureau of Statistics, 2012).

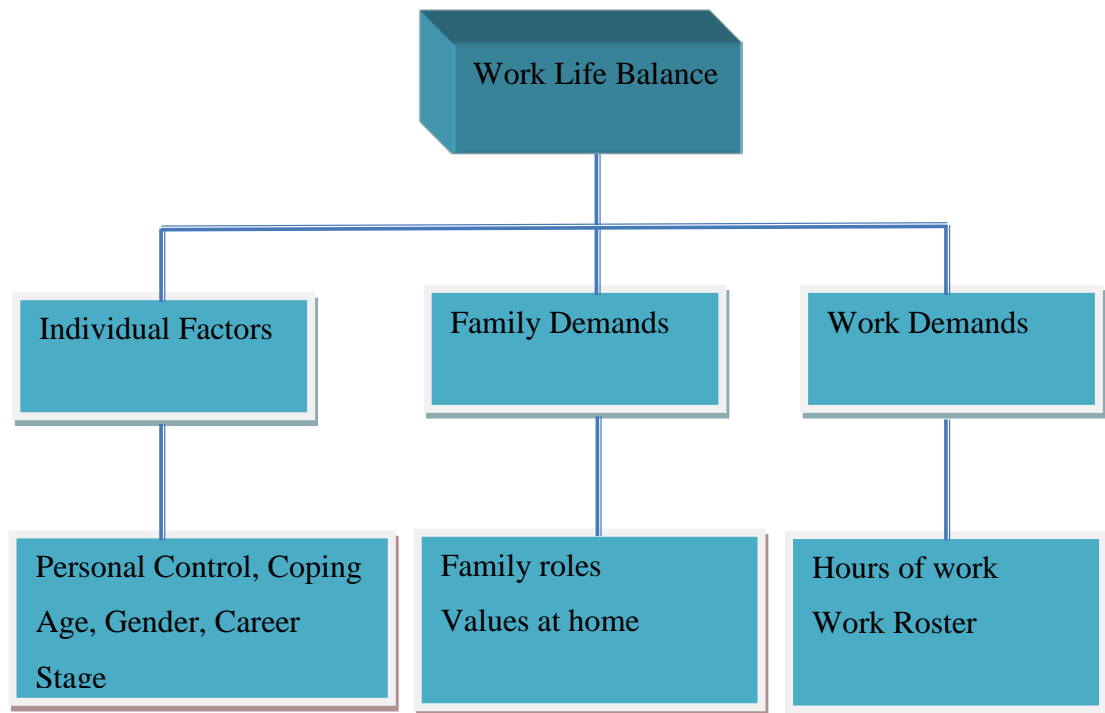
Theoretical Model: The determinants of WLB

The concept of WLB has become a common discussion among governments, employers and employees' organisations; as a topic it has been prompted by increases in female employment, technological advancement, dual-career couples, service jobs as well as an intensification of life (Klopping 2011; Gatrell et al. 2011). Many recent studies have highlighted long working hours and undertaking paid work outside the normal working hours as the most likely threat to the achievement of a balance between work and life outside work (Fleetwood 2007; Biggart and O'Brien 2009). In adopting the meaning of WLB as the combination of work and life, there are several determinants that are critical to achieving the desired balance.

Consequently, in the current study it is considered that an accurate measure of WLB needs to be sensitive to a range of aspects of life, including the work, family and individual domains. As a result of the literature review undertaken, the contention is that a hypothetical model of WLB that is representative of extant studies and can be used as a basis for developing hypotheses and research instruments in the current research (see Figure 4 below) may well start with determinants related to individual, family and work domains.

The individual assessment of WLB includes reference to age, gender and personality traits that may influence the well-being of the individual employee. The research study focussed on the employee's perspective, with a quantitative survey used as the approach at the individual level. In relation to family demands, marital status, family arrangements (e.g., care) and breadwinner models were examined and qualitative data collected by means of semi-structured interviews that included both employees and their partners together.

Figure 4: Basic Hypothetical Model of WLB



Previous WLB studies have focussed on conflict (Beauregard and Henry 2009), spillover (Pedersen et al. 2009) or enrichment models (Siu et al. 2010); however, none of these appeared to suit the current research focus. Therefore, in this research the analysis of WLB was approached from an *integration* perspective that assumed that a healthy system of flexible and permeable boundaries can better facilitate and enhance the family–life, work–life and community–life domains (Hecht and Allen 2009; Peng, Ilies and Dimotakis 2011).

This entailed accentuating the view that WLB is achieved by a successful combination of various life domains; in particular, work life and life outside of work. This view facilitated the incorporation of additional contextual elements (such as community) into the body of knowledge regarding WLB. In the same context, integration theory calls for contemporary understandings that replace traditional work–life paradigms, making all stakeholders (employers, workers and communities) active participants with equal voices in the creation of a holistic model of WLB (Morris and Madsen 2007).

Utilising this theoretical model the following three hypotheses were developed:

Hypothesis 1: Residential trades people achieve better perceived WLB relative to FIFO or DIDO trades people

Hypothesis 2: In terms of perceived WLB, there is no difference between FIFO and DIDO trades people

Hypothesis 3: The achievement of WLB will be negatively related to high job demand and caring responsibilities.

Chapter Summary

In Chapter 2, a review of relevant, extant literature was used to present viewpoints and criticisms of current WLB knowledge; definitions, models and theories concerning the practice of WLB in the context of WA's resources industry were discussed. A hypothetical model of WLB (Figure 4) was presented at the end of Chapter 2.

The model shows a broad summary of WLB determinants as an indicator of the range of issues which needed to be addressed in the current research instruments in order to collect data that could be used to answer the research questions in the study.

How these determinants and the hypothetical model were used to collect solid and reliable data for the research is considered in Chapter 3 about the research methodology used in the study.

CHAPTER 3:

METHODOLOGY

Introduction to the chapter

In this research study a mixed methodology approach was used consisting of both survey questionnaires and semi-structured interviews. The mixed methods study was designed to contribute to an understanding of WLB and the influence of FIFO commute arrangements on the WLB of trades people working in Western Australia's mining industry. The quantitative study compared different FIFO arrangements with perceived well-being among trades people of different fields, ages and marital status. Supplementing the quantitative findings, the semi-structured interviews explored how, and to what extent, families have managed to cope with the effects of FIFO arrangements. Chapter Three is divided into five sections which include research design, survey development, research sample, procedure for data collection, data analysis and chapter summary. The research design, survey development and research sample sections provide general information about the study. The next two sections, data collection and data analysis are described in detail.

Research design

Research is not a single undertaking but a process that requires a whole set of different actions which, in essence, constitute the design of the study. The research design is fundamental to producing a quality research project, as it lays a foundation for the study and informs the thinking process as the study progresses. There are three methods of research design, qualitative, quantitative and mixed methodology; their application is determined by the objectives in the study (Creswell 2008). In quantitative research the objective is to quantify relationships between variables. However, qualitative research method is intended to create a holistic description to inform the researcher's understanding of a social or cultural phenomenon.

Finally, in a mixed methodology, the method adopted in the current study, techniques are included from both qualitative and quantitative methods to answer the research questions. According to Byrne and Humble (2007, p.1), “mixed methods social inquirers choose from a full repertoire of methodological options at any number of multiple points in an enquiry process – purpose, overall design, methods, sampling, data recording, analysis and interpretation”.

The current research objectives included identifying how trades people perceive WLB and evaluating the extent to which they value it; examining the extent to which trades people working in the mining industry in Western Australia achieve WLB and analysing the coping mechanisms they apply; identifying any variance of perceived WLB among employees involved in different commuting arrangements and developing recommendations that would aid the improvement of work organisation models within the mining industry. Overall, the research was undertaken from an explorative standpoint. A mixed methodology approach utilising both quantitative and qualitative research methods was applied in the study. Apart from capitalising on the respective strength of each approach, the combined approach recognised the complexity of the phenomenon under examination and the need to generate statistically representative, as well as in-depth and context-sensitive, data which could be used to respond to the research objectives.

Although mixed research methodological approaches have been criticised, e.g. by post-structuralists and post-modernists (Teddlie and Tashakkori 2009) who argue that quantitative and qualitative research paradigms should not be combined, the pluralist approach (Creswell, 2008) used in this study was considered vital to the capacity to respond to all of the proposed research aims as it enabled the inclusion and comparison of ‘fact-based’ and perception-based data standpoints so as to derive the truth about WLB and the extent to which families manage the effects of the FIFO/DIDO/Residential modes. Moreover, each research design has limitations and strengths, so the application of multiple methods was used to neutralise some of the disadvantages of using a single method whilst complementing the strengths of each method.

The methodological stance adopted in the study built on increasing use of mixed methodologies to evince assertions about complex phenomena in the social sciences (Alise and Teddlie 2010). The nature of the study was inductive; however, use was made of the quantitative approach due to the capacity to respond to the proposed research aims by enabling the comparison of facts and data derived from information about the effect of FIFO/DIDO/Residential mode of commuting arrangements on WLB. The collection of data was carried out sequentially, to meet the objectives of the explanatory nature of the research (Collins and O’Cathain 2009). Hence, quantitative data was collected first, followed by qualitative data to help explain or elaborate on the quantitative results.

Survey development

Previous studies on WLB have approached the phenomenon from various angles. These include large scale surveys on work-family fit and work-family balance (Clarke, Koch, and Hill 2004), work-to-family conflict and family-to-work conflict (Crompton and Lyonette 2006; Noor 2003; Wallace 2005). In this regard, WLB or its imbalance has been analysed in terms of the effect of one domain on the other; that is, either work-to-life outside work or the other way around. Work-to-family effects have revealed the extent to which working conditions interfere with life in general, with care and with intimacy demands. In most research studies, this is often measured by how much (paid) work interferes with home/family life, how often it becomes necessary to adapt family life to the requirements of paid work, and to what extent strain from work makes it difficult to fulfil certain roles and obligations at home (Burgess, Connell, and Dockery 2013).

Other studies have examined WLB or its imbalance from a family-to-work conflict view as measured by the extent to which family responsibilities such as care for the elderly or children have a negative effect on work duties. Thirdly, some studies have offered an individual ultimate judgement on WLB by analysing the extent to which people can combine both work and personal/family life (Baral and Bhargava 2010; Van Engen, Vinkenburg, and Dijkers. 2012).

In developing the survey tool for the current research study, the decision was made to adopt the instruments used in two major, leading surveys; the International Social Survey Programme (ISSP) (2002 – Family module) and the ESS (2008 - Work, Family and Well-Being module). The two survey instruments capture the aforementioned WLB determinants and draw heavily from previous studies in the field (Kelloway, Gottlieb, and Braham 1999; Netemeyer, Boles, and McMurrian 1996). In spite of the difference in question wording, the fundamental ideas about WLB in both surveys are very similar.

The ISSP, which started in 1983, is a continuing annual programme of cross-national collaboration which brings together pre-existing social science projects. In the 2002 Family module International Social Survey Programme (ISSP) surveys for Britain, France, Finland, Norway and Portugal, lower levels of work-life conflict were reported in these countries, even though child care support in France did not appear to have made a significant impact (Crompton and Lyonnet 2006). On the other hand, the European Social Survey (ESS) is an academically driven cross-national survey covering 30 European nations that has been conducted every two years since 2001. The 2008 ESS survey, covering European member states, was designed to shed new light on the factors affecting work, family experience and welfare. The survey results indicated that support at work for WLB benefits organizations and may foster employee satisfaction and commitment.

Adopting the aforementioned survey instruments, the design of the questionnaire allowed respondents to rate their WLB according to either personal, job or family-related variables. Supplemented by follow-up interviews, the questions were designed to enable participants to rate their WLB experiences and identify personal or working conditions that had an effect in finding a balance between the work and family responsibilities. Essentially, the achievement of WLB is threatened if people spend too much time at work and are worn-out from work duties, as these hamper the ability to undertake home responsibilities or have the time to enjoy things more generally. However, household or family responsibilities also can impede concentration at work and failure to perform according to the roles as expected.

By analysing WLB from this perspective, indicators were marked as being related to either strain- or time-based conflicts between work and life outside work, referring to both work-to-family conflicts on the one hand and family-to-work conflict on the other (Frone and Rice 2012). Hence, the integration model of WLB was used in order to facilitate relief of the conflict by finding ways to blend work and life outside work, such that people could enjoy a meaningful experience in both domains (Haas 2010).

Approaching the WLB phenomenon from this perspective is a clear indication of a movement away from the old analogy of separating human life into discrete compartments of work over here, family over there, health in a special category, community involvement in another and, maybe, a little sand pail for things like personal fulfilment and a sense of meaning. Based on this analogy, the achievement of WLB is attained by allocating a fair amount of time to what resides in each compartment. The fact that people are in a work environment does not mean that they cease being caretakers; therefore, in the current research study it was proposed that work should not detract from life but enhance life by integrating employee values, families, physical and mental well-being, and a personal sense of fulfilment in a dynamic web of interactions.

Several determinants of WLB were analysed in the survey instrument, as derived from the explanatory models of the causes of WLB values; such as the work-related aspects like occupation, hours of work, working conditions and household-related aspects like young children and, family care, as well as household tasks such as cleaning (Crooker, Smith, and Tabak 2002; Noor 2003). To meet the research objectives, the major statistical explanations in extant literature (Kahn et al. 1964; Greenhaus and Beutell 1985) such as gender, age, care, working hours, work experience and working conditions were included in the surveys. These explanations are consistent from these conventional to the more recent studies, for example Drenzo, Greenhaus and Weer (2015). The current survey, then, was structured into three sections which included personal information, work-life balance and recommendations with 23 questions in total. The final section presented an open-ended question to elicit comments on work-life challenges and recommendations.

Previous WLB research findings suggest that extended working hours and working outside normal hours, such as evenings, nights and weekends have a negative effect on employee well-being (Russell 2009). Essentially, these studies have stressed the negative effects of extended working hours as well as additional burdens of child care and housework, in particular for women. Other findings assert that demographic differences such as gender, age and occupation play a crucial role in determining the degree to which woman in full-time employment experience higher levels of WLB, while younger people experience higher levels of conflict (Darcy 2012; Lewis 2009).

Previous research confirmed that trades people engaged in FIFO or DIDO commuting arrangements do suffer from separation from family for periods of time, potential isolation and disruption to prior patterns of work and leisure (Victorian Department of Transport, Planning and Local Infrastructure 2013). Despite the fact that the majority of trades people in the mining industry are male (Huntly Consulting Group 2008), the current study was structured to identify and analyse whether or not differences exist between various commuting arrangements, age groups and family responsibilities. This literature informs the examination of the following hypotheses:

Hypothesis 1: Residential trades people achieve better perceived WLB relative to FIFO or DIDO trades people

Hypothesis 2: In terms of perceived WLB, there is no difference between FIFO and DIDO trades people

Hypothesis 3: The achievement of WLB will be negatively related to high job demand and caring responsibilities.

Research Sample

The target population in the current study is defined as trades people in WA who are working in the mining industry; workers engaged in FIFO/DIDO/Residential modes of commuting. To achieve maximum variability and richness of data, a purposive or judgemental sampling method was applied identifying participants that best would enable the researcher to answer the research questions and to meet the research objectives. Informants were purposively sampled according to type of roster and mining industry (construction or operations).

Ultimately, as supported by Babbie (2012), Creswell (2005) and Tuckett (2004), the process of selecting a suitable sample and size in the research study was a matter of judgment and experience in evaluating the quality of the information collected in relation to the intended objectives. Essentially, the method involved non-probability sampling techniques where the researcher selected respondents to be sampled based on their knowledge, professional judgment and involvement. The rationale behind targeting the group of trades people as subjects of the study refers to the role they play in enhancing the mining industry.

The mining industry in Australia is a significant primary industry and contributor to the national economy. Furthermore, trades people form a major part of the workforce in Western Australia's (WA) mining industry (Australian Bureau of Statistics, 2010). The research study sample consisted of 300 mine employees involved in different roster models and employed at different, dry (no alcohol) mine sites. The term dry camps refers to those camps where drinking of alcohol outside of the wet mess (bar) is forbidden. They were chosen as the sample population due to the social restrictions in place. The first group of participants (300) answered questions by means of distributed survey questionnaires. The process was followed by 15 interviews carried out with a second, and different, group of participants and their partners. In addition to their use in the current study, the results of the study are available to inform workplace policy recommendations and highlight the significance of improving the institutional environment (work organisation) as a strategy to advance the achievement of work-life balance and, thereby, improve retention rates in an increasingly competitive employment environment.

The proposed empirical investigation involved human participants with whom the researcher interacted directly only at semi-structured interviews at locations of the informants' choice and in a private setting. No participants were drawn from the researcher's own workplace. Given the nature of human subjects, ethical approval was obtained through the Curtin University Human Research Ethics Committee (HREC) Form C.

All participants received an invitation letter and Information Sheet (Appendix 1) regarding the research study, its purpose and the researcher's and supervisor's identification. To avoid deception (Bailey, 1996), the information sheet included information regarding

- the research procedure,
- the risk and benefits involved in the research,
- the voluntary nature of the research participants and
- the right of participants to withdraw from the research at any time without penalty.

All participants were duly informed of the data collection method which involved the use of audio-taped interviews; these were transcribed and compared with observations carefully recorded with real-time field notes. Informants were contacted either in person or by phone to and a suitable time and quiet place of their choice was arranged for the interview. Couples were interviewed either together or separately, since some of them felt uncomfortable about disclosing information before their partners. All data were securely stored on computer hard drives supported by backup copies on jump drives. The information was filed thematically using NVivo categorizing software for data analysis. As suggested by Babbie (2012), all results were presented in aggregate form; consequently, no individual could be identified from the results. The Information Sheet also highlighted the fact that aggregate data/findings from the project were to be kept for five years and may be used in subsequent research (if undertaken within five years of original data collection) as per Curtin University policy.

Procedure for data collection

Survey Questionnaires

Use of questionnaires based on a standard format (e.g., Likert scale model) was employed to obtain quantitative responses from participants. The survey consisted of questions covering biographical information such as age, gender, marital status, length of service in the mining industry, trade, shift rosters and family responsibilities and questions about the significance and self-rating of WLB, and open ended questions on what could be employed in order to improve the system.

Validated questionnaires were administered in the main phase of the study after piloting of the developed survey tool. This process was conducted by administering the survey in the same way and under similar conditions as planned in actual data collection. 300 survey questionnaires were distributed to three different dry (alcohol free) mine sites in WA. The three sites were chosen from 153 mine sites operating in the region. The procedure involved distributing the survey questionnaires in the crib (canteen) huts during tea or lunch breaks. Completed questionnaires were returned through a drop box set up in front of the crib hut. In turn, the survey administrator posted the questionnaires to the principal researcher for analysis. The same data collection method was applied in all three sites.

Quantitative data collected through the surveys was converted into a computer usable file in the form appropriate for use with programmes in the Statistical Package for the Social Sciences (SPSS). This software enabled the examination of any cross-tabulation, or associations, or grouping which emerged (through factor analysis and Kruskal-Wallis testing). To identify where the differences lie, pairwise comparisons were performed.

Semi-structured Interviews

After the preliminary data collection procedure and analysis was completed, face-to-face interviews using semi-structured open-ended questions were conducted with 15 miners and their partners. Interviews were conducted at a convenient location selected by each participant. The interviews consisted of follow-up questions (see Appendix 3) which addressed how the respondents define WLB, some of the challenges they face in managing FIFO commuting arrangements, techniques along with success and failed strategies they use as a family and, finally, what they recommend as a better way of managing the FIFO circumstances. All interview questions were derived from the data gathered through survey questionnaires, which included identifying how trades people perceived WLB, examining the extent to which they coped with the challenges of FIFO, identifying any variance between different commuting arrangements and any recommendations that would aid in developing and/or improving work organisation models within the mining industry.

Participants in the interview phase were selected purposefully to represent couples where either one spouse or both were involved in a FIFO, DIDO or Residential work arrangement. All participants were provided with an invitation letter which outlined the purpose and design of the study (see Appendix 1). The interview questionnaire contained seven open-ended questions that focussed on how the respondents defined WLB, some of the challenges they faced in achieving a balance between work and other activities outside work, techniques along with success and failed strategies they had used and, finally, how they perceived WLB issues affected their personal lives (see Appendix 2).

All interviews were audio-recorded after obtaining consent from the participants. According to Boeije (2010) audio taping is an important technical aid, as it enables the collection of accurate data while the researcher listens attentively to the participants. Also, apart from the operational problems of obtaining proper audibility and voice fidelity, no verbal comment is lost in the tape. As suggested by Boeije (2010) and significant to the current research study, was the need to keep the questions focussed on the phenomena being studied and maintain the discussion within a reasonable time-frame of about one hour. The same interview style has been effectively applied in other research studies, including Notz (2005) and Hyman and Summer (2007).

