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## The Pros and Cons of Long Distance Commuting: Comments from South Australian Mining and Resource Workers

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# The Pros and Cons of Long Distance Commuting: Comments from South Australian Mining and Resource Workers

## **Abstract**

Long Distance Commuting (LDC), also referred to as fly-in-fly-out (FIFO), involves a cycle of working for extended periods away from the family home. The experiences of LDC workers were examined through a study of 104 minerals and resources industry workers and partners in South Australia.

SA workers comment that LDC is satisfying and has positive personal, lifestyle, career and family benefits. Stressors include shift work, long rosters, separation from friends and family, missing family events, isolation, and fatigue. Feelings of anxiety or reports of depression which commonly feature in other literature were not a feature of this study.

Short rosters, a high standard on-site services and amenities coupled with training and career opportunities, local management and peer support, a family friendly organisational culture and regular communication with family, are key factors contributing to sustainability of this workforce model.

## **Keywords**

Long Distance Commuting (LDC), Fly-In, Fly-Out (FIFO), mining, resource industry, family, health, motivations, enablers, stressors.

## **Cover Page Footnote**

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## Introduction

The origins of long distance commuting (LDC) in the minerals and resources sector<sup>1</sup> can be traced back to the Gulf of Mexico's off-shore oil industry in the 1950's (Storey, 2001) and in Australia to the mid-1980s when mining companies adopted fly-in/fly-out (FIFO) arrangements to service their operations in preference to constructing mining townships (McKay, Lambert, and Miyazaki, 2001). Long distance commuting, which encompasses Fly-in – Fly-out (FIFO), Drive-in – Drive Out (DIDO), Bus-in – Bus-out (BIBO) or other similar acronyms depending on the mode of transport, refers to employment arrangements where the place of work is so distant from a worker's place of residence that daily commuting is impractical. Employees travel by plane, helicopter, bus, train, car and even ship to work-sites from major metropolitan or regional centers to satisfy the labour requirements of a range of industry sectors, including minerals and resources operations (Mikkelsen, Bist and Willison, 2013; Storey and Shrimpton, 1989).

The terms rotor, roster, shuffle or swing are some of the terms workers use to refer to the employment schedule, including time at work and time at home. For example, a roster of 8/6 refers to a work roster that includes eight days on-site and six days off-site. Compressed work schedules with twelve-hour shifts and work cycles that range from between one to four weeks in length (and sometimes longer) before workers return home, are common (Gallegos, 2006). Accommodation, meals, sport, entertainment and other amenities are usually provided so employees can remain on the worksite for extended periods before returning home (McKenzie, 2011; Storey and Shrimpton, 1989; Watts, 2004).

Although the characteristics of LDC work models may be similar across different industries, LDC workers themselves are a far from homogeneous group. They include workers with a range of backgrounds, education and skill levels, different age groups and both men and women (Catchpole and Gafforini, 2013). Different LDC worker categories include company managers and executives, health and other professionals, transport workers, merchant seamen, cruise ship staff, aircrew, fruit pickers, shearers, mining and resource industry workers, construction crews, military personnel, police, fire and other emergency workers, teachers and others (de Silva, Johnson, and Wade, 2011). The differences between these groups as well as the range of industry sectors, result in different employment arrangements which in turn may result in differential constraints and

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<sup>1</sup> Mining and resources here taken to mean minerals (e.g. iron, copper, gold.) mining, exploration and processing, together with oil and gas mining, exploration and processing.

transitions on individual workers and families (Clover-Taylor and Simmonds, 2009; Pirotta, 2009; Torkington, 2010).

In the mining industry these impacts may be further compounded as a consequence of some LDC being directly employed by mining companies and others by contract service companies. The latter provide services such as catering, hoteling, transport, drilling, earth moving and other skills. For non-mining company employees work rosters are often longer than for company personnel (Storey, 2001) and employment less secure resulting in different effects on workers and families. The male dominance of workers in the mining sector may add an additional layer of stress for some workers and partners (Pini and Mayes, 2012) and for female LDC (Costa, Silva, and Hui, 2006; Murray, Peetz, and Muurlink, 2012; Pirotta, 2009).

Investigating the experiences of LDC is important because apart from the very significant capital expenditure (8-10% of GDP) in the mining and resources industry over the last decade (Downes, Hanslow, and Tulip), a major component of sector spending has been on personnel. In 2001, mining sector workers were estimated to total more than 211,000 a figure which is expected to increase to 287,000 over the 5 years from 2011 (Minerals Council of Australia, 2011). Although estimates vary, approximately 20-30% of these workers are classified as long distance commuters and various sources estimate the number of LDC workers in the mining, resources and associated construction sectors to range from 74,000 to 100,000 (Erny-Albrecht, Brown, Raven, and Bywood, 2014; Mikkelsen et al., 2013).

While the number of employees in the mining sector represents only approximately two percent of the total Australian workforce (Minerals Council of Australia, 2011), LDC workers represent approximately 25 per cent of the mining workforce<sup>2</sup> (Mikkelsen et al., 2013) with some studies suggesting up to 50 per cent or more in some regions (Catchpole and Gafforini, 2013; de Silva et al., 2011). Therefore, a better understanding of the pros and cons of this increasingly common workforce model is important in terms of both mining workforce sustainability and the Australian economy.