In conducting the interviews, the researcher had to safeguard against equipment failure and environmental conditions which may hinder the data collection process. As a result, all necessary contingency were considered; such as having spare batteries, tapes and any other recording equipment. One major part with regards to the data collection procedure was the safe and secure storage of all collected data. Adopting the practical procedure used by Groenewald (2004), the digital recording for each participant was coded, labelled and stored in a locked personal cabinet at the university office. Qualitative analytic techniques were applied, including the use of qualitative data analysis software packages to assist in coding, derivation of themes from the interview data and taking a comparison of themes to existing theory or literature.

As Taylor and Gibbs (2010) suggest, the coding process involved combining the data for themes, ideas and categories; making it easier to search the data, make comparisons and identify patterns that required further investigation. The process was facilitated by utilising dedicated computer assisted qualitative data analysis (CAQDAS) software packages, such as NVIVO, which enabled the analysis of the interview data by linking and coding it into meaningful categories.

Instrument Reliability

In social science research, many of the variables of interest and outcomes that are critical to the study are abstract concepts or theoretical constructs (Babbie 2012). Hence, applying tests or instruments that are valid and reliable to measure such constructs is a fundamental component of research quality. Also, reliability and validity are key indicators of the quality of a measuring instrument and they are common in both quantitative and qualitative research paradigms (Golafshani 2003); both are based in the positivist and, to an extent, in the interpretivist perspective. In the research study, different strategies were applied to ensure that (1) results were consistent over time, (2) there was an accurate representation of the total population under study and (3) the research truly measured what it was intended to assess.

Strategies included, but were not limited to:

- Recording the research process - transcript, memo and NVivo information provide an audit trail for assessing the reliability of the research and analytical process (Gephart 2004).
- Member checks – several participants were asked to read through the findings to ensure that they depicted a ‘faithful’ experience (Miles and Huberman 1994).
- Peer reviews – during the time the study was in progress, the researcher presented the findings to CBS forums, other relevant seminars and the Curtin Business School higher degree by research student group. Guba and Lincoln (1994) described the role of the peer reviewer as a ‘devil’s advocate’, an individual who keeps the researcher honest, asks hard questions about the method, meanings and interpretations.

The discussion and feedback from these forums was considered valuable in providing support for the trustworthiness, rigour and quality of findings.

- Presentation of research at an International Conference attended by outstanding scholars and academics in the relevant field. The researcher was able to receive feedback and further recommendations on how to improve the study.

Common Method Bias

Common method bias refers to the degree to which correlations may be altered due to an affect of the method used; it is mainly caused by the complexity involved in combining quantitative and qualitative studies. According to Simmering and Sturman (2009), one of the potential sources of common method bias occurs when the predictor and criterion variables are obtained from the same source. Consistent with recommendations from Podsakoff et al. (2003), a number of control mechanisms were employed including separation of measurement, protecting respondent anonymity and counterbalancing question order and improving scale items. Thus, since the appropriate technique is dependent on the situation, it was considered critical and relevant to ensure that the collection of measures of these variables was obtained from different sources. Therefore, to remedy the effect, different strategies were employed in the study including using different groups of participants in both the quantitative and qualitative components of the study. Hence, the subjects that had been used in quantitative surveys did not participate in the interviews.

Chapter Summary

In this chapter, the research design used in the research study was highlighted; a mixed methodology approach that utilised both quantitative and qualitative research methods. These included the use of survey questionnaires and interviews to collect research data. All data was collected from a sample of trades people working on a dry mine site and engaged in a FIFO, DIDO or Residential mode of commuting arrangement. Participants were picked by means of the judgemental sampling method.

In order to ensure instrument reliability, several strategies such as recording the research process, using confirmation from participants through member checks, peer reviews and conference presentations were employed. To avoid common methods bias the researcher used different groups for both the quantitative and qualitative samples.

CHAPTER 4:

QUANTITATIVE STUDY

Introduction to the chapter

In this chapter the statistical data analysis and findings of the quantitative aspects of the study are highlighted in relation to the objectives of the study. Applying concepts from the hypothetical model of WLB that is representative of extant studies, the analysis seeks to confirm the developed hypotheses. Shown in the findings section are the calculated descriptive statistics which include the return rate, demographic descriptions and the initial synopsis. This section is followed by an analysis which shows the preliminary findings in relation to the research questions. Multiple regression analysis was conducted to further analyse the data. The purpose in the study was to:

- Identify how trades people perceive WLB in order to evaluate the extent to which they value it.
- Identify any variance of perceived WLB among employees involved in different commuting arrangements.
- Examine the extent to which trades people working in the mining industry in Western Australia achieve WLB and analyse the coping mechanisms they apply.
- Develop recommendations that will aid the improvement of work organisation models within the mining industry

Return Rate

As part of the study, 300 survey questionnaires were distributed to 3 different dry (alcohol free) mines sites in WA. The procedure involved distributing the survey questionnaires in the crib huts during tea (smoko) or lunch breaks. Completed questionnaires were returned through a drop box set up in front of the crib hut; in turn, the survey administrator posted the questionnaires to the principal researcher for analysis. Of the 300 total surveys administered, 40 were not returned, 60 returned partially completed and 19 returned with questions not appropriately answered.

Therefore, 181 returned surveys were suitable for inclusion in the study; an effective return rate (RR) of 60%. Though there is no agreed norm as to what is, or may be, accepted as an adequate return rate, according to Schouten, Cobben and Bethlehem (2009), a return rate above 60% is high enough to provide both comprehensive and representative information. It was noted by the researcher that some trades people were not willing to participate in the study due to fear of victimisation by employers or just on the basis that they could not see the significance of the study. Also, due to a large number of research studies carried out in the mining industry, other trades people felt inundated with FIFO research questionnaires or interviews, hence, they had lost interest.

Demographic Data

The first section of the survey questionnaire focused on demographic information in order to elicit detailed information regarding workforce characteristics (e.g., age, gender, marital status categories). A total of 181 employees participated in the quantitative phase of the data collection; of these, only 3.9% were female. The low number of participation from females may be attributed to the trades skills in the mining industry being predominantly a male-dominated field due to the physical nature of the work. According to the Australian Bureau of Statistics (2013), there were only 13.4 % full time and 2% part time female employees in the mining industry in 2013. The data, as indicated in Table 2, demonstrate that the majority of the participants (74%) have either a partner or are in a de-facto relationship, followed by 20% who are single. The remaining 6% of the sample were either separated or divorced at the time of the study. No widows were recorded in the study.

Type of Rosters

In terms of the choice of commuting arrangement, no significant differences were shown in the results amongst those who either had a partner or were in a de facto relationship. Tracking the time spent in different commuting arrangements, the data shows that the majority of participants have spent most of their employment time engaged in a FIFO (80%) mode of commuting arrangement; much more than in DIDO (12%) or Residential (8%) modes.

This scenario could be attributed to the fact that FIFO was the conventional mode of commuting arrangement long before DIDO or Residential alternatives were employed. In addition, most mine sites were located in remote areas; as a result DIDO was not a feasible mode. In the same vein, the small percentage of participants engaged in Residential commute arrangements indicate limited accommodation, which is reserved for mining operations trades people only.

At the time of the study, there was a wide range of rosters available on different sites. The 8 days on/6 days off roster is most common in FIFO; however, DIDO and Residential commute arrangements tend to use more 2 weeks on/1 week off and other types of roster. Conventional rosters in mining included only 2 weeks on/1 week off, 4 weeks on/1 week off, 3 weeks on/1 week off or 8 days on/6 days off systems. However, the data shows that some mining sites are now offering a variety of rosters within each mine site. More than 32% of trades people were engaged in other rosters such as 4 days on/4 days off, 16 days on/5 days off, 9 days on/5 days off or 11 days on/3 days off. These new rosters were reported by 65% of participants engaged in DIDO and 59% of participants doing Residential commute arrangements.

Age Groups

The age of participants is summarized in Table 2 below; the results indicate that the most common age group was between twenty and thirty-five (47%) years of age, followed by those aged between thirty-six and fifty (40%) years. The smallest age group comprised persons fifty-one years and over (13%). The largest category of the participants comprised of a young age group (20-35 year olds) and 62% were engaged in FIFO, 28% in DIDO and 10% in Residential Commute arrangements. This pattern of results is shown also in the other age groups, 36-50 and 50+ year olds, however, the percentages are much lower than the young age group. The results show that there are more young trades people engaged in the mining industry and most preferred the FIFO mode of arrangement. The preference could be explained by none or less caring responsibilities being prevalent in the young age group; as a result there is less sacrifice involved in committing to working away.

Secondly, these results might indicate the need to attain financial security by the young trades people as they endeavour to set themselves up and gather essential assets. Thirdly, since FIFO commuting arrangements permit individuals to maintain a city life whilst pursuing a career, young trades people might perceive it as a viable work mode. The results indicated that Residential commuting arrangements are mainly dominated by participants who have a partner, are in the middle to older age groups and those with more caring responsibilities.

This trend could be showing an inclination to a work life pattern that suits trades people with high family orientation based on the fact that Residential commuting arrangement tend to offer shorter rosters and the provision for workers to return home every day. Overall, there is almost an equal number of participants between those with caring responsibilities (49%) and those without (51%). As Table 2 shows the caring responsibilities range from children under 5 years and children at secondary school, with only 8% caring for the elderly, disabled or those with a long term illness.

Hours of Work

As shown in Table 2, most participants (58%) worked 12 hour shifts, with the highest number prevalent in the FIFO category (98% of participants engaged in FIFO commuting arrangement), followed by the Residential category (77% of participants engaged in Residential) and only 20% of participants engaged in DIDO commuting arrangements. At the time of the study, 80% of participants engaged in DIDO commuting arrangements were working 10 hour shifts, followed by 23% in Residential and 2% in FIFO categories.

According to the results, night shift was more prevalent in the Residential commuting arrangement (97%), followed by 51% in FIFO and only 24% in DIDO commuting arrangements. These results illustrate the fact that, despite the shorter rosters, trades people engaged in operations mining tend to do more long hours and night shift than those working in the mining construction. Also, night shift and long hours might not be feasible in the mining construction due to limited infrastructure.

Table 2: FIFO, DIDO and Residential study sample demographics

Average- Age	FIFO	DIDO	RESIDENTIAL	COMBINED
20-35 years	62%	28%	10%	47%
36-50 years	33%	35%	49%	40%
51+ years	16%	3%	41%	13%
Marital Status				
Partner	55%	58%	58%	58%
De facto	18%	11%	18%	16%
Single	18%	20%	24%	20%
Widowed	0%	0%	0%	0%
Separated	0%	6%	0%	2%
Divorced	9%	5%	0%	4%
Type of Roster				
4 in 1	0%	14%	8%	10%
2 in 1	0%	16%	18%	25%
3 in 1	0%	1%	9%	7%
8 in 6	100%	41%	6%	28%
Other	0%	65%	59%	30%
Work Hours				
Night Shift	51%	24%	97%	56%
12 hour shifts	98%	20%	77%	58%
10 hour shifts	2%	80%	23%	42%
Gender				
Male	99%	90%	85%	96%
Female	3%	2%	4%	4%
Caring Responsibility				
No responsibilities	55%	76%	48%	51%
Children under 5yrs	11%	16%	29%	16%
Children at Primary School	15%	13%	22%	13%
Children at Secondary School	8%	12%	10%	10%
Elderly, disabled, long-term illness	8%	0%	0%	7%

Measures

A pilot test was run on a group of 10 trades people to validate the developed survey. Using relevant questions from the International Social Survey Programme (ISSP) and the ESS survey on WLB, several determinants of WLB were analysed in the survey instrument. As derived from the explanatory models of the causes of WLB values (Crooker, Smith, and Tabak 2002; Noor 2003), several factors were measured.

Factors measured included work-related aspects such as type of occupation, hours of work, working conditions, employment tenure and household-related aspects like young children and care were also included in the survey. In addition, as in major statistical explanations in extant literature (Kahn et al. 1964; Greenhaus and Beutell 1985; James 2014; Henly and Lambert 2014), gender, age, care, working hours, work experience and working conditions (flexible hours, job demand and control) were also included.

Reliability Measure: Cronbach Alpha

To measure internal consistency or reliability of the psychometric instruments in the questionnaire, Cronbach Alpha was used on three constructs that contribute to the achievement of WLB; the *values* subscale which consisted of 8 items ($\alpha = .76$), the *difficulties* subscale which consisted of 18 items ($\alpha = .88$), and the *working conditions* subscale which consisted of 9 items ($\alpha = .72$). Although a satisfactory level of reliability depends on how a measure is being used, according to Tavakol and Dennick (2011), values above 0.7 constitute a good level of internal consistency. Therefore, as determined by the results, all three constructs showed a high level of internal consistency, implying that the same set of items would elicit the same responses if the same questions are recast and re-administered to the same respondents.

Considering core life values that affect the decision to engage in FIFO: Values are perceived as “desirable, trans situational goals, varying in importance, that serve as guiding principles in people's lives” (Schwartz 2012: p.267). The values items were adopted from the instrument developed by Schwartz (2012) for the ESS core module. The instrument incorporates 10 core value categories (*power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity and security*) identified in earlier theories, questionnaires from different cultures, religious and philosophical discussions. In the current study, eight core life values were adopted from five categories namely - achievement (*work, economic, educational and material*); security (*physical*); benevolence (*relationship*); hedonism (*recreational*); and tradition (*spiritual*). This approach was taken to meet the research objectives.

These core values were measured to assess their perceived importance among trades people engaged in the mining industry. Although the questions were worded differently, the theme was the same as the original instrument and each value was measured using a 5-point Likert scale (1 = *unimportant* to 5 = *very important*) and average scores were computed (Cronbach's alpha of 0.76). Higher values indicate a greater perceived importance of the core life value.

WLB rating and orientation: Using the instrument developed by Schwartz (2012) for the ESS core module, two items were used to measure the perceived WLB rating and orientation of trades people. First, respondents were asked about how they rated their WLB. This item was measured using a 5-point Likert scale (1 = *very poor* to 5 = *very good*). Higher scores indicate satisfaction or a balance between work and life. Secondly, to assess how trades people perceive WLB, the participants were asked to indicate their WLB orientation. This item was also measured using a 5-point Likert scale (1 = *unimportant* to 5 = *very important*). Higher scores indicate a greater perceived importance for WLB.

Perceived difficulties in working conditions that affect achievement of WLB: Employing the instrument developed by Schwartz (2012) for the ESS core module, nine items were used to measure the perceived affects of working conditions on WLB. These include, starting and finishing times, working overtime, amount of notice given by management to workers in requesting to work overtime, timing of shifts or rosters, having no choice about shifts or rosters, difficulties in getting time off, expectations of management and work colleagues. Each item was measured using a 5-point Likert scale (1 = *very difficult* to 5 = *very easy*) (Cronbach's alpha of 0.88). Higher values indicate greater adverse affects on the achievement of WLB.

WLB aspects affected by working conditions. Schwartz's (2012) instrument developed for the ESS core module was also used to assess the affects of working conditions on selected WLB aspects, all measured using a 5-point Likert scale (1 = *very difficult* to 5 = *very easy*) (Cronbach's alpha of 0.72). Lower values indicated that working conditions made it very difficult for one to take part in the selected WLB aspects.

The list of aspects selected include spending time with the family, taking time for leisure, engaging in community activities, keeping fit and health, taking care of personal business (e.g., banking, getting the car fixed or going to the dentist), doing extra studies or training and meeting religious commitments.

Analysis

The means, ranges and standard deviations for: the working conditions that affect the achievement of WLB; the specific aspects of WLB that are affected by the working conditions; the WLB rating; and the significance of WLB in mining trades people's lives were calculated. At this time, separate descriptive statistics were also calculated on WLB rating and significance to identify any differences among the three modes of commuting arrangements. To determine the relationship between WLB rating and working conditions; critical values and WLB aspects, Pearson product correlation coefficients were calculated using a two-tailed test of significance. The underlying objective was to identify the relationship between the working conditions variables such as finishing and starting time or working overtime and the achievement of WLB by trades people engaged in FIFO, DIDO or Residential commuting arrangement. In addition, running a correlation matrix on the critical values and their relationship on the rating of WLB aspects offered insights on what really matters to trades people.

Multiple regression analysis was used to determine how much variation in WLB rating could be predicted by difficulties in having family time, leisure time, engaging in community activities, starting and finishing times, working overtime and roster timing. These variables were identified from previous research. A combined data analysis was run first before comparison of the individual commuting arrangements. The method took into consideration other personal demographic characteristics factors such as chronological age, marital status, and employment tenure in the mining industry and how they might be related to the achievement of WLB. This approach closely followed the hypothetical model in Figure 4, which encapsulated the analysis of WLB within three domains; viz., - individual, family and work demands.

**Table 3: Descriptive statistics on specific aspects of WLB
affected by working conditions**

N = 181	Minimum	Maximum	Mean	Std. Deviation
Family Time	1	5	4.33	1.017
Community Activity	1	5	4.12	1.205
Health and Fitness	1	5	3.38	1.307
Personal Business	1	5	3.46	1.152
Study Training	1	5	2.25	1.069
Leisure Activity	1	5	4.44	1.097
Religious Commitments	1	5	2.19	1.523

To analyse the affects of working conditions on WLB, descriptive statistics were run on seven aspects of WLB; family time, community activities, health and fitness, personal business, study and training, leisure activities and religious commitments. Mean, standard deviation, skewness and kurtosis were calculated for all variables using the combined data of the 181 respondents.

Overall, Table 3 demonstrates that trades people who responded to the survey agreed that working conditions could interfere with certain aspects of life domains, in particular, family time, community and leisure activities; scoring an average above 4 (on a five-point scale) and a percentile range of 1%. Of the respondents, 95% of them varied only in their experiences of the effects (ranging from 1 = very difficult to 5 = very easy). Considered from one perspective, the results in the reports suggest that although working conditions have a negative affect, they might not be solely linked to the experiences of WLB in FIFO, DIDO or Residential commuting arrangements.

In addition, the results highlight the challenges trades people face in working away from home and family for long periods on a regular basis, working compressed hours often in demanding work conditions and with no or little flexibility in their roster schedule. As a result, these findings indicate the need to change from conventional long rosters to shorter swings; followed by a change of shifts in relation to start and finish times.

Table 4: Descriptive statistics on critical life values

N = 181	Minimum	Maximum	Mean	Std. Deviation
Work Values	1	5	4.23	.802
Economic Values	2	5	4.41	.658
Educational Values	1	5	3.93	.937
Material Values	1	5	3.59	1.011
Physical Values	1	5	4.28	.755
Relationship Values	1	5	4.56	.762
Recreational Values	1	5	4.00	1.006
Spiritual Values	1	5	2.78	1.446

In answering the question on the critical values in life, the statistics in Table 4 show that most trades people considered work, economic, physical and relationship values as highly critical (ranging from 4 to 4.56), followed by education and material values (ranging from 3.59 to 3.93). The least important value according to the data is spiritual, with a mean value of 2.78 (over a score range of 1 to 5). The most important value indicated by 85% of the respondents is 'relational', which includes relationships with family, partners, workmates and friends.

These data demonstrate that trades people have shown that they value their family and trades career; and both have to be supported by economic (money) and health (physical) values for sustainability. In this regard, it is most likely that trades people might be pursuing mining jobs to support families through economic and physical sustenance. The data indicate agreement by trades people that material and educational values such as further training are also relatively important in supporting their working lives. Overall, trades people did not indicate that spiritual engagements are as critical in their lives.

Table 5: Descriptive statistics on effects of working conditions

N = 181	Minimum	Maximum	Mean	Std. Deviation
Starting Time	1	5	3.13	1.118
Finishing Time	0	5	3.23	1.076
Overtime	0	5	2.36	1.074
Notice Period	0	5	3.50	2.428
Roster Timing	1	5	3.10	1.152
No Roster Choice	1	5	3.62	1.151
Time Off Difficulty	1	5	2.52	1.214
Management Expectations	0	5	3.30	1.023
Workmate Expectations	0	5	3.10	1.387

To answer the research question on what aspects of the working conditions do affect WLB, descriptive statistics from the survey data were analysed. As Table 5 above shows, the respondents indicated that most of the variables have an affect on WLB, scoring an average above 3, except for working overtime and time-off difficulty which have scores of 2.36 and 2.52 respectively.

Data show that trades people have difficulties with the time required to work, including work hours during the day or the length of roster required per swing. The statistics reveal that having no opportunity to choose a roster that suits one's personal circumstances has a negative bearing on most trades people's WLB. However, the respondents tend to indicate that working overtime does not pose adverse effects on the achievement of WLB most likely on the basis that the extra money is both an incentive and compensatory.

Descriptive statistics from the survey data were analysed to determine the significance and WLB rating of trades people. Table 6 below indicates that trades people working in the mining industry, engaged in either FIFO, DIDO or Residential commuting arrangements hold high regard for the value of WLB in their lives. Most scores averaged above 4 on a 5 point scale. The highest reported average was from respondents doing Residential commuting arrangements which indicated a score of 4.42 on a 5 point scale.

Table 6: Descriptive statistics on WLB rating and orientation

		DIDO Statistics		FIFO Statistics		Residential Statistics	
		WLB Rating	WLB Orientation	WLB Rating	WLB Orientation	WLB Rating	WLB Orientation
N	Valid	68	68	49	49	64	64
	Missing	0	0	0	0	0	0
Mean		1.01	4.29	1.71	4.22	4.61	4.42
Std. Deviation		.872	.793	.842	1.085	1.061	.956
Minimum		2	2	2	2	0	1
Maximum		5	5	5	5	5	5
Percentiles	25	2.00	4.00	3.00	4.00	2.00	4.00
	50	3.00	4.00	4.00	5.00	3.00	5.00
	75	4.00	5.00	4.00	5.00	4.00	5.00

In terms of WLB rating, there are differences between the three modes of commuting arrangements. As Table 6 shows, the highest average WLB rating is reported from trades people engaged in Residential commuting arrangement (4.61), followed by FIFO commuting arrangements (1.71) and lastly DIDO commuting arrangements (1.01). The data show that trades people engaged in either FIFO or DIDO commuting arrangements are struggling to achieve WLB as the score is below the average. However, the respondents working in Residential commuting arrangements indicated that they are achieving a better WLB compared to the other two modes of arrangements, thus validating Hypothesis 1.

Construct Validity: Factor Analysis

The use of factor analysis is effective in combining items into a smaller number of factors as a form of data reduction, thereby reflecting the latent or underlying variables that describe the pattern of correlations within a set of observed variables (Henson and Roberts 2006). Essentially, factor analysis is used to “retain all important information available from the original data (e.g., between-individual variability and the covariance between the construct under study and other related constructs) while unnecessary and/or redundant information, as well as noises induced by sampling/measurement errors, are removed” (Matsunanga 2010, p. 98). Also, the method has been used in several WLB studies such as Walker, Wang, and Redmond (2008), Lyness and Judiesch (2008) and Shane, Locke and Collings (1991).

To identify the underlying factors of the variables that have an influence in the achievement of WLB among trades people, factor analysis was run on 26 variables. Exploratory factor analysis was conducted taking the assumption that all items are measured on an interval scale. The method involved the application of Principal Component Analysis (PCA) with orthogonal rotation (Varimax). An initial analysis was run to obtain eigenvalues for each component in the data and only factors with eigenvalues over one were extracted, as recommended by Field (2009). Following the recommendation of Field (2009) to find the number of factors, two methods were utilized; eigenvalues greater than 1 and factors that lay above the elbow of the scree plot.

Preliminary examination of the items using principal component analysis with Varimax rotation to maximize variance, revealed eight factors having an eigenvalue greater than one, Table 7. The interpretive labels given to the eight factors are as follows: **WLB Orientation** (*WLB Orientation, Family Time Difficulty, Community Activity Difficulty, Personal Business Difficulty, Study/Training Difficulty and Leisure Difficulty*), **Values** (*Work, Economic, Physical and Relationship Values*), **Work Hours** (*Starting Time, Finishing Time and Overtime*), **Management Expectations** (*Roster-Time Difficulty, No-Roster Choice Difficulty, Time-Off Difficulty and Management Expectations Difficulty*), **Recreational Need** (*Recreational Values and Workmate Expectations Difficulty*), **Material Needs** (*Material Values and Notice Period*), **Health and Fitness** (*Health and Fitness Values*), and **Religious Commitments** (*Religious Commitment Values*). The eight underlying identified factors accounted for 62.5% of the total variance. These results were consistent with the scree plot which suggested eight factors as the most meaningful and interpretable solution. This was indicated by a sharp break after eight components. Table 7 shows the eight factors extracted from the analysis along with their eigenvalues, the percentage of variance attributable to each factor, and the cumulative variance of the factor and the previous factors. The eight factors can be attributed as having major effects on how trades people achieve WLB whilst doing FIFO, DIDO or Residential commuting arrangements.

Table 7: Factor Analysis – Total Variance

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.159	15.995	15.995	4.159	15.995	15.995	3.205	12.328	12.328
2	3.044	11.709	27.704	3.044	11.709	27.704	2.644	10.170	22.498
3	2.325	8.942	36.647	2.325	8.942	36.647	2.197	8.450	30.947
4	1.693	6.511	43.158	1.693	6.511	43.158	2.161	8.311	39.258
5	1.539	5.920	49.078	1.539	5.920	49.078	1.924	7.399	46.657
6	1.303	5.011	54.089	1.303	5.011	54.089	1.702	6.547	53.205
7	1.162	4.468	58.558	1.162	4.468	58.558	1.258	4.837	58.041
8	1.026	3.944	62.502	1.026	3.944	62.502	1.160	4.461	62.502

Extraction Method: Principal Component Analysis.

Correlation matrix

Consequently, the items comprising each of the eight components were summed to create the eight variables of WLB. Using the mean values of the contributing variables, a correlation analysis was conducted with the eight factors and WLB (Table 8). The correlation coefficients reported in Table 8 show that there were no statistically significant relationships, either positive or negative, among the other variables except the recreational needs and values. This relationship could be interpreted as an indication that recreational needs are one of the critical values considered by trades people engaged in FIFO, DIDO or Residential commuting arrangements.

Table 8: Correlation Matrix

WLB Orientation	1.00							
Values	0.29	1.00						
Work Hours	-0.25	0.15	1.00					
Management expectations	-0.06	0.16	0.29	1.00				
Recreational Needs	0.13	.69**	0.26	0.21	1.00			
Religious Commitment	-0.12	0.10	-0.17	0.07	0.13	1.00		
Material Needs	0.18	0.20	0.23	.53**	.47**	0.01	1.00	
Health and Fitness	0.08	-0.19	-0.07	-0.01	-0.26	0.01	0.12	1.00

** . Correlation is significant at the 0.01 level (2-tailed).

Effects of life related factors on WLB

Using the values of the factors extracted in the initial factor analysis, a multiple regression was run to predict WLB rating from WLB orientation, age, gender, caring responsibilities, values, recreational need, material needs, health and fitness and religious commitments. The control variables were age and gender. The assumptions of linearity, independence of errors, homoscedasticity, unusual points and normality of residuals were met. Out of nine variables, only two factors statistically and significantly contributed to the prediction of trades people rating of WLB Rating, $F(9, 172) = 46.221, p < .0005, \text{adj. } R^2 = .531$. The Durbin Watson statistic for the analysis was 1.843 indicating that there is no correlation between residuals. The results indicated that the two factors accounted for 53% of the variance associated with WLB rating. Regression coefficients and standard errors are shown in Table 12.

Table 9: Regression of WLB on life related factors (N = 181)

Variables	<i>B</i>	<i>SE_B</i>	β
Intercept	93.3	5.29	
WLB Orientation	.542	.108	.357**
Age	.110	.095	.083
Gender	.050	.110	.034
Values	.069	.109	.047
Caring Responsibilities	-.627	.403	-.450**
Recreational Commitments	.103	.068	.113
Religious Commitments	.025	.075	.024
Material Needs	.006	.078	.006
Health and Fitness	.046	.045	.072
<i>R</i> ²	.551		
<i>Adjusted R</i> ² WLB	.531		
<i>F</i> (significance)	9.172 (0.005)		

Note. * $P < .05$; *B* = unstandardised regression coefficient; *SE_B* = standardised error of the coefficient; β = standardised coefficient

The statistics shown in Table 9 indicate that WLB orientation ($\beta = 0.36, p < 0.01$) and caring responsibilities ($\beta = -0.63, p < 0.01$) are significant predictors of WLB rating. The results indicate that the variables entered in the regression model accounted for 53% of the variance associated with WLB rating. Hypothesis 3 is confirmed, although WLB orientation is positively related to WLB rating, caring responsibilities have a negative bearing on WLB rating.

This highlights the fact that trades people who value the creation and maintenance of supportive and healthy work environments tend to achieve a better balance between work and personal responsibilities. On the contrary, and as expected, the demands from the family domain, as dictated by caring responsibilities, tend to have a negative effect on the achievement of WLB.

Effects of job related factors on WLB

A second factor analysis was applied to identify underlying factors on perceived work demands that affect the achievement of WLB. The objective of the analysis was to explore ways in which the work demands of FIFO/DIDO or Residential modes of commuting arrangements make it harder for employees to achieve WLB. Preliminary examination of the items using principal component analysis with Varimax rotation to maximize variance, revealed three factors having an eigenvalue greater than one. These results were consistent with the scree plot which suggested three factors as the most meaningful and interpretable solution. This was indicated by a sharp break after three components. The three underlying identified factors accounted for 55% of the total variance.

As Table 10 shows, the first factor with the theme *Time Constraints* was explained by three components which include starting (0.789) and finishing (0.818) times, and difficulty in working overtime (0.617) (see Table 8). The second factor *Job Demands* was comprised of the timing of the roster (0.648), no choice on roster type (0.735), difficulties in taking time off (0.74) and the expectations from management (0.638). The third factor *Perception on Commitment* carried three components, viz., the time required to give notice (0.649), expectations from work colleagues (.617) and other factors (0.626).

Therefore, time constraints, job demands and perception on commitment can be attributed as major effects on how easy or hard it is for trades people to achieve WLB whilst doing FIFO, DIDO or Residential commuting arrangements.

Table 10: What makes it harder or easier to achieve WLB

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.762	27.619	27.619	2.233	22.331	22.331
2	1.59	15.901	43.52	2.115	21.153	43.484
3	1.244	12.438	55.958	1.247	12.473	55.958
Extraction Method: Principal Component Analysis.						

Kruskal-Wallis test

A Kruskal-Wallis test, a nonparametric test equivalent to the one-way ANOVA, was used to determine whether there were any significant differences between the medians of the three independent (unrelated) groups, FIFO, DIDO and Residential commuting arrangements, on factors extracted from factor analysis. This test was applied to assess any variance between the groups on the three underlying factors initially extracted by factor analysis, that is, *Time Constraints*, *Job Demands* and *Perception on Commitment*. The test was carried out based on the assumption that the dependent variables were measured at interval level using a 5-point Likert scale. The second assumption is that the three groups are independent of each other. The Kruskal-Wallis test enables the determination of whether there is an overall effect of the independent variable on the dependent variable; therefore, to identify where the differences lie, pairwise comparisons were performed using Dunn's (1964) procedure with a Bonferroni correction for multiple comparisons.

Table 11: Kruskal-Wallis Test

Factor	Null Hypothesis	Test	Sig.	Accept/Reject
1	The distribution of Job Demands is the same across categories of FIFO, DIDO and Residential	Independent -Samples Kruskal-Wallis Test	0	Reject null hypothesis
2	The distribution of Time Constraints is the same across categories of FIFO, DIDO and Residential	Independent -Samples Kruskal-Wallis Test	0.1	Retain null hypothesis
3	The distribution of Perception on Commitment is the same across categories of FIFO, DIDO and Residential	Independent -Samples Kruskal-Wallis Test	0.81	Retain null hypothesis

The tests (pairwise comparisons) were run only on statistically significant results, which were accepted at $p < .05$. The results show that the experiences of trades people across the three modes of commuting arrangements was significantly different on *Job Demands* ($\chi^2 (2) = 14.069, p=.001$) but not on *Time Constraints* or *Perception on Commitment* (see Table 11). Pairwise analysis revealed statistically significant differences in the *Job Demands* score between the Residential ($Mdn = 4.12$) ($p = .001$) and DIDO ($Mdn = 7.10$) ($p = .001$) and Residential ($Mdn = 5.32$) ($p = .001$) and FIFO ($Mdn = 6.13$) ($p = .001$) groups but not between DIDO and FIFO commuting arrangements. These results confirm Hypothesis 2, indicating that, in terms of the achievement of WLB, there are no differences between FIFO and DIDO trades people.

Summary of Quantitative Results

It is noted that most trades people felt that FIFO and DIDO forms of commuting arrangements had a negative impact on their WLB; however, the Residential commuting arrangement does not seem to have the same effect. The main issues highlighted included lack of family time due to the length of periods away from partners and children, long working rosters in difficult conditions and the starting and finishing times. Consequently, these issues interfere with trades people's ability to perform social and domestic activities which increased the likelihood of experiencing greater strain on the family; for example, participating in sport, religious activities, carrying out personal business and looking after children.

These issues were indicated as more predominant in the FIFO and DIDO commuting environments more than Residential commuting arrangements. The findings can be an indication of the prevalence of WLB satisfaction by Residential trades people since they have the opportunity to return home every day. Some mine sites are located in or near regional centres or small townships, making it possible to employ DIDO or Residential workers, whereas some are in very isolated areas leaving only the option of FIFO commuting arrangement. Such changes might point to an acknowledgement by employers of the need to make life at a mine-site a more enticing prospect in order to attract FIFO workers. These changes are more evident in the DIDO and FIFO as opposed to Residential arrangements.

The traditional 4 weeks on and 1 week off or 3 weeks on and 1 week off rosters have been replaced by rosters such as 4 days on and 4 days off or 16 days on and 5 days off. Roster changes allow workers the freedom to pursue other activities and spend more time with their families. The majority of participants in the study had no carer responsibilities; carer responsibilities defined as having children under 5 years of age, primary or secondary school children, a child with a disability and/or care for an elderly relative. Most of those with carer responsibilities were engaged in either DIDO or Residential commuting arrangement, clearly indicating that caring for the family poses greater challenges to most FIFO workers.

The initial, quantitative phase of the study met some research objectives; however, some questions still remained unanswered. For example, what factors motivate trades people to work in the mines?; what coping mechanisms do they use?; and, what recommendations do they have for improving the system? The remaining questions were answered in the second phase of the study by means of a qualitative research method. Employing qualitative methodology was most suitable for the next part of the study as it focussed on collating, analysing and interpreting the realities of WLB for trades people, including their partners' experiences and the complexity of challenges they faced (see Chapter 5 below).

CHAPTER 5:

QUALITATIVE STUDY

Introduction to the chapter

The last phase of data collection involved the use of interviews as a mechanism to obtain a deeper understanding on how respondents define WLB. Also, the objectives included identifying the challenges employees and their partners faced in managing FIFO, DIDO and Residential commute arrangements, successful or failed WLB techniques and strategies they had used as a family and, finally, what they would recommend as a better way of managing the WLB circumstances.

The interviews were semi-structured to ensure consistency of approach across participants, but also to allow elaboration of interviewees' personal accounts. All interview questions were developed from the data gathered through survey questionnaires. The relevant interview schedule is in Appendix 1. The interview participants comprised of fifteen couples, of trades people and their partners who were equally selected from each commuting arrangement, 5 couples from FIFO, 5 couples from DIDO and 5 couples from Residential commuting arrangement.

The three groups were coded as follows; FIFO trades people were identified by letters and numerical numbers from T1 to T5 and their partners were identified by from P1 to P5; DIDO trades people were identified by letters and numerical numbers from T6 to T10 and their partners were identified from P6 to P10; Residential commuting trades people were identified by letters and numerical numbers from T11 to T15 and their partners were identified from P11 to P15. The interviewees shared various views based on their individual circumstances and their experiences of WLB in a FIFO, DIDO or Residential environment. Similarities were drawn in some of the challenges they faced in achieving WLB; for example, the challenge of working away from home.

The majority of participants indicated that family was their key priority; hence, the need to attend to both work and family commitments whilst working away was a point of tension. Mining companies, policy-makers and practitioners need to be aware of the unique set of challenges faced by trades people engaged in FIFO, DIDO or Residential commute arrangements.

These challenges led many couples to talk about their personal feelings, challenges and strategies that they implemented in an effort to alleviate the separation effects. In some couples the issues were so serious that they had reached the point whereby their relationship was being strained. As a result, 2 couples of those doing FIFO and 1 couple of those doing DIDO commuting arrangement chose not to participate in the interview as a couple, but as individuals. In that case, interviews were arranged separately and at convenient locations. Furthermore, information from individual participants was not disclosed to partners as this could worsen the tension between them.

Results from the interviews are presented in a manner that enables the reader obtain a sense of the couples' experiences and the underlying themes connecting those experiences. A summary of the themes that emerged across participants is provided. The chapter containing information on the findings of the qualitative interviews is concluded with a statement of recommendations by participants as to how WLB may be improved.

Participant summaries

The fifteen couples who participated in this aspect of the study were eager to share their experiences and coping strategies they used to try to juggle the demands of both work and non-work priorities. Table 12 below summarizes the demographics for this sample.

Table 12: Participants' demographics

Participant	Period employed	Partner- Employment Status	Age of tradesman	Caring responsibilities
Couple 1	25	Employed	Early 50s	1 primary child
Couple 2	7	Employed	Early 40s	No children
Couple 3	12	Employed	Late 40s	21 year old son
Couple 4	1	Employed	Late 20s	1 infant baby
Couple 5	6	Employed	Early 40s	2 secondary school children
Couple 6	1	Employed	Mid 30s	1 primary school child
Couple 7	34	Employed	Early 60s	No children
Couple 8	8	Employed	Early 50s	1 primary and 2 secondary
Couple 9	15	Employed	Late 40s	2 secondary school children
Couple 10	7	Employed	Early 50s	No children
Couple 11	25	Not Employed	Early 40s	1 primary and 2 secondary
Couple 12	4	Employed	Mid 40s	1 secondary
Couple 13	15	Not Employed	Late 40s	2 children secondary school age
Couple 14	12	Employed	Mid 40s	1 primary school child
Couple 15	3	Employed	Mid 30s	2 primary school child

Trades people participants were engaged in a FIFO, DIDO or Residential commute arrangement, working in the Western Australia mining industry. Although some of the participant's partners were employed part time, a majority (87%) of them were engaged in full-time occupations; e.g., carer, human resources practitioner.

The sample size was of adequate dispersion to cover all three modes of commute arrangements and a variety of rosters, as shown in Table 13 below. This range also included trades people working in both mining construction and operation in dry sites. The WLB experiences of the participants are summarized in the following pages.

Table 13: Rosters and Mining Industry of Participants

Couple	Type of Mining	Commute Method	Roster
1	Operations	FIFO	8 days on, 6 days off
2	Construction	FIFO	4 weeks on, 1 week off
3	Construction	FIFO	3 weeks on, 1 week off
4	Construction	FIFO	28 days on, 6 days off
5	Operations	FIFO	3 weeks on, 1 week off
6	Construction	DIDO	4 weeks on, 1 week off
7	Construction	DIDO	4 weeks on, 1 week off
8	Construction	DIDO	11 days on, 3 days off
9	Construction	DIDO	11 days on, 3 days off
10	Operations	DIDO	8 days on, 6 days off
11	Operations	Residential	4 days on, 4 days off
12	Operations	Residential	4 days on, 4 days off
13	Operations	Residential	4 days on, 4 days off
14	Operations	Residential	4 days on, 4 days off
15	Operations	Residential	4 days on, 4 days off

Basic results and analysis

The motivation for FIFO, DIDO or Residential commuting

In examining the main factors why trades people were engaged in FIFO/DIDO, a number of varied reasons were raised, including the fact that FIFO/DIDO provided an opportunity to live in the cities with friends and family, and have access to city amenities when not at the mine site. However, money was the major attraction to FIFO/DIDO, a factor mentioned by all trades people who participated in the interviews. A boilermaker welder who had been doing FIFO for more than ten years described it this way:

When I came out of my trade ... my friends that were engineering on boats were paid commission and were earning six times, seven times as much as I was. So I went into FIFO to earn that money and then got a woman pregnant and had a son, meaning more responsibilities. The money that I had to earn to keep her at home so she could be the mother that she wanted to be and raise her son led me to start working away and plus I got a certain lifestyle that needed money. (T3)

Maintaining one's lifestyle was identified as an essential element to a meaningful life. FIFO or DIDO type of work provides high income enhancing the employees' ability to afford a better life. One of the participants was employed as an electrician on FIFO roster of 11 days on and 3 days off and she made this comment:

I like the freedom, the choice it gives and if my son wants something, he can get it and if I want to go on a holiday, I can go, or if the missus wants to say do adult university like she's just done to be a teacher at 40 then we can pay for that. And life choices you don't have to, you know, sit there and save up a meaningful amount of money; you can just go, bang, right. So money opens up choices for your whole family, you know, they don't miss out on anything. The reason you're here is because as a group you've decided that you don't want to sit on the dole, you do want to get a house, you know, paid for and your children educated and keep opportunities going. (T5)

A third of the interviewees expressed concern over the lack of job opportunities and low wages in their local area; as a result the only option available was getting involved in FIFO/DIDO. A senior diesel plant fitter involved in maintaining mobile plant on a FIFO mode of commuting arrangement and working on one of the mining sites raised the issue of low wages prevalent in local jobs, saying:

The reason you're here is because you can't survive, like, I can't go back to an interstate city and get an \$800 a week job ...because you can't survive on that when you've got loans and stuff like that, you know. (T1)

The majority of trades people interviewed (90%) reported their situation as driven by the need to clear debts and set themselves up financially; i.e., there was a concern about being trapped in debts. Despite facing difficulties in FIFO or DIDO commuting arrangements, the majority of participants felt they had to make personal sacrifices in order to achieve financial security. One of the participants whose partner was a rigger with less than 2 years FIFO experience expressed her appreciation of the income and the responsibility that fathers had to make in order to set up a good family future:

He is a family man with two children and a wife. We have got plans. To suit our plans the man of the house needs to work and sacrifice so that we can meet our dreams. There are pros and cons. I mean I can see why it's really advantageous to do it because you can get yourself in a position where you can get money in the bank for a deposit on a house and financially you can set yourself up. (P4)

The same view was equally shared by her partner who was doing FIFO commuting on a 28 in 6 roster and had recently paid a deposit for a house:

I do FIFO due to the higher wages. We are trying to purchase a house, so because it is only a short term assignment; it is purely just for the money. I think 99% of the people doing Fly-In, Fly-Out or Drive-In, Drive-Out are doing it purely for the money. (T4)

There was a consistency in the way trades people working in both FIFO and DIDO commuting arrangement perceived the challenges they had to face in order to earn the huge financial rewards. The rewards came in the form of significant project and living allowances on top of excellent base salaries. A dual trade male mechanical fitter and welder with experience in both FIFO and DIDO commented:

FIFO or DIDO is one of the largest sacrifices I have made in my life. I have sacrificed my time with the family, friends and fishing but I like this job. (T8)

Out of 15 tradesmen interviewed, only four cited the type of work as a major motivation for being engaged in FIFO/DIDO/Residential commuting arrangements and 2 of them were doing Residential, 1 engaged in FIFO and 1 DIDO commuting arrangement. The difference noted among these four participants was the fact that 2 Residential commuting trades persons had caring responsibility whilst the other 2 engaged in FIFO and DIDO commuting arrangement respectively had no caring responsibilities. Although they both agreed that they experienced some negative challenges associated with these commute arrangements, the major attraction to them was the type of work. Participants reported that it is an environment in which team work prevails, differences are respected and both employers and employees have key roles to play. One said:

Probably life as a FIFO worker is not ideal; it's a trade-off where you agree to trade away a part of your life for big bucks. But on a personal basis, I enjoy the work, being involved in big projects and working for big mining companies like BHP or Rio Tinto, and just working in a team, I can't complain. (T2).

Besides earning significant incomes, a seasoned male mechanical fitter suggested that unlike working in a small metropolitan workshop, the DIDO work environment is not restrictive and the scope of work is big and varied; therefore, it offers the opportunity to fully demonstrate his skills working as a trades person, as he identified the following factors:

I'm not boxed in, in a little corner in a workshop, yes, and you get to show your full ability as a tradesman whereas in workshops you're restricted by what they want. (T10)

In addition, a DIDO steel fixer, who was engaged in a green field mine construction project identified that, besides other positive factors associated with DIDO commuting arrangement, the mining environment had triggered his interest as he gets the opportunity to see different areas in their natural settings:

Plus another thing, you can find lots of enjoyment working on the sites seeing the environment around - because Australia's big bush or whatever, it is beautiful and not very often do we have an opportunity to go to the country side, but still, still it helps. (T9)

A rigger who was engaged in FIFO commuting arrangement perceived the freedom that FIFO/DIDO offers to the miners as a positive attraction. Although he was married at the time, he had no children or any caring responsibility. Referring to the freedom to plan his daily activities he mentioned:

The positive side is the freedom that I'm away from home most of the time, away from the domestic responsibilities and when I'm doing my job I'm free, not disturbed by anything which means I'm 100% doing the job I like. If I'm planning something or if I'm preparing for something I have ample time because after work, all these hours I'm alone. I can do what I want, I can plan my things. (T2)

Only one partner out of all those interviewed confirmed that the time and distance caused as a result of FIFO/DIDO had a positive affect on their marriage. As a mother of one, she noted that the time created whilst one was apart brought them closer and underlined that this strengthened their relationship:

Yes, I think in some aspects it probably works well for a lot of couples in the respect that you kind of get your little bit of time apart as well as having your time together which is quite nice. It is kind of nice that I sort of get to do the things I want to do and, you know, see people when I want to see them and things like that because I don't have to sort of work around us together as a couple because L's not here, you know what I mean? It's probably the same for him, like ... I think your marriage works really well because you get a little bit of space but then you look forward to seeing each other as well sort of thing. So you don't live in each other's pockets constantly. (P3)

Challenges in achieving WLB

About 90% of the trades people interviewed indicated that, generally, they were not satisfied with their WLB. Of the 90%, 45% were engaged in FIFO, 40% were engaged in DIDO and only 5% were engaged in Residential commuting arrangement. Though several issues were identified, the main concerns raised by the participants were worrying about the partner or children becoming ill or being injured while they were away:

I think principally for this job where we are right now, it's working away from home, just straight out working away from home. It's that separation though, if she is back home and I am here, I don't see her for three weeks at a time and all you've got is the telephone to communicate. So if she's having a tough time or whatever, it's really hard, you can't do the face to face, you can't talk through things. So I think straight up its just working away from home. That's the biggest contributor to that imbalance and the tension that arises from that. (T8)

Most participants (nine out of ten) engaged in FIFO or DIDO commuting arrangement, in particular those with young children, agreed that the struggle with the separation was a major concern. A long tenure DIDO scaffolder who is only a year before the retirement age highlighted the challenges he had witnessed over the years among some of the young tradesmen and their partners:

I work with a couple of guys who are young they are new dads and leaving a newborn baby, that affects them. On the fly out day you can see the couples hugging and crying. After a week or two onsite, you can see the emotions as it gets worse and worse each day. It affects his performance, it affects his concentration and sometimes we see, most of the time he's quiet, sad and upset now and the whole time he's thinking about home and one has to try and motivate them because they are there for a cause. (T7)

As one FIFO trades people's partner indicated, the effects of working away are not only just on the trades person working on the mine site, but even the partners feel the challenges. Her partner had over 25 years doing FIFO commuting and, at times, on long rosters such as 4 or 6 on and 1 week off. She made the following comment:

I'm an older woman, my children are adult, both girls over 30 and I accepted that the lifestyle of my husband is mainly out in the bush. But when I was younger and the children were young it was harder. (P1)

In regards to achieving WLB, 95% of the trades participants, both male and female, and all ages suggested that WLB was not achievable whilst onsite doing either FIFO or DIDO. A long time DIDO scaffolder concluded:

I'd say work-life balance, there isn't any balance whilst on site, you can't balance one week at home and four weeks away. You just can't balance that, there is no balance. (T7)

Even those participants engaged in Residential commuting arrangement agreed with their counterparts, as one middle aged diesel plant fitter who had given up on FIFO and DIDO resorting to Residential commuting explained:

It's very bad, it's actually not conducive to a good family time, doing sport or personal business, engaging in extra studies whilst onsite. You can't get enough time to go on holiday because the resting period is too short. (T11)

In comparing the length of resting periods, seven out of the ten participants (and their partners) engaged in either FIFO or DIDO preferred FIFO work arrangements over DIDO because they offer a relatively longer period to spend at home. Several comments were passed regarding the FIFO preference. One of the partners, a middle aged full time employee and mother of 4 described her experiences with DIDO:

Well, I don't think there is work-life balance with the Drive-In, Drive-Out because it would be the shift at work and it's almost like a shift of driving as well, either side of the hours of work for me. So he is getting up extra early which means going to bed extra early, which means basically coming home, having something to eat, saying hello and then going straight to bed. So sometimes I actually think that the Fly-In, Fly-Out would've been better because the time that he spent at home would be quality time. (P9)

More than half of the trades people interviewed felt that FIFO, DIDO and Residential modes of work organisation were self-selecting groups. About 75% of the participants described the mining environment as not suitable for those with weak personalities. This is attributed to the geographic location, which is characterised by a rural setting, often labelled as out there, miles from anywhere, out of civilisation, in the middle of nowhere and out in the bush, suggesting a specific profile distant from the metropolitan sphere. Secondly, the mining environment is defined by the masculine practices, assumptions and beliefs of mining camp life, such as swearing, drinking and violence. As a welder and father of one who is engaged in a 3 weeks on and 1 week off DIDO roster put it:

I think it's probably a bit, a little bit overbearing there but that's how it is. You do it because that's what you like. It's a take it or leave it scenario, it's more like a life sacrifice you know. (T6)

Some interviewees acknowledged the challenges; however, they felt that they had reached a stage whereby the challenges had formed part of their normal life. This experience was reported mainly by those who had been engaged either in FIFO or DIDO commuting experiences for a long time, such as ten years or more. One participant who had been doing both FIFO and DIDO for more than 15 years responded as follows:

You just live with it, its normal. Work/life balance, the best one, basically we can't expect that our life, personal life, or work life, is without problems – you always have some troubles or problems. (T9)

Citing the strength of keeping the correct mindset and accepting the circumstances, a diesel plant fitter who had been doing FIFO commuting arrangement for more than 25 years also added:

Well, environment is here and there's nothing you can do; we can't change the temperature, we can't change the rain or dust storm. Or it is 99.9% I believe in human mind. You live in the now, so if you can't be thinking about what's over there or what you haven't done. That's the strategy. So you choose to be happy because this is where you are, this is what you're doing. So then when you go home, obviously I'm not saying I don't look forward to going home, I do, of course I do, but yes, while I'm here it's about the now.

(T1).

Lack of time with friends and family

Unlike participants engaged in Residential commute arrangements, all couples whose partners were engaged in either FIFO/DIDO expressed a major concern over the lack of family time. This included those with young children through to those with grandchildren. A trades person with one child at college and the other one doing primary school felt that:

Being away from home is one of the most disturbing things when it comes to family union where you are supposed to have your children around you, your wife around you and you are found, maybe you are at home six days a month and the rest of the time you are at work. The kids miss you, your wife misses you and some home activities which you want to do, they lag behind. You are stressed out. Although you can communicate with your family through phones, Skype, the human factor is not ... Although you can see pictures and talk it's different from face to face. (T8)

A male senior boilermaker welder who had been doing FIFO commuting arrangement for many years expressed his feelings in the following comment:

I started coming up here 12 years ago, leaving my home and family; it's very hard, you know, very hard because you are always thinking about your family and it is depressing. (T3)

Over 75% of participants (and their partners) engaged in Residential commute arrangements expressed the view that their choice of work practice was driven by the need to spend more time with the family and friends. On the contrary FIFO or DIDO participants, both male and female tradespeople, reported apprehensions about taking a lesser role in family life and being a stranger when they return home. A DIDO pipe fitter, middle aged and had children who were both in primary and secondary school. He reported his experience with regards to family reaction during the entry or exit periods:

Because I am always away, I come in there and it's different; I am a stranger in my own home, I have to pull back, pull away, and then I only have seven days and maybe by the end of the resting period things start getting better as I repossess a bit of responsibility but then I leave for work, so some of these guys that I've met enjoy it, I think they get accustomed to it after many, many years. (T10)

In the same context, a FIFO rigger who had no children or any caring responsibility also added:

The percentage rate is just huge. I've witnessed guys that have been in the business for 20/25/30 years and they go home and they tell me that they feel distant from their family – their families are going along with their own business, with their own life. (T2)

Missing out on time with children was considered a major issue with FIFO or DIDO, but not with Residential work practices. A middle aged female electrician, who was engaged in FIFO commuting arrangement on a 3 in 1 roster, expressed her concern over duration that one is away from the children:

It's a long time to be away from home, a lot of these people miss out on their children growing up, they miss all the ... you can't just turn around and say, oh it's my child's birthday, I want to be home, you miss them. Sporting events that they're in, you miss them, you know. Some of us are ... you're over here, your anniversaries and whatever, you miss them. (T5)

It was reported that the location of the mine sites and the requirement to book the flights ahead places a lot of strain on workers when there is an emergency at home. A young rigger gave this example:

A crane driver received a call saying his three year old was violently sick, the wife was losing the plot and she needed to take him to hospital. He couldn't stay here and work anymore knowing that the young fellow was in hospital. However, due to the delay in the flight bookings, he couldn't make it until the following day. (T4)

However, with regards to flight bookings, one of the participants' partner, whose husband was a DIDO welder and father of 1, thought DIDO was better for various reasons:

It would only be good in DIDO like when ... had to go to hospital in the night, I was able to take him because I had [partner] at home, or if something happened in the middle of the day he would be able to get home in an emergency. So, on the emergency side of things it was better because he wasn't, you know, a plane trip away, which can take maybe two or so hours, plus booking time. (T6)

Participants also felt the challenges of isolation and loneliness that could lead to depression; difficulties in developing relationships; missing out on important occasions such as family reunions, birthdays and weddings; and difficulties to blend into the community due to long periods away from home. These challenges were mainly predominant in the young families. Even those without caring children or other caring responsibilities still felt the impact of FIFO or DIDO on spending time with extended family:

I've got nephews and nieces and each time I come back home they've grown quite a fair bit and you're not there for that time to see them and build that relationship with them. (T2)

Mature participants who had independent children expressed less distress over the lack of family time:

It is more difficult for a husband and a wife with little children, and the man's only got six days off to see his children and his wife – he's got to give the children attention, the wife attention ... it can be very stressful. So I think we are lucky in that we are older and we've been married for a very long time so these breaks don't really affect our relationship. Therefore, I'm the perfect person to have Fly-In, Fly-Out or Drive-In, Drive-Out apart from the fact that the hours sometimes get me down because I've raised my family. I don't have young children. My wife and I've been married for 25 years and, you know, I'm not trying to build on a relationship or, you know, I've seen so many guys get into strife here with their marriages, their relationships, their children, their women because, you know, the women, I guess, must feel that they want more support than their partners are able to give them while they're out here and it's too sad. So I've done the dad thing and I've raised kids and I've managed to work while I was doing that. (T7)

To those doing Residential commute arrangements, lack of family time was not an issue; nevertheless, they raised the point that it is up to an individual to manage their WLB. This, according to the participants, is attributed to the fact that Residential workers come home every night and probably spend most of the weekends with the family. Moreover, in the case of a family emergence, they can come home relatively easy and quicker than someone based onsite. A Residential commuting painter expressed his job satisfaction and WLB perception as follows:

I think I am quite happy with my family time, doing 4 in 4, I have ample time with the wife and the kids. When I'm at home or when I'm off work I like to just bludge around so any moment bludging is a good moment and I don't seem to be short of those in my downtime. To be reasonable I haven't had too much, you know, extra hours working once I get home and all that sort of thing and it has been pretty good so I'm pretty happy with it. I mean it's difficult when you're working away because are away from the family. (T13)

Effects on partner and friend relationships

Over 75% of the participants reported negative impacts with FIFO or DIDO commuting arrangements; either in their personal relationships or having witnessed friends go through the same experiences. Trades people described the various challenges faced by their partner when they were away from home; e.g., parenting alone, dealing with busy schedules, maintaining basic house chores and dropping off and picking up children at school or sporting events. In addition, the partners experienced the challenge of having to carry out practical tasks which fell outside their normal role; e.g., mechanical repairs and mowing of lawns.

The majority (95%) of partners also reported the challenges of maintaining a relationship and making decisions when apart. The major effect reported was that of strained relationships and the related concern regarding high rates of extramarital affairs and divorce. One of the participants whose partner is a Residential mechanical fitter explained:

I think there are so many problems; mainly the relationships are breaking up every time. My friends were married before, too many families separate because the people are working away, always out. They struggle to navigate through a FIFO or DIDO relationship, and stay in contact with their partners. Too many friends are divorced or many, many friends are divorcing all the time because the wife and the husband do not spend much time together, they don't know each other anymore. (14P)

Interviewees expressed concern about the divorce rate, citing a trade-off between money and the relationship. These issues are raised on the back of company approved policies on employee wellbeing. A FIFO trades person who had recently been promoted to a leading hand and is engaged on a roster of 3 weeks on and 1 week off explained:

I want to do three weeks on and one week off, you know, because I've been through two divorces and I know that if I keep flying in and flying out doing four weeks or five weeks or whatever, I'll go through another one. Yes, there's a 50% or 40% chance, they tell us at every single induction we do at Company A or Company B or anywhere or Company C or any of these big companies, there is a problem with Fly In, Fly Out work on the relationship. There's a 40% chance that if you're in this game for more than five years you won't have your missus. So that's fairly big, and that affects almost everyone in this game. (T3)

Almost 80% of participants engaged in either FIFO or DIDO commuting arrangements indicated that these types of work arrangements had adversely affected their relationships. A pipe fitter who had extensive experience in both FIFO and DIDO commuting arrangement shared his concern on the difficulties trades people face in their relationships:

I'm sure there's up to 80% or more people who experience a lot of difficulties one way or another either through socially or through, you know, more personally at home with family life and ... It's just a very difficult scenario. I wouldn't know the statistics but I'd be very surprised at some point if there isn't at least 70% or more, and quite serious some of them, you know. (T9)

The same difficulties were being experienced by even those who had just started either FIFO or DIDO commuting arrangements. For example, a young welder and father of 1 who had just started doing DIDO on a 2 weeks on/1 week off roster cited the challenge of sustaining relationship longevity in a FIFO or DIDO commuting job:

I'm not sure if this is sustainable for a real extended period of time; you see old guys up here that have continued to work away on long rosters ... pretty much have nothing except, you know, the marriage breakdowns, they kind of get estranged from their family and their children because they're away so long. Even the strongest couples, when you are separated for the three or four weeks at a time, it can have a major effect on your relationship. Long term I would rather do a regular city job or something closer to home job where you work through the week and you have your weekends off. That to me, long term, is a better balance, especially if you want to have a family or anything like that. Being able to go home to see your family each night, I think that long term is a lot healthier to your relationship and family than doing this long term. (T6)

It was reported that, despite the good lifestyle offered by FIFO/DIDO, the high wages do come at a cost, as 85% of the participants felt that these commuting arrangements had a major impact on relationships; even though, age was a moderating factor, with old couples tending to manage it better than young couples. Since the lifestyle is dictated by a roster, the participants reported that they sleep more nights in a donga camp away from home than they do under their own roof with a continually rotating schedule involving day or night shifts. The strain that FIFO or DIDO commuting placed on a relationship was described as spilling over into the issue of individuals indulging in alcoholism or drugs. It was further reported that there are just a few who have sought help in managing these issues:

You know ... but I mean a woman's alone, like me, I'm alone four weeks and we get together for just one week; if I was a younger woman I would have established a completely independent life for myself and he's just passing through, he is more like a visitor than my husband, you know? Oh, yes, I've met some people along the way in my years of working in this Fly-In/Fly-Out but they have problems with their missus or their girlfriend and the next best thing, it's either they turn to alcohol or drugs and then they live like a reckless life - they get reckless, having problems that are so far away from them, they can't really manage the problem, it's too far from them. If they're from the East and they're working here and then they start drinking a lot and they become reckless and, you know, they try and hide their problem too because this is a man's environment here. Family problems and spouse problems and all, it affects anybody and you know when you like somebody it affects you, no matter who you are. So they try and hide these problems and then they turn to alcohol. (T5)

As reported, the FIFO/DIDO lifestyle is characterised by non-standard work schedules in a high workload setting, while spend long blocks of time away from their partners, consequently, there is a major affect on not just the partner relationship, but even friendships. The distress drags the victims into single lives further, as another participant noted:

The divorce rate is huge, the separation rate and everything else. A lot of people here are single and they're quite, there's quite a lot of, I would say, bitterness amongst some of the men who've left a life behind and they just lead their single life up here. It affects your social life. By the time I get home I don't really particularly want too much social life, so you sort of lose contact with friends and any kind of social activities – you know it's hard to pick that up and run with it because it's chopped apart so much. (T9)

Short resting period

One major concern with FIFO or DIDO workers was the requirement to be away from home and family on a regular basis, and this pattern of arrangement is often characterised by the long rosters and shorter resting period. Unfortunately, the participants reported that these different absence profiles have negatively impacted on their WLB. The most common roster in construction mining is 4 weeks on/1 week off. However, in operations mining the most common roster is 8 days on/ 6 days off but a variety of rosters are used.

All interviewees engaged in either a 4 weeks on/1 week off, 3 weeks on/1 week off or other long rosters indicated that they would have preferred a 2 weeks on/1 week off or 8 days on/6 days off. However, those engaged in 2 weeks on/1 week off preferred 8 days on/6 days off. Of the people engaged in 8 in 6 rosters, none of them indicated a need to change their roster; in fact they felt it was more family friendly. A residential boilermaker engaged in 8 in 6 roster suggested:

My roster is perfect and suits my circumstances; it has a feasible time limit, a feasible time for you so at least you've got much more equitable time than four in one. (T12)

Furthermore, the issue of shorter resting periods was mentioned as of major concern mainly by those doing the long rosters such as 4 in 1 or 3 in 1, particularly in the mining construction. A FIFO boilermaker expressed it thus:

Four weeks on and one week off isn't good. It's a long time to be away from home, the government should do something about this, a lot of these people miss out on their children growing up ... Some of us are ... you're over here, your anniversaries and whatever, you miss them. So, for them to turn around after all these things that you end up missing and make you work 28 day swing and you fly back on your last R&R day you're only getting six days back at home. (T3)

The shorter resting periods are further shortened by the flying periods, in particular for workers hired from the Eastern states who, to reach their work site, firstly have to fly into Western Australia then fly on again to reach the mine site, as one participant from Brisbane explained:

If you do look at the swings that they are doing, some of these guys, four weeks which is quite a number of days and then only to have their seven days and then two days chewed up with flying and travelling, so they've only got the five days. Two days is just flying, one day fly in and another fly out, you've got no time for yourself. You've got no time for yourself. So there's no balance there, you know, the only time you have for yourself is when you come back to work. (T1)

With long rosters and shorter resting periods, the main concern raised by most interviewees was the lack of time to spend with families, do personal business, home repairs and visit friends and family within the given time. The situation of working long rosters is further escalated by the weekend shifts. Miners working in the construction industry often have a resting day off RDO on the 13th day of their shift. However, for those employed in maintenance or operations mining, there is no break until the end of the shift when they go on resting and relaxation break. A FIFO boilermaker who is engaged in a 28 in 6 roster described his concern and why it is difficult to do these jobs long term:

For me I like weekends, they're good. That's a bit frustrating at the moment because you kind of live one week at a time in a month. You think of all these things you want to do and then you've got a week to kind of cram them into once a month, so that gets a little bit frustrating I guess. You can't sort of do little bits at a time. Optimally I think this isn't long term. I wouldn't want to do this long term. I think it would become too frustrating. (T4)

The mining construction industry is considered to be the worst in terms of roster convenience. This is attributed to the project-based nature of the construction industry; hence, there is a strict time schedule for the project to finish. A DIDO pipe fitter with over seven years of experience explained:

If I have to work away from home, the construction industry is the most difficult I believe of any industry working away from home with a four and one roster. I have worked before on oil rigs and worked with mining. Oil rigs were two on, two off; that is much better and mining operations is seven and seven or six and eight. Those again are preferable. The main problem with construction is the time. I myself, I mean, when was it ... 2011, I went away on a project and because I pursue these types of job, I mean sometimes they're not ideal - I was away for seven weeks straight I think, and so that was too much. So you can't always get what you want if you're chasing down this type of work. (T10)

In addition, most trades people felt more frustrated with FIFO or DIDO work practises on the basis that the rosters were not negotiable. In mining, rosters are determined by the employer and it is common for each site for an employee to have a different roster. Rosters also differ from contractor to contractor; as a result, employees have no control over the roster as the entire operation or project depends on a cohesive schedule for every employee working on the site. Even the partners of the trades people interviewed confirmed that providing an alternative roster could improve the management of some of the challenges. As one participant, a partner to a FIFO female electrician, said:

Well, I think as she said, like if the roster was a bit smaller, like if it was one on if you could choose a roster that suited your family rather than being sort of dictating what roster you have to do sort of thing. Because like, as he said, we don't know any different and the three and one is fine but two and one or even, you know, one and one would be definitely better. Obviously now that we have kids in secondary school, it's not too bad, whereas before it was hard, and it would be nicer if the roster was a little bit shorter. (P5).

As one participant explained, to those engaged in DIDO, the trades people's main concern was on the type of shifts and the distance away from home to allow the opportunity to drive back home:

It depends on what shift you do, so the length of shift that you're doing, obviously the shorter stints, the shorter stints at home, the turnaround is way too quick. So it's best if you choose shorter swings and a place that's not so remote so that you can drive back home more often. (T7)

On the contrary, a DIDO welder considered that the wages paid were commensurate with the length of the roster. More days on site would mean more money and less days would mean less pay:

If you work a shorter roster you get less pay and so I'm not sure how people would feel about that, you know, because they come away from home for the bucks, so it's a bit of a Catch 22, isn't it? Because you leave home for four weeks, so you get the pay, but you go - it's too long, four weeks is too long. So you go back to three, but you're not going to get that much money, so you'd say well then, is it worth going away then for even three weeks if I'm only getting that sort of money? (T6)

Working conditions

In interviews, mining workers expressed mixed views on the effects of the working conditions. About 40% of the participants perceived that there was minimal impact of working hours on the achievement of WLB. A FIFO participant suggested:

Well basically who doesn't want to work overtime? Before signing the contract, it's all in the contract; it's the basic hours per week, they are basically 38 hours but we are working certain days in a fortnight 10 hours a day, it is in the contract so when I signed the contract I knew. (T2)

The motive to work long hours was also reported to be driven by the need to earn more money through overtime allowances, indicated by this comment from a DIDO worker:

It depends ... if you're on wages, obviously you're on an hourly rate, you're getting paid double time for working overtime and with a salary, they pay you an uplift, so they pay percentage, you've got a base salary but because you're doing this overtime and you're on site, you get an uplift. (T8)

In addition, most workers interviewed preferred to spend more time working and earning more money, than having more free time at the camp as this would lead to more distress since there is nothing much to do. A typical comment came from a FIFO worker:

There's nothing else to do apart from work, I would rather do the longer hours because you're only there for the money at the end of the day. (T5)

However, 60% of the participants considered the hours of work in FIFO and DIDO commuting arrangements to be too long and, thereby, leading to fatigue issues. Factors peculiar to this work environment include extended work hours, irregular and unpredictable working hours, time and day when work is performed and sleep obtained. Apart from limiting the time to rest these working conditions of work are reported to be detrimental to extra activities or studies. Similar to roster arrangements, the hours of work are not negotiable; hence, everyone is expected to work the standard hours as per the project requirements. This report was captured in an interview with a FIFO worker:

We are making ten hours a day if we are told or we have to do any more, you know? There's a bit of travel time as well, you know, so even when you're working a ten plus hour day and then you've got your travelling on each side of it, so if you want to try and get eight hours sleep and you did the sums there's not a lot of, much left over. I don't feel like I can take on much else besides eating and sleeping and going to work, pretty much, yes, because I'm actually trying to study. I'm trying to finish a certificate course, but I just, but I can't sit down to it of an evening. (T3)

In considering issues associated with work hours, it was noted that most participants considered work life and personal life to be interrelated and both can impact on each other. As mentioned in the following comment, there is a spill over effect from one domain to the other. In the same vein, project contractual commitments were reported to be of major influence to the working conditions, including the availability of equipment:

I believe companies are being put under unnecessary restrictions which comes down and reflects on ... inadvertently down to the workers because of contractual amounts that they've put in for tenders, for they're being cut back fine then it has a detrimental effect to the work place. For example, companies have to quote that low to get the jobs to keep all their people employed, it reflects on the equipment and the gear you have to use to do the job. Well it puts more pressure on the other people that are here to put in the extra yards. You end up having incidents and accidents happening because people are pushed too hard. (T7)

Life at the camp

Most miners are provided with meals and accommodation as a means to offset the time spent living away from home. Accommodation provided is in the form of living quarters (dongers) that range from two-by-four metre portable homes to permanent six by eight metre rooms with ensuites. Room furniture is provided, such as fridges, single beds, television, electricity and water. It was reported that camp life was critical to the performance at work and the stress level of employees; in turn, affecting even those at home. In particular, there is a great concern over the camp food that is cooked in bulk portions. About 80% of the participants noted that no matter how good the head chef, camp food was never quite the same as a home cooked meal. A mechanical fitter with over ten years of doing both FIFO and DIDO commuting arrangements had this to say about camp life:

It's not just the management on the site; it's the camp, accommodation, the food – all this stuff actually because I look at it like that. If somebody is doing four in one, he's spending most of his time on the site so sometimes the small problems at the camp are building up big problems at work. It affects workplace and personal relations, people at home as well because when we are irritated we are simply irritated and we are creating the problems for other people as well. (T8)

Even though most sites provide free sporting facilities around the camps, such as a fully equipped gymnasium, swimming pools, basketball courts, golf driving ranges and football fields for camp citizens to use at any time of day, some trades people still felt that, given the fact that one is away from home, such facilities can only be minimal in alleviating the depression. By the same token, due to the long hours of work, there is not enough time to utilise those facilities:

In a lot of sites, they try to provide the best they can with all the sporting facilities you could want but in the end, you can't play the sport because of the long hours of work and lack of time to rest. There is just a lot to do in a day, such as getting ready for work, commuting, family contact, eating, social media and socialising, all that on top of the ten or twelve hour shift, it's too much. (T1)

The comments from the interviews indicated that a number of individual, family, community and workplace factors impacted heavily on new employees' experiences of and adaptation to the FIFO lifestyle. However, 70% of FIFO or DIDO miners referred to camp life as being like a prison due to the strict rules and guidelines; as a result WLB was barely achievable because citizens are not treated as responsible adults:

I just think camp life would have to be a little bit less strict and revolve around rules. There are rules in every aspect, where you go after work, when to go for dinner, what time you got to bed, noise curfews and so forth. (T6)

Another female trades person added:

The guys need a more morale boosts, like bringing in concerts every third month, or comedians can come down and that would be a really good thing because then everyone is looking forward to it. (T5)

Some interviewees mentioned that, due to the remote nature of most mining camps, there are no nearby towns to visit during a rest day off. Consequently, there is nowhere to travel even if you want to break the repetitive nature of daily mine-site living; every day is the same as you follow the strict routine.

Dealing with colleagues

One of the major issues mentioned as an impediment to the achievement of WLB on various mine sites is the challenge of dealing with work colleagues. Since the mining industry, mining construction in particular, is reported to experience high employee turnover, companies are constantly required to employ new people every time to fill up the vacancies. This trend tends to affect the employees' ability in building relationship within teams as miners reported challenges in getting along with different people. As one FIFO worker mentioned:

The biggest challenge is getting along with people because you've got different nationalities, different religions, onsite and you have to handle it, dealing with people from all walks of life. Yes, you get good people, and you get idiots ...but you have to juggle that and deal with them all. (T3)

These problems are not experienced only by those who have been on site for some time; as a long time DIDO pipe fitter witnessed, even the new employees find it difficult to blend in the group:

I met hundreds, maybe thousands of people, they came to do the job highly motivated but they were not able to create a relation with other blokes. (T9)

Similarly, those who have been engaged in either FIFO or DIDO for many years echoed the same comments as they reported the challenges they faced in dealing with new employees, in particular those who come to the mine site for the first time. A DIDO scaffolder explained it as follows:

New guys face a lot of challenges, but even long timers struggle to deal with new comers. You get a whole lot of different people, that's number one you've got to deal with it – you're not in your comfort zone at home with your friends and family. These are a whole vastly different group of people you're dealing with. (T7)

Such challenges were not mentioned by those involved in the Residential mode of work practice. One participant, a Residential mechanical fitter and with more than 12 years' experience reported that such differences were attributed to low employee turnover in mining operation sites; hence, the potential for team building was developed over a long period:

Residential is different, individuals learn to deal with each other over a long period of time and that feeling you are part of team and you have respect for other colleagues. It's not possible in project work because the blokes come and go more frequently. I enjoy working in a team and I can't complain. I am lucky to work here with good people. (T14)

Yet some trades people cherish the experience of meeting new people, as captured in the following comment:

So I've been working with some new and different people. It's been challenging, it's been interesting and then onsite, you know, you never have a dull day basically. So I suppose it just keeps you on your toes, it keeps you thinking you're always learning something new and dealing with different people. (T1)

Lack of management concern about employee welfare

It was reported that lack of management support is a major concern on WLB issues. More than a third of the employees from all three modes of work practices, namely FIFO, DIDO and Residential, highlighted the point that management was more focussed towards production than towards the welfare of their employees. A Residential painter working in operations mining gave the following comment:

You don't see managers ... the only time you see supervision is when they want to give you a job and at pre-start. Also what you're getting in the morning prestart is not applied to what happens during the day. What they say in the morning at pre-start is one thing – what happens on site during the day is totally different. I suggest supervisors and managers could come during the day, you know, they have a walk around, chat with the guys, not hardly ever about the job, ask them about you as a person, employee welfare – not how's it going, what are you doing ... general things they should talk to you about. But they come to nit-pick; they look for the slightest mistakes to complain about and they don't fix the problem, they make it your problem. (T15)

Lack of management support for WLB is reported to have a major influence on employees losing control of their lives due to outside influences. When individuals are under stress they tend to seek help and company from the wrong people. These reasons prompted suggestions for the government and trade unions to intervene. As one participant suggested:

There are major factors that can actually create influence from outside work such as relationships within the family, friends, plus alcohol, drugs – people they are not responsible enough for the things that they are doing. The government should pass laws so blokes are well looked after. Even trade unions, besides negotiating wages at the start of the project, there should be there for their members, instead of just wanting money from the guys (T2).

Some participants further reported that management should get involved in managing stress and depression among trades people as the effects can spill over to the family domain, affecting relationships with partners and children. As one participant explains, these issues are being experienced even by the new employees:

It's hard on me and it's hard on her. Especially when we're talking on the phone and I'm over the air and I've had a bad day and then when we're talking on the phone, it could develop into an argument because like it's stress over there, and then she gives me whatever we talk about and it turns into an argument – I try to avoid it, but sometimes it can't be helped because there is no support from management. (T4)

Coping strategies

There are a number of issues that trades people identified as being associated with FIFO or DIDO commuting arrangements including a sense isolation and loneliness, time away from family, dealing with friends, fatigue and missing significant events. Also, their partners reported the issues of isolation and parenting on their own. In regards to coping with these stressors a range of strategies were mentioned as being applied by mining trades people in an attempt to manage these challenges. These include using company provided support (Employee Assistance Program, EAP), seeking advice from friends, relying on family, friends and colleagues for support, completing most of the family business before the FIFO/DIDO partner comes back for the break and adopting behaviour to best suit the work environment.

Over 80% of the miners reported picking the best roster; one that can provide more resting time and shorter swings as a critical strategy. A diesel plant fitter working on an 8 in 6 roster suggested:

Just jumping to a normal, better roster is the best strategy. I was thinking of changing jobs ... for a better roster. No, if you can make it work for you as we seem to do, it's quite good. You know if better rosters were there it would be a great lifestyle which you could sustain. You could go out to site and come back within a couple of days. (T1)

To those engaged in DIDO, it was reported that picking shorter swings and choosing a place that's not so remote was vital to the achievement of spending more time with the family. At the same time, 60% of the trades people preferred to make it up to their partner and family when they get back home on their R&R. They endeavoured to provide a quality time with their family. One of the DIDO participants made the following suggestions:

So I just try and do things, like I've just bought a yacht, bought a 40 foot yacht because the missus is into sailing. So I try, continually, to keep the family happy when I get home by doing something new and not getting into that, sort of, routine of just going home, sitting around, forgetting and being complacent, you know; taking things for granted. A lot of workers come home and take for granted they'll do the same thing as they did last month ... So now I've just brought something new into it where we'll go sailing, you know, and we'll get out on the boat together and we'll go somewhere. So it keeps it different for her, keeps her thinking oh when he comes back, you know, we're going to go for a sail. Instead of, oh when he comes back, oh, no we haven't got anything planned, you know. (T9)

As agreed by one FIFO participant, this strategy includes having to pick up most of the duties that the partner may have been handling on her/his own, such as house chores, dropping off and picking up children from school so that the partner can have a break from the busy schedule:

As soon as I land back from work I release her from all the pressure. I will take over, I will take the kids around, I will try as much as possible to give her enough time for a break so she can do things which she couldn't do whilst I was away. (T1)

As a coping strategy, a senior trades person who has been doing DIDO for over 7 years also highlighted the need to manage carefully the problems and issues that the partner may have encountered during the period of absence:

Well, I think the best thing when I'm coming home is to be patient and listen to all the things, because the ladies they have to bring or they have to put on the table all of what happened when I wasn't there. All events and problems that they are putting on my shoulder, what have to be fixed, be patient, think about it, do whatever you can, if you have to say no, do it in a very polite way – it sounds more or less like yes but it's still no – and pay attention to the people because it's a fact of life even I told you my wife she's not having major problems with my job in the bush. She is still a bit lonely at home you know so, basically, when I'm at home, I have to look a bit after her and be helpful, be friendly, and that's it. (T10)

All participants mentioned that their main strategy for managing the stress of being away from home is maintaining constant communication with the family, as one explained:

I make sure I speak to the family every day, you know, and try to stay in touch with what's going on in their life. I know they get the shits ... sometimes they get the shits because when I'm bored at work I'll call her, you know, and I'll pick up if she is upset over something, you know. (T8)

This strategy was reported by both male and female trades people, as one female trades person said:

Having that communication we can speak during the day quite a bit and stuff like that and it's not a major, so that works really well. But it would be really hard if we didn't get to just talk sort of whenever. Distance isn't a barrier, particularly in this day and age with modern communication; you know, with the internet, the e-mails and the phones and things. (T5)

As in most industries, the advancement of technology in mining has become vital for those doing FIFO/DIDO; especially in allowing constant communication even though the partner could be miles away. The use of tools such as skype, phone calls and social networking sites were reported as having a mediating affect on the influence FIFO/DIDO lifestyle has on families, with communication being mentioned as significant for the couple relationship and family cohesion:

Well, we have Skype and obviously text messages, the telephone, mobile. I actually made a Facebook group just for us and put on videos of, you know, when our son was learning to walk and just if he did a painting, just take a little video or just get him to say hello on the page so he could look at that on the net later on when he got back to the camp at night and just little things like that, just little text messages. Whereas we don't really text normally, it was just during that time we do a lot of that just to keep the bond there, I guess. (T4)

Some participants raised the strategy of utilising the mind to offset the pressures of the FIFO/DIDO environment; they considered their strength was based in adapting to the circumstances, particularly those who have been engaged in these arrangements for a long time:

You just live in the now. That's the strategy. So you choose to be happy because this is where you are, this is what you're doing. So then when you go home, obviously I'm not saying I don't look forward to going home, I do, of course I do, but yes, while I'm here it's about the now. (T7)

Keeping a focused mind is also critical to enable one to manage in this environment and when one cannot manage, it is probably the right time to look for a local job, as a DIDO welder claimed:

I just had deal with the challenges and keep focussed on what I was doing; it's for a good reason. So, well you're sacrificing, so you've just got to deal with it and just harden up as the saying goes, yes. Some people are quite happy with it because they've become so immune to it and other people they just can't take it, so when you're tired of it, you quit and you go back home and that's why there's a lot of people coming and going in this industry, so when they get tired they quit. (T6)

Another participant further emphasised that the mindset is also critical even during the period that one is on an R&R break:

I guess just switch off from work, so when you're at home, you're at home. But I guess that's hard because also when you're at home that's your time and that's when you tend to bring up all the frustrations that are happening at work. I guess it's that, yes, just trying to switch off and go, you know, this is my time now. I've done my work during my four week sting or however long and ... Yes, but I guess that's pretty hard to do sometimes. So it's really just getting some plans, some structure, some routine and then thinking ahead for R&R time. (T5)

The partners of trades people also reported that they employ a variety of strategies to manage the challenges associated with having a FIFO/DIDO partner and ensure that family life is running smoothly. One of the participants partners mentioned the following strategy:

Okay, what I have managed to do is getting help from friends and relatives with the children, helping to pick up the kids to and from school when he is away. (P4)

Some partners suggested trying to handle more responsibilities at home whilst the partner is away, so that during the resting period the couple could spend more time together. It is reported that this strategy will eliminate the problem of having the FIFO/DIDO partner waste part of the limited time he has available for taking care of home business. One participant whose partner is a young trades person with less than a year DIDO experience described her strategy as follows:

What I like to do is get as much of the business part of our lives done before K... comes. Because I don't want him to come home and then he must go and fix the lawnmower or he must go and see the council, he must go and do this, he must do that; I try to do everything I can by myself without him so that when he comes he doesn't have much to do, that way we can spend more quality time together. This includes mowing the lawns and paying the bills. It's only the mechanical stuff that I leave for him to fix, things like fixing the water leaks and so forth. (P6)

In the case of partners who are working full time, they tend to take some time off to spend as much time as they can with their beloved ones. One trades person reported how effective this strategy had been for him and his partner:

But for her to be with me, she takes time off. So she takes half a day off on the day I arrive and another half-day when I leave for work, she'll go into work on Monday and only work a half day and then we spend that time, part of the day together and then Tuesday I fly back to site and that's another four to five weeks before I get back again (T3).

Some participants reported having to utilise the attractive safe and high quality camp sporting and entertainment facilities, or social groups to fend off stress and work pressure. A young FIFO rigger explained:

Well, you've got to occupy your mind with things besides work, try some recreation and get into some activity group; being in activity group is one of the things, take part in something, you know you must participate in something which will alleviate the effects of loneliness. Because working Fly-In/Fly-Out can be lonesome at times, you've got to participate in some sort of activity. (T4)

As a coping mechanism, more than 50% of the trades people interviewed suggested that it is crucial to develop a long term plan to set a time when they will stop FIFO/DIDO or Residential forms of work. As one DIDO scaffolder commented:

You've got to have a time frame when you're going to do it and there is light at the end of the tunnel to be able to stop and say right, we've got what we wanted, it's time to get back to normality and work close to home. (T7)

Furthermore, each trades person who mentioned this strategy also suggested listing objectives to achieve. Of absolute importance is setting achievable goals and resigning once those objectives are achieved. However, in some cases such targets are easier said than done. As one experienced DIDO mechanical fitter explained:

Most blokes often claim they'll just do it for five years to make some bucks, but unfortunately find it hard to give up that level of income. I'll just say that basically I think if you want to have that work-life balance it'll be ideal if you have a time or goals in mind when you may stop doing it. (T8)

Similar to setting a time limit for working in FIFO/DIDO, more than half of the couples interviewed reported that it is of paramount importance that the money earned is used wisely. One of the participants' partner suggested:

I think the most important thing is that the man who is on site, doesn't matter if it's a mining site or construction site, he has to know why he's there, what are his priorities in life. It means of course the major priority is money but what is behind the money? What he wants to do with the money? The people who are just working for money and drinking or blowing the money out and they are generally, from my point of view, weak. A man knows he must provide for his family, he must pay mortgage off, he wants to help somebody, he wants to create some savings, he wants to travel, simply the man who's having a sort of goal of direction, from my point of view, is much better off than the bloke who's just there to make money and waste money. (P5)

Comparison of FIFO, DIDO and Residential

In comparing the three modes of commute arrangements, FIFO, DIDO and Residential, participants expressed different views on what they preferred as the best practice. According to the trades people and their partners' experiences in FIFO or DIDO commuting, 60% perceived FIFO and DIDO as virtually the same; the only difference being the means of transport in which FIFO workers who fly to and from their place of work and DIDO workers drive to and from their place of work. One of the participants, whose partner was a seasoned FIFO and DIDO scaffolder with over 30 years of experience, explained:

Drive-In, Drive-Out is more or less like Fly-In, Fly-Out; it is just the mode of transport which is different here but you are going to do exactly the same because some people will drive in for two weeks and then they will go back home. These guys are just taking a plane, just flying to site and flying back which are two different modes of transport but they do exactly the same thing. It will affect the families, the very same thing. (P7)

A DIDO pipe fitter who had been involved in both FIFO and DIDO for more than 15 years also added that the challenges faced in achieving WLB in both are the same:

DIDO, I'd sort of put that on par with Fly-in, Fly-Out. I would say that the work-life balance of both is pretty bad because in both you're not at home every night. The only benefit of doing Drive-In, Drive-Out is you can come home a lot quicker. However, in both you live in the donga in a camp and in both, you'd be fed. Some individuals preferred FIFO on the basis that they could avoid driving for a long distance and period of time, at times making one susceptible to accidents or fatigue. Obviously if it was a better roster, it would be even better. Fly-In, Fly-Out's a bit easier, you just jump on a plane in the morning, but then the time you've got to be at the airport in the morning, it's just a bit harsh as well. I mean, you've got to start up at three o'clock and get to the airport at four, so Drive- In, Drive-Out, it's not too bad but then again you're on the road for 12 hours a day driving, so it's got its advantages and it's got its disadvantages, so it's really the person. (T9)

Yet 20% of those engaged in DIDO commuting arrangement preferred it for several advantages. As one participant reported, the main advantage in this mode of commuting is, due to the relatively short distances to home towns there is an opportunity to occasionally drive back home to see the family or attend to an emergency:

Drive-In, Drive-Out is a lot better than Fly-In, Fly-Out because you've got the option of being able to drive home if anything was to go wrong, whereas Fly-In, Fly-Out it's a bit harder to get home if there's an emergency back home. Also, with Drive-In, Drive-Out you've got a choice. With Fly-In, Fly-Out you don't have a choice. I would prefer Drive-In, Drive-Out, if I can get home anytime, by all means. I think with Drive-In, Drive-Out, it sort of feels like you can go home at any time so you are able to go home during the week and drive, it's a one and a half hour drive and you are home and it is always good to see family and friends. (T6)

In all interviews, 95% of the participants engaged in either DIDO or FIFO commuting arrangements preferred Residential work practice. A young FIFO rigger highlighted why he preferred Residential commuting:

Residential would be okay, you know, I wouldn't mind living in one of these small towns. It wouldn't be a problem for me, as long as the housing is good and there are a few things to do. You are all there as a family, the companies provide schooling around the area, they provide amenities which employees can enjoy and also work, you come back home every day and equally distribute your time of work and life. (T4)

Although a majority of participants (95%) preferred Residential commuting arrangements over FIFO or DIDO commuting, others raised a few concerns. For example, one of the FIFO participants, a diesel plant fitter who is engaged on an 8 in 6 roster mentioned:

Well if you had a family, it would be up to the family to make that decision because you have to re-locate your kids into like a remote area because mine sites aren't that flash, but I think that would be a lot better for if you were just a couple without children, I think as adults you can handle. (T1)

Adding to the same concerns one of the Residential welders, who had been engaged in Residential commuting arrangements for over 12 years reiterated:

It is hard to adjust to life in the remote areas. A lot of these remote places they just don't have the facilities for the kids, recreation centres, they're just not up to scratch and it's very hard to adapt from a city lifestyle coming out ... to adjust to one Coles to ... one petrol station, one of everything is just not up to the standard of city life. Also, it's hard with kids reaching university ages that they have to move to the city on their own and rent a place. You are just not there as a parent to guide them, it's a tough one. (T14)

WLB definition

The participants defined WLB in several contexts. They raised aspects of managing the separation between one's work life and personal life; and the ability to juggle both work and life responsibility as pivotal in the achievement of WLB. Besides highlighting his family commitment to WLB, a FIFO boilermaker welder defined the phenomenon according to the following aspects:

You have to strike a win/win balance that the family wins and also the workplace wins. Then you try to manage your time, try to manage your resources so that you do what is required to be done at work and at home as well. So you'll be trying to strike a balance between work and home so that in both it will even out. (T3)

The achievement of WLB was reported as an individual responsibility. Half of the participants strongly believed that, even though companies have a duty to provide a family friendly work environment, it is still up to individuals to manage their well-being. As one painter who has been engaged in Residential commuting arrangement for three years mentioned:

I kind of think of it as how you as an individual balance what you do at work and what you do in your own time, so whether you obsess about work in your off time or whether you do the opposite and don't really focus on your work, thinking about what you're doing in your off time. So I think it's about how you juggle that really. (T15)

Reinforcing the responsibility of WLB at an individual level, it was also mentioned that since people are different so are the factors that contribute to life and work satisfaction. One of the participants' partner, a mother of 3 highlighted the following qualitative aspects of WLB:

Well, work life balance is different for everyone; your balance is not my balance. Also, it changes every day, my balance today will probably be different tomorrow. So, personally I say, there is no perfect, one-size fits all. The best work-life balance is differs for each of us because we all have different priorities and life circumstances. (P11)

Adding to the quality aspect of WLB, a female trades person referred to the quality of life in both worlds:

I would say that the work/life balance is are you getting a good quality of life with a good quality of work, in other words, is it equal work, equal private life? To me work-life balance is when I go to work I like to be, I like to enjoy being at work and if I can tick that box often I'm happy. (T5)

To achieve WLB, all interviewees expressed the significance of managing time in both the work and life domains, which highlights an objective view to the phenomenon. A Residential boilermaker described it as follows:

Work/life balance is trying to negotiate time, family time and your working time to make sure that you equally distribute your time and break even. (T12)

On a different aspect, 25% of participants failed to agree with the separation theory, which asserts the establishment of boundaries between work life and personal life. They noted that WLB can be achieved in either domain or inclusively because, as one participant said:

You spend a lot of time at work and I've always worked at jobs that I loved and so work is part of my life balance. But even if I don't have much control over the hours I do on site, but what I do is, I look for other ways I can bring greater enjoyment into my life, like, focusing my time and attention on things I can control. I work up an hour early every morning and go to the gym. Some of my friends tend to wake up, shower, and go straight to work, which is why they often complain about having no time to do anything. (T6)

As reported by 80% of the participants, the significance of the work environment is critical to the achievement of WLB. In support of that view one of the participants suggested:

Even though employees can control some of the hassles at work and the job ...keeping good relations with work mates is the most important factor in the work environment. So is a supportive working condition, which is driven by management support. (T13)

Recommendations

Rosters

Apart from those engaged in the 8 days on/ 6 days off roster, the majority (83%) of trades people who participated in the interviews suggested significant reduction in the length of rosters. In particular, those working in mining construction expressed concern over the long swings prevalent in the industry:

I think if I can reduce my roster to eight and six, eight days away and six days at home, that could strike an even balance that every second weekend I'm at home and it will not put pressure on the wife and at least just to be away for eight nights or eight days is far better than being away for 14 days. The kids will not miss you as much as two weeks away and even the wife won't miss you as much as that. So at least if the rosters are reduced therefore people might be able to strike an even deal there. (T8)

The reduction in the length of rosters is suggested as a mechanism that would allow trades people to spend more time with their families, as one diesel plant fitter said:

Companies should look into reducing the rosters; maybe to a family friendly roster where people don't go away for a long time. They should try a one week on, one week off roster then the families wouldn't struggle as much and there wouldn't be a strain on the relationship. (T1)

The long rosters are known to be causing a lot of social issues, including that of strained relationships. The main issues identified in relation to long rosters include less time to spend with each other, and time with their children. Secondly, the parent who stays at home with the children needs some time out from being a single parent and the FIFO/DIDO worker needs time to wind down after working such long hours. One of the participants, a mother of one explained:

Fly in fly out is not easy on relationships, especially doing a 28 in 6 roster. It is so challenging on both my partner and I and the six days together in a month isn't the best in any family relationship. People who come out from the mines ... are violent and they drink like nobody's business as they attempt to contain the challenge of being away from home for so long. So companies should reduce the roster and try and look at family friendly ways that will eliminate some of the issues that the employees are facing. (P6)

Provision for choice

Trades people also suggested that companies allow provision for a selection of choice among different rosters. A young trades person who was engaged in a 28 in 6 roster recommended:

When we do our interview with the company probably for the company to come more in line with today's thinking and say, okay B.... What would you rather do, a two week, three week roster or a four week roster? Because you've got some people that are saving up for a house and they're single and they don't want to do a three week roster, they haven't got a family so it's not in their thinking. They want to do more, even five, six weeks, you know. (T4)

Shift to residential

About 95% of trades people suggested that the solution to the WLB issues related to either FIFO or DIDO commuting could be resolved by developing permanent accommodation around mine sites. After experiencing the advantages of Residential commuting, one of the residential participants recommended:

If there is any residential area where the mine can build residences, I think it would be ideal for those companies to provide accommodation and reduce this FIFO. Companies could try and get the families up there so make it more residential and offer the wife or missus a job up there or something and the kids can enrol in the local school. (T11)

Personal development

About a third of the interviewees commented on the lack of pre-employment awareness education for new employees prior to mobilising on site. Awareness training was considered critical on the basis that it provides valid information for new employees to make informed decisions. Similarly, employees could be educated on how to deal with the challenges of FIFO or DIDO commuting arrangements. A young rigger with less than 2 years of experience in FIFO commuting suggested:

I'm all for personal development. I think this company should spend, or be spending more effort working with their people capital. As well as in, you know, investing in them financially as far as paying the wages. I think they should be running people through human relationship skills and things like that, teaching them strategies to cope with some of the obstacles that come along, you know, teaching ...

I think people get into a bit of a downward spiral and they get tired, they've got things at home that are worrying them and they might not necessarily have the strategies to cope. (T4)

Improving transport systems

One of the main issues reported by most trades people doing FIFO was the lack of proper travel arrangements when flying out from site. As such, the participants suggested that mining companies could improve the arrangement of transport to the airport and ensure flights are booked on time. As one of the participants pointed out, companies should improve on travelling arrangements and allow the provision for employees to fly back home if there is an emergency:

There are a million of small things that employers could do to improve the experience.... on your fly out days, buses to the airport or flights back home should leave on time. It's not a major thing but people will be upset, because everybody wants to go home on time. (T5)

In the same vein, all FIFO participants suggested that workers should travel in company time so they can have a full resting period. Therefore they should leave site on their last rostered day and fly back to site on their first rostered days. One of the participants, who was based in the eastern states, but employed on one of the mine sites in WA reported on the number of days lost due to travelling:

I think companies should try to aim to get employees home earlier – earlier during the day or, if not, fly in company time, so they do get that full week of resting at home. If you do look at the swings that we are doing, some of us, four weeks is quite a long time away from home and then to have 2 days of the seven days of your R&R chewed up with flying and travelling, that's not good. (T2)

Incentives

About 50% of the participants suggested that mining companies should introduce incentives to motivate workers to perform better and promote retention. It was suggested that these incentives could be offered in the form of rewards such as scratch vouchers to buy tools, project completion bonuses or even family holidays. The additional remuneration or benefit will be given to an employee in recognition of achievement or better work:

Companies should show appreciation on exceptional employee performance, like if somebody has really met a major or minor goal, for example improvements in safety, process of installation of this or that, fix this or that problem, you know. A thank you and a scratchie for three dollars and announcement at a prestart meeting can boost the morale among the blokes. It's not the big dollar behind that but blokes really appreciate their name being mentioned in a group for doing well. (T9)

Others suggested a reward system commensurate to the period spend on the project, as a motive to improve employee retention rates. A long time FIFO boilermaker welder suggested:

They should have some sort of a reward system Okay let's have some reward system, you've worked three months and you've had your R&R but reward a person to be with their family after a certain period. That would be good too, not really just reward ... give everybody that chance. Say listen here, because we do get a project incentive bonus at the end of the project, okay fair enough you're getting that money, ... but during the project, let's say ... because we have milestones in the project as we go, or there's a big milestone. (T3)

Social events

A third of interviewees suggested that mining companies could alleviate the stress of being away from home by organising social events at the camp. As reported by a female FIFO electrician, such events would facilitate relationships and team building:

I think maybe more organised events perhaps ... it could be just a barbeque ... barbeque or a card game or a team sport or something like that and push for that so you're interacting in a non-work environment... but to try to bring other people that you wouldn't otherwise associate with outside of hours in a non-work way environment might be some way of just promoting you to be active outside of work in a non-work way. (T5)

Other recommendations

Companies were encouraged also to allow employees to use their phones during the day in case there is an emergency at home, then families can easily get hold of them quicker than having to rely on the administrative staff to pass the message. One scaffolder said:

I suppose we could have like access to phones because if something goes wrong at home and we have to go through HR, like the girls on site, and then get to them, it's not like a direct contact for us at work, so that would be nice.
(T7)

Secondly, as suggested by one of the participants, mining companies could consider the need for couples to be given first preference during recruitment:

I think they should also consider whether or not couples, in particular those without any caring responsibility, could get employment opportunities and these camps to accommodate for double bedding.
(T10)

Summary of findings

WLB was defined in different contexts with both objective and subjective perspectives being addressed. Some participants preferred equal distribution of time, adopting the separation of work and life domains, whilst the other perspective presented favoured integrating the two domains. Most participants reported the achievement of WLB as an individual responsibility; however, it was also considered that employers had a crucial role to play in facilitating a supporting work environment.

The findings indicate that most trades people are attracted mainly by the high wages offered in the mining industry; however, there are a few who are motivated by the project type of work which is predominant in the mining construction sites. Despite the financial gains, several challenges are raised mainly by trades people engaged in FIFO and DIDO, but to a lesser extent by Residential miners. The main challenge raised is the separation from home and family which culminates in strained relationships among partners, children and friends. Other issues identified in the findings included a lack of management support on WLB issues, lack of resting time due to long hours of work, long rosters and shorter resting periods. However, paid overtime is regarded as an incentive whereby trades people can earn more money. In addition, life at the camp site was raised as a stressful environment due to the prevalent stringent rules and the type of food.

To manage the challenges of working away, most trades people and their partners highlighted a few common strategies. Firstly, communication with the family is indicated as a coping strategy that enhances relationships with partners, children and friends. Other strategies include adapting to circumstances, and setting a timeframe on when to stop FIFO or DIDO commute arrangements. This strategy is supported by setting achievable objectives within a set timeframe and ensures money is effectively utilised to meet the target.

As a highly effective tool, most trades people reported on the compensatory effort they make to their family and friends during their rest periods to make up for the loss of shared time. This entails, but is not limited to, taking some of the domestic responsibilities during the rest periods and arranging family holidays. Others suggested changing from FIFO or DIDO to Residential commute arrangement because it was a preferred practice. The advantages of the last method over the other two is based on the fact that the employee comes home every day and, despite the compressed hours, they tend to do shorter rosters.

Several recommendations were raised by the participants, including the suggestion for mining companies to give employees an opportunity for a choice of roster, one that would best suit individual circumstances, shortening of rosters, introducing incentives for reaching project milestones, improving social events at the camp and having pre-employment awareness training for new employees. The miners also suggested improvement in travelling time; including travelling in the company's time, and buses that pick up workers from site for delivery to the airport and flights back home should leave on time. In addition, most trades people recommended that permission to communicate with families should be available at most times to ensure immediate response to any family emergencies. In the same context, partners could be permitted to visit during the resting day off (RDO). These findings are further discussed in Chapter 6 below. The following chapter is used to interpret the research findings in light of existing literature about the subject of WLB, and develop a new understanding of the related issues for trades people.

CHAPTER 6:

DISCUSSION OF FINDINGS

Defining WLB

Consistent with Kalliath and Brough's (2008) assertion on the subtlety of the WLB definition, the findings in this study suggest a range of different meanings to the phenomenon. Some participants defined WLB as a noun (whereby the term is simply the name of an ideal balance of work and life experience), while others defined it as a verb (entailing an individual's need to be active in developing a balance between work and life) or as an adjective (with the emphasis on describing a preferred state of the work-life experience, viz., a work life balanced. Consistent with existing literature which confirms the challenge of deriving commonly accepted definitions and key constructs (Beauregard and Henry 2009), the measurement of balance was problematic, with some participants considering equality in terms of time and relative roles at work and at home, while others preferred the concept of happiness or satisfaction both at work and at home.

The first perspective aligns with *role conflict* theory (Carlson, Grzywacz, and Zivnuska 2009; Beauregard and Henry 2009; Grzywacz and Butler 2008), which denotes that balancing work-life relationships can be disrupted by multiple roles and this results in role strain and overload. The descriptions derived from the findings indicate that when FIFO workers attempt to carry out competing demands while confined in the structures of the mining environment designed to support separation of work and family demands, they are likely to experience higher *role conflict*. This experience comes about due to the fact that during the rosters trades people engaged in FIFO or DIDO commuting arrangements are temporarily away from home. Contrary to city workers, because of the work arrangement, the trades people cannot take up their family life roles after work or even during the weekends. In the same vein, the findings further indicate that within the mining environment there is a clear separation between work and life, as set by the distance between home and work locations, the rostered days of work and the associated rest periods.

During the roster, work-life boundaries are not clearly defined on the basis that at the end of each shift the miners leave site for the camp, however; the rules and restrictions prevalent in the camps are atypical of both a work and home environment. Nevertheless, clear boundaries between work and home domains in the mining environment become clearer at the end of the roster when FIFO/DIDO workers fly back home.

These findings confirm the relevance of Hart's (2010) contention that employment is the purchase of workers' time and presence, but only for a certain time; therefore, spaces and times of employment have boundaries. Further, Hart (2010) recommends that employees need to negotiate these boundaries, both in the sense of establishing where they lie and in managing the course of crossing from one domain to another. This implies the connection between the institution and culture times, and spaces of work and non-work in societies where income is predominantly generated.

The second perspective from the findings asserts that satisfaction or happiness in either life or work, tends to lean on the *spillover* theory which refers to the impact of satisfaction and its affect from one domain onto the other domain (Kossek, Lewis, and Hammer 2010; Peng, Ilies and Dimotakis 2011). As indicated in the findings, the assumption is that work and life have instrumental and affective paths; for example, satisfaction and rewards from one domain (such as income or good relations with fellow worker) can improve the ability to manage family and home matters. In this regard, findings are inclined towards the *positive spillover* theory.

Expanding on the link between work and life, the findings further indicate that the individual has a primary responsibility in achieving WLB. This viewpoint reflects on each individual's demonstration of equally positive commitments to different life roles; that is, an individual's ability to perform fully in different life roles, whether it is within the work environment or in life outside paid work. Other scholars such as Grzywacz and Carlson (2007) have defined WLB as achieving role-related expectations that are negotiated and shared between an individual and his/her role-related partners in the work and family domains.

Expanding on this view, evidence in the study identifies the need for a well-balanced distribution of personal resources such as energy, time and commitment to be well distributed across the whole of life in order to achieve satisfaction and good functioning at work and at home with a minimum of role conflict. Steps (2009) and other scholars of WLB have perceived the right balance as a very individual perspective that changes for different people and at various stages of a person's life (Steps 2009; Carlson, Grzywacz, and Zivnuska 2009; Beauregard and Henry 2009; Grzywacz and Butler 2008). The current results support the view that asserts the right balance is determined by the career or stage of life that a person occupies. Descriptions given in the findings from this study are consistent with the above-cited literature in suggesting that balance is determined by individual circumstances, implying changes in the factors contributing to each trade person's particular WLB may change over time. A good example from the findings was when mature trades people (those who now have independent children) indicated that they had faced significant challenges working away when the children were still young, but there was less strain in their life as caring responsibilities were reduced or minimised.

Secondly, the findings were indicative of the fact that the right balance for each individual is self-determined. For instance, some persons may favour having more family time in order to achieve the balance, while others can choose to spend long hours at work in order to accomplish career objectives, or even perhaps because of a limited life outside work. Some participants suggested a happy or satisfactory work achievement or environment to be a contributing factor in achieving a happy life outside of work. This finding resonates with the Kelliher and Anderson (2008) assertion which posits the need for accommodating life choices, as opposed to the pursuit of the right balance. The findings from the current study also show great emphasis on the importance of occasionally assessing one's personal balance, evaluating the relevant WLB aspects of happiness, satisfaction, health, work, leisure and love. Individual assessments highlighted in the study relate well to Schieman and Milkie's (2009) understanding that balance has both an objective and subjective meaning.

The objective element calls into consideration a number of factors, including energy level, personal activities and time distribution. On the other hand, the subjective factors are the physical, psychological and one's personality in dealing with work and family. Nonetheless, the balance varies with individual circumstances such as age, marital status, employment tenure and personality traits. In line with this view, the findings also demonstrate that over 50% of the FIFO and DIDO commuting trades people report that they are subjected to a loss of balance due to long hours of work and stress and are struggling to achieve a better balance and be satisfied with their work and life roles. It was confirmed in the study that the balancing aspects of life were witnessed in the physical and psychological states of trades people as they perform their duties and relate to colleagues. However, the participants admitted that attempting to schedule an equal number of hours for work and personal activities within the FIFO/DIDO environment is usually unsuccessful and impractical. Findings indicate that the main hindrances in balancing time between work and life are the long rosters and compressed hours of work.

Kelliher and Anderson (2008) have argued that for WLB to be achieved there has to be an element of control over when, where and how individuals work. This assertion is confirmed also by the findings in the current study; miners expressed the paramount importance of the need to choose the type of roster that best suits their life circumstances; however, such a provision does not exist in the mining industry. Furthermore, the findings suggest a cap on the length of rosters and a slackening of accommodation camp rules to allow trades people to develop a stronger sense of independent control.

A number of common elements can be drawn from the varied definitions of WLB identified in the study. These include the notion of achieving equal experiences, such as satisfaction, performance, health and effectiveness between the work and home domains. The second concept captured in the findings is the implicit consideration of equality between inputs and outcomes; the inputs consist of the personal resources such as time, engagement and energy applied to each role, whereas, outputs refer to satisfaction or happiness attained from each role.

Participants indicated expectations of outputs through high wages, better rosters and work hours from the invested resources which could lead to either low satisfaction (negative balance) or high satisfaction (positive balance). The findings show that it is from this notion of positive balance that trades people engage in FIFO/DIDO/Residential commuting arrangements knowing fully well the sacrifice in terms of living away from home and the compressed hours of work. However, due to the expectations to derive satisfaction from higher wages, they are prepared to face such challenges.

To this end, WLB can be defined as the extent to which an individual is equally engaged in and satisfied with his or her work and life roles. The findings indicate this definition as encompassing both the positive and negative balance aspects. Critical WLB elements raised in the findings are time, engagement and satisfaction. Time effect refers to equal distribution of time devoted to work and family roles. Secondly, engagement is about the extent of psychological involvement in work and life roles. Finally, the aspect of satisfaction refers to the level of achieving satisfaction with work and life roles.

The current research, though confined to a specific population, enabled the related WLB phenomena to be investigated effectively using multiple perspectives. This approach entailed embracing both the conflict and enhancement theories. The conflict approach enabled a thorough investigation of role strain and conflict for individuals with multiple roles as the resources required to meet these demands can be finite or scarce. On the other hand, the enhancement theories facilitated a balanced investigation of the benefits associated with multiple roles that included rewards, psychological energy and individual growth which can increase resources and enable role performance.

Trades people's perception of WLB

While different perspectives encompassing political, economic or societal views have been applied to WLB, findings drawn from the current study tend to confirm a mixture of both the societal and economic views on WLB. Based on the societal view, trades people confirm a life of distinctive WLB issues presented by FIFO or DIDO commuting arrangements. New challenges are emerging that distort the long-established patterns of paid work and impose new challenges on families, individuals and households. The propensity for mining employees to work compressed hours continues and the likelihood of achieving a satisfactory WLB has become an elusive objective for most trades people, particularly for those engaged in FIFO or DIDO.

The main concerns raised by trades people reflect on long hours of work and long rosters, resulting in more fatigue as a consequence of a lack of adequate rest time. Noted in the comments of research participants is a great apprehension that the quality of FIFO workers' health, community and home life is deteriorating. These effects are evident in the growing number of broken relationships, excessive indulgence in alcohol or drug abuse leading to a reduction in community involvement. Some trades people reported direct experiences, while others confirmed having witnessed colleagues going through these experiences.

Regarding the economic perspective on WLB, the findings indicate that less than 20% of the mining companies, in particular those involved in operations rather than construction, have espoused family friendly rosters such as 8 days on/6 days off or 4 days on/4 days off. Other mining companies had offered residential accommodation to their employees and according to Residential commuting trades people, these changes are a strategy focussed on attracting better applicants and improving organisational performance. This finding is consistent with Abbot and De Ciere's (2008) suggestion that most organisations, notably including those involved in mining, introduce WLB initiatives for the purpose of reducing recruitment costs and retaining skilled manpower.

This approach, which confirms suggestions by Beauregard and Henry (2009), combines both the economic and social perspectives, allowing employees to spend more time with their families, at the same allowing time for community participation. The current findings also reveal the fact that the mining industry is a highly competitive environment and mining companies are positioning themselves strategically in order to attract better recruits by offering good rosters alongside high remuneration packages. As such, even though it is just a few, some companies are slowly drifting away from the standard long rosters into shorter and more family-oriented rosters. According to previous literature, a family friendly work environment is considered to be effective in reducing costs by improving employee retention rates (Gold 2008; Patel 2007) as well as improving employee satisfaction and labour force productivity (Bloom, Krestschmer, and Van Reenan 2009).

A substantial proportion of the literature affirms the exchange framework, whereby in return for the provision of WLB policies, employees offer discretionary effort and increase productivity (Bakker and Schaufeli 2008; Wickham and Fishwick 2008; Brown et al. 2009). Findings from the current study support this perspective as trades people highlighted the implementation of family rosters and management involvement in employee well-being as potential strategies to minimise pressure and contribute to a safer and healthier workplace, thereby reducing the chance of accidents occurring in the workplace.

In relation to the reconciliation model adopted in this study, the findings extend the objective of facilitating the achievement of WLB. In addition to enhancing recruitment and retention, reducing absenteeism and improving the quality of peoples' working lives as previous literature asserts (Beauregard and Henry 2009; Tariq et al. 2012; Bloom, Krestschmer, and Van Reenan 2009), the current findings indicate that the achievement of WLB by trades people can augment the management of family issues and, in turn, curb unfortunate circumstances of strained or broken relationships. However, trades people doing FIFO or DIDO commuting indicated challenges in adapting to their work environment to support their non-work life.

The findings reveal an array of family and relationship issues associated with FIFO or DIDO commuting arrangements. It was reported that, due to long periods that trades people spend working away from home, there is a potential for relationships to grow apart, either with their partners or children. Losing contact with friends was also one of the outcomes reported in the findings and some participants indicated that it took a lot of effort and time to revive, let alone restore lost relationships.

In support of The Reconciliation Model (see Figure 1, p. 26) with the four aspects of society, employers, government and employee organisations, the current research respondents indicated an appreciation for the government intervention through legislation on issues such as maternity rights, parental leave and the right to take time-off to care for dependents.

However, concern was raised over the extent of government legislation on WLB issues. Most trades people called for the government to legislate on the length of rosters and work hours. Minimal legislation has been enacted to enhance the right to request flexible working hours and the rights of part-time workers. The Federal Workplace Relations Act (1996) was introduced to enhance the provision of WLB; however, the findings highlight the perception that the law is broad and the implementation of specific aspects was left to the discretion of the employers. The participants' responses were consistent with Deery's (2008) assertion that improvements in organisational policies alone cannot achieve balanced work and life conditions for the majority of employees; hence, it is essential to facilitate the effectiveness of WLB policies with government legislation as a mechanism to resolve work–life conflict issues.

As indicated in the current findings, trades people are contented with a holistic approach towards resolving WLB issues. In arguing in favour of a holistic approach to WLB, a number of researchers including Gregory and Milner (2009); Kossek, Lewis and Hammer (2010); Parkes and Langford (2008) pointed out the significance of incorporating different stakeholders' needs in developing WLB policies or practices within employment relations.

The present study confirmed that even though mining companies have the intended objective to complete projects within specific time and efficiency schedules, trades people consider that such motives should not hinder employee wellbeing and safety in the workplace. A relevant example raised by participants in the current study indicated that some mining companies, in particular construction companies, under price projects in order to win tenders. However, driven by the profit-making motive, this strategy has detrimental effects when their financial quote is accepted; viz., on the length of rosters, equipment availability and number of staff. Thus, under-pricing of contracts further worsens the working environment for FIFO or DIDO workers.

Responsibility for WLB

Previous literature (Gregory and Milner 2009; Hyman and Summers 2007) suggests that employee organisations such as trade unions play a crucial role in resolving employee well-being issues; this includes driving a positive influence on labour market outcomes, the wages, benefits and working conditions of workers. Further, scholars suggest that trade unions provide workers with a collective voice, and create a medium of communication between company owners, the employees and/or the government. In line with this perspective, the current findings indicated that trade unions within the mining industry, whether coal, iron ore or metalliferous sectors of mining construction or operations play a critical role on behalf of the trades workers.

Participants reported that trade unions advocate for better work practices, especially if existing or proposed practices are likely to affect the workforce adversely. As indicated in the findings, this role may involve taking part in safety observations through the union representatives on site. Secondly, before projects commence, trade unions get heavily involved in negotiating better wages based on the relevant productivity gains of the time. In the operational mining environment, this may include negotiating productivity bonuses relating to operational throughput at the mine. On the other hand, management carries a major responsibility in the design and implementation of WLB policies.

A biased focus from management was reported, in particular by trades people in mining construction where it was considered that there was more drive towards meeting production targets than the frequent assessment of employee well-being. The findings highlight a lack of policy implementation by management. Also, though issues of well-being may be mentioned in the on-site morning prestart, the day-to-day activities tend to focus on production. This finding is consistent with that of previous research (McCarthy, Darcy and Grady 2010), thereby demonstrating that management support for WLB issues is critical in the design and effective implementation of WLB practices. Other scholars have reported the significance of front line managers, in this case supervisors, for they have direct contact with employees; hence, the opportunity to make decisions on whether or not employees can utilise available policies (Wang and Verma 2012). Further, the current findings suggested a lack of management understanding on the significance of WLB; in particular, the fact that effective policy implementation can enhance organisational performance. As a result, most trades people felt that loyalty has no place in the mining industry, especially under the current tight labour market whereby most organisations are barely able to employ the number of trades people they require.

Identified life values

Findings from the study indicated an array of life aspects that trades people considered as crucial to the achievement of WLB. Firstly, the significance of family relations was mentioned by all participants, including singles and those in relationships. Some WLB attributes such as happiness and satisfaction within the work and life environments were closely linked to the objective of upholding family relations. The relationships were not limited only to partners, but to children, extended family and friends as well. The findings revealed a consistent discontent among trades people over the long rosters, shifts and conditions of FIFO/DIDO practices; hence, achieving WLB was not considered to be realistic under the current work arrangements. In addition, though trades people attempted to make up for the lost time with families and friends when they are on R&R, the non-work period was considered to be too short.

The second critical life value that was reported in the study was financial security. It was evident in the results that, despite the adverse conditions and challenges prevalent in the FIFO/DIDO/Residential commuting arrangements, most trades people were driven by the need to acquire financial security. Among other things, paying off the mortgage and other loans were reported as the major financial burdens that most individuals had. Hence, despite earnings being achieved at a cost, the high wages offered in the mining industry continued to be a major attraction. Individuals noted that money opens opportunities for the whole family to afford further education, training or start one's own business, something that was barely achievable by working in the cities. Considering that the mining workforce is male dominant, these findings are consistent with the assertion that men tend to sacrifice time at home for career advancement and more take-home pay, while women sacrifice career advancement and higher pay for time spent with family (Brown 2010).

The findings also suggested the value of pursuing a suitable career as one of the most critical life aspects in achieving WLB. In the study, a few participants claimed to achieve WLB if their work environment provided career opportunities or exposed them to challenges that would improve their skills level. In addition, they expressed their interest in project work as a major attraction, as it allowed autonomy and job ownership whilst meeting the strict schedules. However, as the participants reported, that focus can be diminished if the rosters and shifts are too long.

Health and wellbeing were raised as critical values. Similarly, issues of poor meals, fatigue and stress, and lack of time to exercise regularly were raised as rife within FIFO/DIDO, but not so much in Residential commuting arrangements. The findings also pointed to the fact that it was crucial for trades people to align priorities, individual values and life pattern in order to achieve WLB. Some of the priorities included pursuing further education or training as being critical for career development. This value was mentioned within the context of limitations of FIFO, DIDO or Residential work practices in providing opportunities for employees to advance themselves in terms of skills and further studies. Long hours of work and fatigue were reported as detrimental to obtaining enough time and energy for them to undertake further studies or training.

Effects of FIFO

Existing literature, including studies carried out abroad; suggest a number of negative effects in the life of miners doing FIFO type of commuting arrangements. These include health and well-being issues (Scott, MacPhail and Minichiello 2012; Taylor and Simmonds 2009), lack of social community interaction and participation in sporting events and clubs (Muurlink 2012) and a major cause for strained relationships (Clifford 2009). These issues were strongly supported in the findings of the current study, with most trades people expressing concerns over the separation from family and/or partner, lack of support, difficulties when children became ill, missing out on social occasions and family events, isolation and long distant commuting.

FIFO and DIDO commuting arrangements are an integral and growing part of mining industry practice in Australia; however, WLB was considered to be barely achievable for tradespeople working under these conditions. Specifically, the ‘separation’ finding further indicates that working in the mining environment exposes most trades people to a high risk of stress, depression and sleep disturbance all of which can lead into binge drinking, substance abuse and strained marital relationships. Further, the findings indicated that lack of success in achieving WLB affects marital satisfaction and stability, and this effect is further aggravated when working non-standard and non-flexible hours.

Generally the role carried out by trades people is physically demanding and due to the long hours of work there is limited scope for self-determination and social interaction. Secondly, missing out on family celebrations and significant events has a negative impact on the trades person and his/her family. Furthermore, managing family problems and sharing in family decision-making is dependent on access to frequent and private means of communication with their partner. Although the family reunion is eagerly anticipated during R&R, it can be spoiled by unmet expectations and subsequent arguments, partly contributed by arriving home tired often having come straight off shift and having travelled for numerous hours.

Reunions and partings have been reported commonly as the most emotionally challenging times for couples and children. The transition by FIFO or DIDO trades people between two different lives, unmet expectations by both partners following reunions and the burden of unequal share of family responsibilities on the partner at home were some of the common challenges highlighted by the respondents. Nonetheless, these experiences were heavily influenced by role expectations, stage of the family life cycle, presence of caring responsibilities, quality of communication in the relationship, the pattern and duration of the trades people absences.

Although the findings from the present study confirmed negative effects of FIFO or DIDO commuting arrangements on WLB, a number of positive outcomes were also noted. These included improved coping skills and better incomes. A large number of trades people engaged in these forms of commuting arrangements reported that their families had benefited substantially from receiving attractive incomes while retaining a residential base in a main city.

Young trades people reported the benefit of using their income to save for their first home, to travel overseas and to purchase lifestyle items that improve their standard of living. Similarly, the findings align directly with previous studies that have suggested that FIFO provides opportunities for a better lifestyle (Macbeth, Kaczmarek and Sibbel 2012; Chamber of Minerals and Energy of Western Australia 2011).

Consistent with the findings from the Chamber of Minerals and Energy of Western Australia (2011), participant FIFO miners in the research confirmed that the resources sector had enabled them to maintain stable employment in their industry while also ensuring that they, and their families, were able to enjoy a good level of government and commercial services in the metropolitan areas. In addition, most trades people utilised the advantage of switching employers without facing the challenge of relocation. Although this provision was not available to Residential miners, by maintaining a family base in metropolitan areas, the FIFO and DIDO miners' partners had managed to pursue their own careers and objectives within the cities, as these opportunities were not be available in all resource sector regions.

Further the findings indicated that the choice to engage on a FIFO, DIDO or Residential commuting arrangement was an individual choice based on individual circumstances. In this regard, FIFO, DIDO or Residential trades people can be considered a self-selecting and diverse group and the ways in which they manage and adapt to the challenges in their commuting arrangement pattern are unique to the circumstances of each individual; as such, they are dependent on the interactions of a number of factors that are related to their individual, family, community and workplace systems. The most influential factors on the decision to either work on a FIFO, DIDO roster or engage as a residential tradesperson included, but were not limited to: remuneration, career opportunities, employment conditions, employment culture, family satisfaction levels and social supports.

The findings from the study also revealed that FIFO, DIDO and residential employment are complementary, rather than supplementary, approaches in a total workforce management package. Opportunities exist for trades people to move from FIFO, DIDO or residential employment and vice versa. Due to the limited services that a small town can offer, some employees reported that they had moved from residential work in a small town to a period of FIFO employment to ensure their children have access to a preferred secondary and tertiary education in a metropolitan centre.

Similar to the discovery of Solomon, Katz and Lovel (2008), the current study confirmed there are a number of hurdles that impede the effective implementation of WLB policies within the mining industry. As noted in the findings, they include, but are not limited to; remoteness, shift lengths and roster patterns. Secondly, long working hours have been associated with the resources industry mainly due to operation types, location and commodity demand. Thirdly, roster patterns differ depending on each site, and they include alternatives such as 4 weeks on /1 week off, 3 weeks on / 1 week off, 2 weeks on / 1 week off or 8 days on / 6 days off. The FIFO or DIDO lifestyle was reported as being dictated by the particular roster; moreover, construction mine sites may stipulate longer term rosters relative to operational sites, which was reported as detrimental to the achievement of WLB.

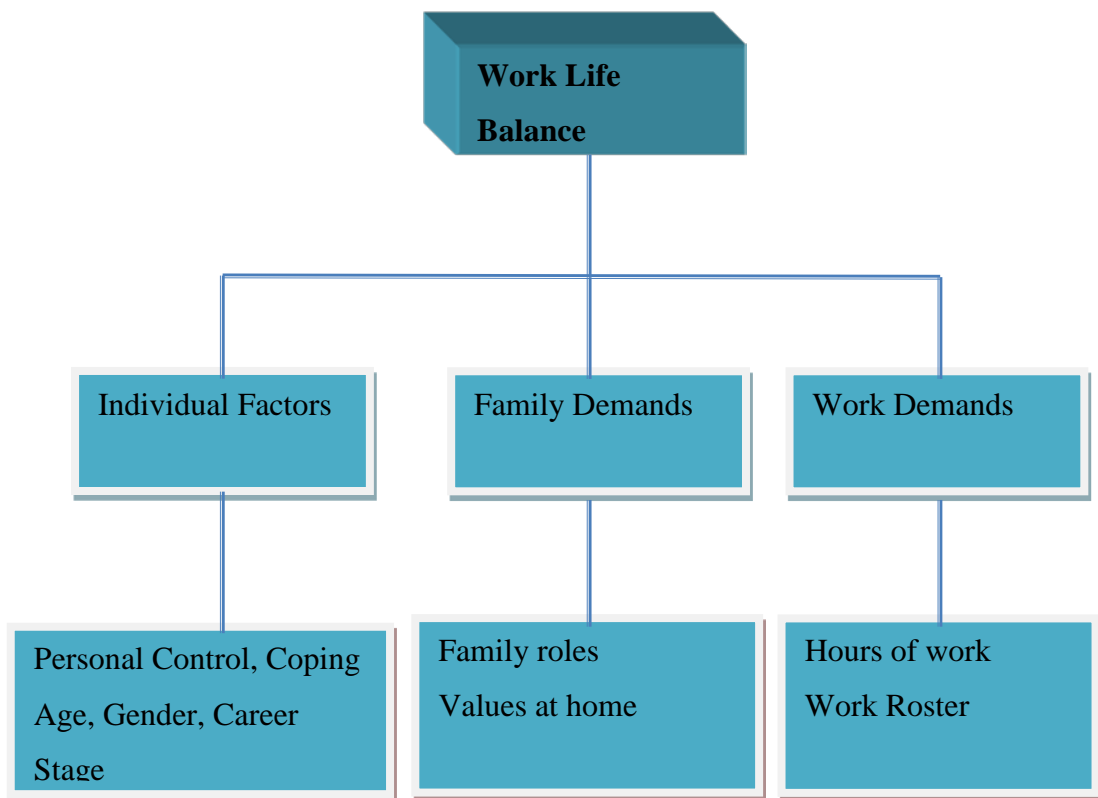
The longer rosters might require working every day with one day's rest every second weekend. The shorter rosters, however, require the miners to work every day while on site and this might include night or day shifts.

Life in the mining camp, which includes camp rules, food and facilities, was also reported as being a constraint towards the achievement of WLB. Consistent with the Hutchings, De-Cieri and Shea's (2011) assertion on the availability of WLB initiatives, trades people suggested that most mining companies needed to embrace initiatives such as employee assistance programs, family on-site visits and/or stay, FIFO handbooks for employees and their family, improved communication facilities, healthy lifestyle programs, significant changes to roster and shift patterns and greater access to on-site facilities/activities.

Revisiting the conceptualisation of WLB

In reflecting on the hypothetical model of WLB below (from Figure 4 p.47) that was derived from extant studies and used as a basis for developing research instruments in the current research, several determinants related to individual, family and work domains were confirmed in the current study as being relevant to trades people.

Individual attributes that were perceived to have an influence on the well-being of trades people included age and personality traits. In addition, the period served doing FIFO, DIDO or Residential also emerged as a strong factor. The factor of period of time spent in the work environment was raised in relation to the tendency of miners developing immunity towards the challenges associated with FIFO, DIDO or Residential. Secondly, the findings showed that those engaged in these modes of commuting arrangements for some time had developed coping strategies that had been improved over the work period. Contrary to previous studies, gender was not a major factor in the current WLB study; most likely because mining trades people are predominantly males. Similarly, career stage was not relevant in the mining environment on the basis that all trades people, including the experienced and the inexperienced, shared the same employment privileges including wages, allowances and roles.



In relation to family demands, the findings indicated a number of significant factors that could impact on the achievement of WLB. These factors included, marital status, child support arrangements (care), age of the children and partner's ability to cope with distance. Also, the findings highlighted the importance of adopting FIFO, DIDO or Residential commuting arrangements as a family decision. The partner's ability to cope was a crucial factor as most partners, either married or de facto, raised concerns over the challenges of managing family responsibilities alone. These included delivering children to and from school or sporting, shopping, paying bills and maintenance of the house such as mowing the lawns, plumbing or mechanical fixing. In the work environment, several scholars have raised a number of factors as being influential in the achievement of WLB. These included working time, flexibility, demands of work and organisational culture (Mauno 2010; Emslie and Hunt 2008; Schieman, Milkie and Glavin 2009). Moreover, other studies have also highlighted long working hours and working beyond work hours as very likely threats to the achievement of a balance between work and things outside work (Fleetwood 2007; Biggart and O'Brien 2009).

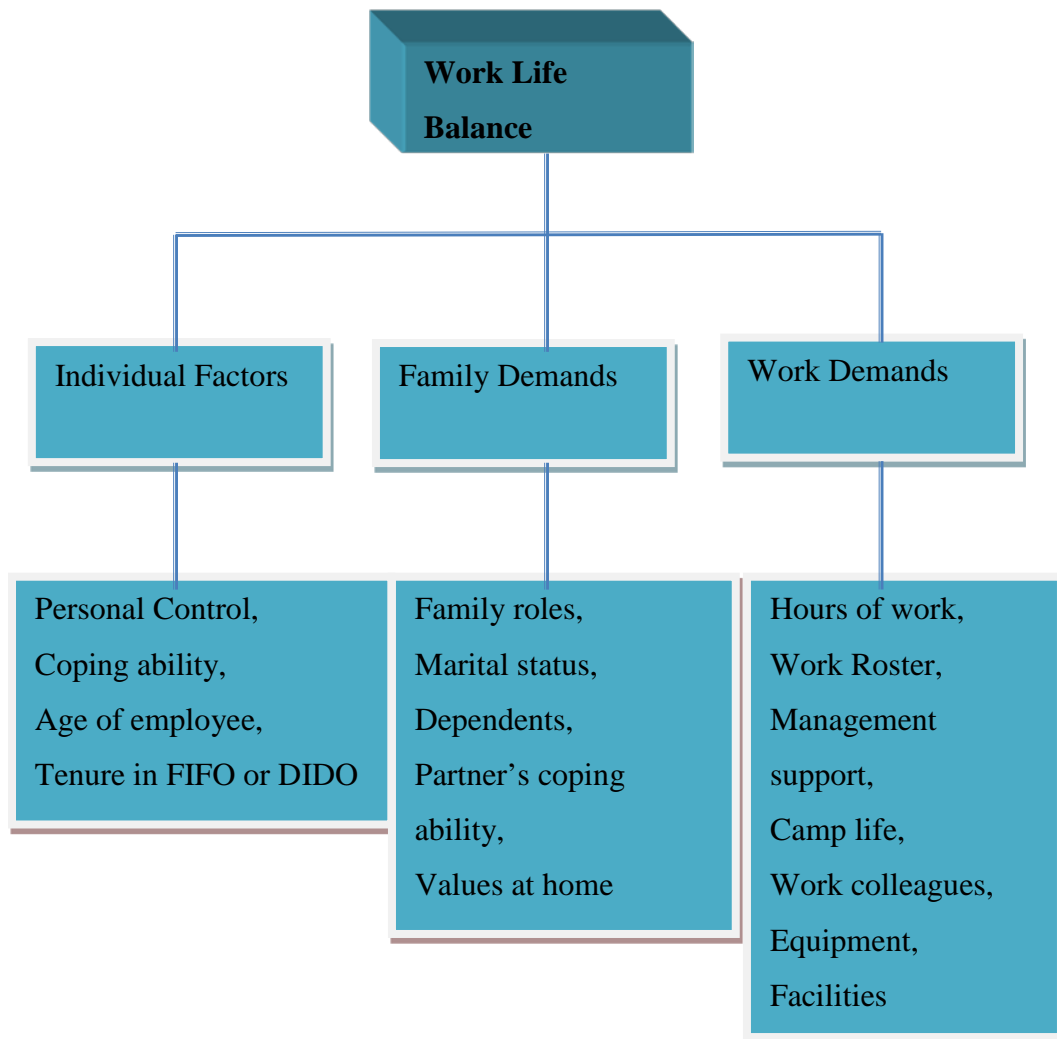
All these factors were raised also in the findings of the current study, with some trades people expressing concern over the lack of management support on issues of employee well-being. Consistent with Bloom, Krestschmer, and Van Reenan (2009), lack of well-being in terms of happiness and relationship was noted as having a negative impact on employee performance. Considering the structure of FIFO, DIDO or given present Residential commuting practices and the nature of mining work, there is no provision for flexible hours, shift or rosters. Lack of equipment and working with depressed colleagues were mentioned also as significant factors that contribute potentially to the high risk of safety breaches and poor performance.

However, working within a good team was identified as a significant factor in contributing to a happy work place. Finally, camp life was considered to be of paramount importance, in particular, the quality of food, accommodation and camp rules. As a result, the initial hypothetical model requires modifications for it to be relevant within the mining industry environment and, specifically, for trades people doing FIFO, DIDO or Residential commuting arrangements. The research outcomes model below (Figure 5) indicates major factors identified in the current study.

Coping Strategies

The findings indicated that trades people and their partners use a number of coping strategies to alleviate the effects of the challenges presented by workers living away from home, family, and friends. Some strategies were developed in an effort to sustain relationships during the period of absence. Firstly, the findings indicated trades people value the ability to communicate daily with their partners, family and friends. Mostly, regular communication on site is through texts, phone calls, Skype and email. Participants suggested that mining companies should allow families, in particular partners, to reach them anytime, even during work hours, to allow support in the event of an emergency. As the findings highlight, emergency calls are mostly attended through the company administration office and then the message is passed on to the respective trades person.

Figure 5: Research Outcomes Model of WLB



Related to the communication strategy as a mechanism for dealing with separation by distance is the idea of rescheduling significant social and family events such as family and holiday celebrations to dates that fall during the R&R periods. As raised by most participants, this strategy might entail informing family and friends on which dates the rest period will fall rather than expect them to remember the roster schedules. The findings also indicated that some partners endeavour to complete most of the family business prior to the FIFO or DIDO miner coming home in order to ensure there is ample time to spend together; these include mowing the lawns or paying the bills. Additionally, other partners take time off work during the R&R breaks to create more opportunities for quality, interpersonal time.

The findings showed that workers encountered other stressors such as being away from home and family, harsh working conditions, difficult work colleagues, loneliness and fatigue. To cope with such challenges, trades people revealed a number of coping strategies including, but are not limited to, having a relaxing time reading books or watching TV in the donga, utilising RDO to recuperate rather than partying, going to on-site gyms, walking or jogging with friends and joining sporting groups (e.g., soccer, rugby or swimming).

Most participants also acknowledged eating healthy foods and having adequate sleep as highly significant in reducing stress. In regards to social support, the findings indicated that participants utilised, though to a lesser extent, site support (EAP) and friends with whom to share issues and challenges. However, they emphasised that one needed to be careful in selecting people to share one's personal circumstances, lest one became a laughing stock for the whole site.

Recommendations

The findings identified several recommendations that were suggested by trades people engaged in FIFO, DIDO or Residential commuting arrangements. These included changing the rosters to make them more family friendly. The recommended rosters include 8 days on / 6 days off, 3 weeks on / 1 week off, 2 weeks on / 1 week off. According to the findings, due to issues of stress and fatigue, long rosters such as 4 weeks on and 1 week off or 6 weeks on and 1 week off should not be allowed in the industry. In addition, travelling to and from site should be in the company's time so that workers can spend full resting and relaxation days at home. These factors were raised by those engaged in FIFO or DIDO commuting arrangements, whilst residential commuting trades people indicated satisfaction with the rosters prevalent in mining operations.

In the study, most trades people doing FIFO commuting arrangements felt that there was a lack of proper travel arrangements when flying out from site. As such, the participants suggested that mining companies could improve the arrangement of transport to the airport and ensure flights are booked on time.

Alternative plans should be put in place to avoid long delays or flight cancellation. In the same vein, participants pointed out that companies should have the provision for employees to fly back home if there is an emergency. Thirdly, the mining industry offers a range of FIFO/DIDO rosters; however, these rosters are designed by the mining companies after considering the project or operational objectives. To this end, employees have no input on the type of rosters they are offered. In this study, most FIFO/DIDO workers highlighted the need for companies to allow employees to choose the type of roster that best suits their circumstances.

This provision can be designed to align with other requirements, such as budgets, role coverage or other projects specifics. Trades people also suggested that organisations employing FIFO/DIDO workers should actively address issues of employee well-being and avoid the 'suck it up princess' culture and implement WLB policies from the front-line management right up to senior management levels.

This might include encouraging employees to utilise more fully the available Employment Assistance Programs (EAP) which are offered free. Related to this suggestion is the development of pre-employment awareness services so that new employees will be conscious of what to expect from FIFO or DIDO work environments and learn the coping strategies. Such programs are highly significant in ensuring that new employees have the opportunity to perceive and consider a real picture of the challenges associated with FIFO or DIDO commuting arrangements, such as the practical demands of FIFO or DIDO work and the potential effects on the individual, family and/or friends. This information is critical in deciding on the length of roster and assessing one's coping abilities.

This includes asking questions such as:

Can I cope with living away for extended periods on a mine site?

Would I prefer a shorter roster?

Can I handle working a combination of day and night shifts?

Would I prefer to work only day shifts?

Finally, the last recommendation suggested by the trades people was the introduction of an incentive system as a motivation to improve employee retention rates; examples include offering rewards that are commensurate with the period an employee has spent on a project. The findings also suggest that mining companies should organise social events at the camp to facilitate socialising and team building.

Chapter Summary

In this chapter, answers to the research questions were addressed, including extracting the meaning of WLB from a trades person's perspective and reflecting on the significance the phenomenon has on their lives. Trades people indicated that issues related to WLB comprised their main sources of concern and dissatisfaction as workers in the mining industry. Motivational factors for engaging in FIFO, DIDO or Residential commuting arrangements were described as including, but not limited to, money and lifestyle.

Also, reported were challenges that trades people face in engaging in these commuting arrangements, such as working away from home, missing family, friends and special events, lack to time for leisure and or further studies or training. However, these challenges were noted mainly within the FIFO and DIDO work practices, but not so much by Residential miners since they return home every day and tend to have shorter rosters. Nevertheless, they also face the challenges of inadequate public services in the small towns where they reside. The findings affirmed that most trades people and their partners had developed coping mechanisms to contain the effects of living away from home.

The findings were concluded with recommendations from trades people that respondents considered would be effective in bringing a positive change to the FIFO, DIDO or Residential commuting environments. In Chapter 7, below, a conclusion to the overall research study is presented.

CHAPTER 7:

CONCLUSION

Introduction

The aim in this research was to identify the extent to which FIFO, DIDO and Residential commuting arrangements affect the WLB of trades people; i.e., to explore the extent to which trades people working in the mining industry in Western Australia achieve WLB. This was a precursor to analysing the coping mechanisms they apply, identifying any variance of perceived WLB among employees involved in different commuting arrangements, and developing recommendations that would aid the improvement of work organisation models within the mining industry.

By using both quantitative and qualitative methods, the current research has been used to collect data from over 196 resource industry persons, the majority being mine employees under different roster models and at different, dry (no alcohol) mine sites. The first group of participants (181) were asked to answer questions from a distributed survey questionnaire. The survey process was followed by 15 detailed interviews carried out with a second, different group of participants and their partners.

The results of the overall study may well be used to inform those responsible for workplace policy recommendations by highlighting the significance of improving the institutional environment (work organisation) as a strategy to advance the achievement of work-life balance. Secondly, although the work environment is a difficulty for trades people given the location of mine sites, the recurring travel demands on employees and the impact of extended absences from home, the recommendations developed in this study have the potential for improving retention rates in the increasingly competitive employment environment.

Strengths and Limitations of the Study

The complementary effect of a mixed-methodology approach was a particular strength in this study. Each approach addressed diverse aspects of the research objectives, providing in-depth and rich data that enhanced the understanding, analysis and generation of theory with respect to the experiences and wellbeing of FIFO, DIDO or Residential trades people and their partners at the individual, family and work levels.

In line with the research objective of having the quantitative analysis available to inform the qualitative phase of the study, each method met the specific purpose within the overall study accordingly providing a more inclusive understanding of the complex phenomena of WLB among trades people. In addition, the research study distinctively highlighted the motivating factors that drive trades people to start working the FIFO, DIDO or Residential schedule in the mining industry, and what might be encouraging them to leave.

As with all research, there were some limitations with this current study. Firstly, though generally representative of the population, the reduced sample size prompted by data collection restrictions within the mining industry meant that it was not possible to obtain data from a large sample. Related to this point is the exclusion of oil and gas mining trades people from the study sample and the common method variance in the quantitative phase which was prompted by the lack of cross-sectional data. A majority of trades people working in the oil and gas industry are engaged in either FIFO or DIDO commuting arrangements; therefore, their involvement may well have added to the generalisability of results. Another limitation stems from the reality that recommendations were obtained only from the employees without engaging the employers' perspective on the implementation of potential WLB initiatives. Essentially, employers play a critical role in the implementation of workplace policies and practises. To that effect, it would seem worthwhile to expand the scope of future investigations on FIFO, DIDO or Residential commuting arrangements and the effects on WLB by involving employers.

Recommendations for Future Research

Future research studies that include employers and other resource worker groups such as those working in the oil and gas (LNG) industry are required to gain a comprehensive understanding of the WLB issues that trades people and other workers face in FIFO/DIDO work practices. In addition, a collaborative approach that involves universities, industry groups, communities and workers could be embraced to enhance the findings. Employers or the resources industry might have much valuable data regarding these issues; however, they could be reluctant to make this information public for commercial and confidentiality reasons.

Similarly, future research may well include data on workers, their families and communities, and separate between a range of short-term and long-term effects, both positive and detrimental, while highlighting strategies that eliminate or moderate such effects at an individual, family, workplace and community level. At family level, it might be beneficial to compare 'partner' responsibilities with those of single mothers and to compare 'partner' responsibilities with those of working/non-working mothers.

Conclusion

Trades people defined WLB as a self-defined, self-determined state of wellbeing that an individual can reach, that permits them to manage effectively multiple responsibilities at work, at home, and in their community. The main conclusion drawn from this research study was that WLB is highly regarded by trades people and their partners; however, for those engaged in FIFO and DIDO types of commuting arrangements WLB is barely achievable whilst working onsite. Driven by renewed interest in personal lives and family values, trades people engaged in FIFO or DIDO commute arrangements are struggling to manage issues of spending long periods of family separation that make relationships unmanageable, and result in a lack of time to spend with the friends, engage in community activities or pursue extra studies.

It was determined from the responses in the study that, although most FIFO and DIDO trades people are attracted by high wages and the lifestyle, the social costs of dysfunctional families and relationships are related to the FIFO or DIDO commuting arrangements and the challenges posed by these arrangements are both an individual and corporate responsibility. Trades people with partners and young children are the most affected; more so than those who are single and/or have no child-care or parent-care responsibilities.

The former category of trades people are mainly affected by being away from partners and children, high levels of stress experienced during the return/departure points in the roster cycle and the challenge in defining roles within families. Having one parent away most of the time presents a rigid and extremely challenging lifestyle for trades people with young families as the mothers of young children need a supportive partner to provide childcare. However, trades people, and their partners, who had been engaged in this sort of work for a long period of time (or had independent children) have developed a degree of immunity to these effects as they gradually accepted the environment and associated challenges as normal.

Furthermore, FIFO or DIDO trades peoples' WLB is affected by the isolating environment of mine sites; the quality of accommodation and food, facilities to wash clothes and onerous camp rules which pose tensions to both new and old mining employees engaged in DIDO or FIFO commuting arrangements. In addition, the mining working conditions, such as the prevalence of non-standard working hours, shift work, weekend work and compressed work schedules contributed substantially to fatigue, eating and sleeping disturbances. As a result some trades people, instead of seeking support on site, resorted to using alcohol or illicit drugs to manage fatigue, stress and disrupted sleep. Although, alcohol and drug use occurs away from the workplace it also can negatively affect workplace safety and productivity. Similarly, the hangover effects of using drugs can last for several days causing issues of fatigue, aggression, mood swings and depression.

Compared with FIFO or DIDO, Residential commuting arrangements present a more supportive environment in achieving WLB. The two main reasons reported for this difference are evident through the short rosters that trades people are subjected to whilst engaged in Residential mode of work arrangement and also, achieving WLB comes as a result of the provision to return home to see the family every day.

Despite the evident challenges, there are positive aspects of FIFO, DIDO and Residential commuting arrangements that, often, are unrecognised. These include the relatively long blocks of rest period to spend quality time with family and friends, and the relatively high income paid to FIFO, DIDO and Residential trades people; an income that can provide employees with an opportunity to set up a comfortable lifestyle that includes saving for their first home or paying off mortgages and other debts.

Results in the research study indicated that FIFO or DIDO commuting trades people are heterogeneous; having made individual choices to work in this environment based on personal circumstances, the approach they use to manage challenges and adapt to this lifestyle are unique to their particular circumstances, as determined by individual, family, community and workplace circumstances. Other factors that influence a trades person's decision to either work on a FIFO roster or DIDO commuting arrangement include remuneration, career opportunities, employment conditions, employment culture, family satisfaction levels and social supports.

Issues related to the length of rosters remain a point of contention as trades people recommended shortening the rosters to a maximum of 3 weeks / 1 week off as a strategy to minimise the stress and fatigue. Trades people expect organisations to provide flexibility with rosters, low work-to-home ratios, access to timely and private communication options and good accommodation and facilities. Other recommendations included developing recreational pursuits, site visits by employee partners and allowing alternative rosters to suit individual circumstances. Maintaining constant communication with family and friends is considered an effective moderator to the negative effects of working away.

Most FIFO or DIDO trades people confirmed that they had minimal knowledge of the realities of the commuting arrangements before commencing employment; therefore, they raised the need to implement pre-employment awareness sessions for new employees. The research results indicated that trades people applicants for FIFO or DIDO commute arrangements employment often lack accurate knowledge or understanding of how the mining industry operates, and how a FIFO or DIDO lifestyle may impact on themselves and their families. These research findings highlighted a distinct array of information which is critical in highlighting the decisions made by current and prospective mining employees, employers and industry stakeholders; the information can be used to develop ways in which industry participants can commit to improving current systems to lessen the likely negative impacts of FIFO or DIDO commuting arrangements.

The major theoretical contribution resulting from this research study is the identification of challenges associated with either FIFO or DIDO commuting arrangements which make it almost impossible for trades people to achieve WLB during the period they are working on-site. Moving beyond theory by taking an empirical approach in comparing the three modes of commuting arrangements, FIFO, DIDO and Residential, the research study has provided substantial insight into the body of WLB research. Unlike Residential commuting arrangement, FIFO and DIDO commuting arrangements do not support a conducive environment for trades people to achieve WLB. This information will shed more light to employees, employers and government in identifying individual, interpersonal and organisational factors contributing to the challenges of achieving WLB by trades people.

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