Most of what is known regarding the effects of LDC on workers, families and communities in Australia comes from industry reports and the popular media; most are stereotypical and negative (A M Sibbel, Sibbel, and Goh, 2006). Moreover, most of the available information relates to mines and LDC in Western

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<sup>2</sup> Note: This figure does not include workers in associated related construction activities which some studies suggest may increase the proportion to 50% in States like Western Australia

Australia and Queensland. Notwithstanding, some of the adverse sequelae reported have led to growing concerns about the impact of LDC on workers, their partners and families (Hubinger, Parker, and Clavarino, 2002; McDonald, Mayes, and Pini, 2012; Watts, 2004). What is less well understood however is whether the negative effects attributed to LDC in the mining sector are actually due to LDC or other factors, and whether these effects are different to other sectors or other types of employees, or indeed from the general community.

Despite this demonstrated lack of causality and the positive effects noted by some academic and industry commentators, LDC is both perceived and promulgated by the popular media and some policy makers as the 'Cancer of the bush' (House of Representatives Standing Committee on Regional Australia, 2013, pp. vii-viii). What these sources least often present are the positive effects touted by the industry and workers which include: financial rewards; worker choice in where to live; improved lifestyle; compressed work schedules; extended leisure time; enhanced quality of life at home; job mobility without family disruption; limited disruption to children's education; uninterrupted extended family time between rosters; enhanced personal, interpersonal, and family well-being; training and study opportunities and resulting career progression; personal satisfaction, and offer of rewarding and challenging work; worker and partner resilience to various stressors, among others (Houghton, 1993; MacBeth, Kaczmarek, and Sibbel, 2012).

Some of the negative effects that have been described include loneliness and worker and partner stress from long periods away from home; fatigue from shift work and long hours (MacBeth et al., 2012; Peetz and Murray, 2011); increased rates of anxiety, depression and suicide; sadness over missed family events; physical health problems related to overweight and obesity; family dysfunction and diminished quality of personal, interpersonal, and family wellbeing (Clover-Taylor and Simmonds, 2009; Pini and Mayes, 2012); marriage breakdown; high levels of indebtedness (Watts, 2004), as well as alcohol and other substance abuse (Lenney, 2013; Newhook et al., 2011). While the latter is an obviously long list, again whether these effects are specifically due to LDC or indeed whether they differ in incidence or severity from those of non-LDC workers, workers in other industries or the general community, remains to be determined. That many of these effects are unique to LDC has been called to question by various authors because the methodology applied to published work often fails to consider the complexity of the social and cultural issues surrounding LDC and of health and relationships and general well-being (Greer and Stokes, 2011; Pini and Mayes, 2012; Sibbel et al., 2006).

Strategies that have been proposed to support worker and family wellbeing are wide ranging and include: adequate information about LDC / FIFO lifestyle before employment; private, non-shared, ensuite accommodation; noise minimisation and policies to minimise sleep disruption for shift workers; accessible and private telecommunication facilities; worker self-care induction and facilitation including varied and healthy food choices and fitness and sporting facilities; fatigue management policies; after hours social opportunities including alcohol free recreation options; travel assistance and minimisation of travel disruption so workers arrive home as expected; flexibility in shift hours and roster arrangements; flexible family friendly policies regarding phone contact during work hours and arrangements for home emergencies; preparation of children for worker departure and arrivals; negotiation of parenting tasks, roles and responsibilities of worker and partner to minimise family disruption; support for stay-at-home partner particularly when partner unwell and has children at home; support for employment of couples, and adequate health and counselling services (Gallegos, 2006; Mclean, 2012; Sibbel et al., 2006).

With the greatest growth in the Australian mining and resources sector in the last decade in Western Australia and Queensland, it is not surprising that most of the information relating to LDC arises from operations in those States, with little describing worker circumstances in other jurisdictions. The extent that the current literature mirrors the South Australia (SA) worker experience is not known and so the aim of this exploratory research is to better understand the motivators of LDC together with enablers and stressors of this workforce model for a sample of LDC from SA. The impact of LDC on communities in proximity to SA mine sites is outside the scope of this work.

## **Methodology and Method**

The ‘new’ or perhaps more correctly termed ‘scientific’ phenomenology research approach often applied in nursing research was the methodological paradigm adopted for this study (Crotty, 1998; Dowling, 2007; Giorgi, 2000; Toombs, 2001). In this context the methodology is used to elucidate subjective participant perspectives of the experience of working as LDC rather than of LDC of itself as a phenomenon. Scientific phenomenology is a research approach rather than a philosophical stance and has been described as a North American hybrid of the purist European philosophical phenomenology that seeks ‘... *to establish the subjective experience of the people they study.*’ That is scientific phenomenology is essentially a third person experience that concerns itself with the objective scrutiny of the subjective understanding of a phenomenon from the participants perspective rather than of the phenomenon itself (Barkway, 2001, pp. 192; Giorgi, 2000; Toombs, 2001). Scientific phenomenology is thus distinct from

'philosophical' phenomenology which began as a philosophical mode of enquiry in Europe around the turn of the 20<sup>th</sup> century and has been described as '*a critical methodology that invites us to revisit our conscious experience and open ourselves to the emergence of new meaning or at least the authentication and renewal of our present meanings. It is essentially a first person experience*' (Barkway, 2001, p. 192).

The objective of this study, which was to understand how participants speak of their lived experience of LDC, their positive and negative experiences, their perceptions of the barriers and enablers of the LDC workforce model, their motivations for it and the impact it brings to them personally as well as to their families, is well suited to scientific phenomenology as methodological paradigm (Van Manen, 2001).

The sample for this study was drawn from mining and oil and gas industry workers who lived in South Australia and who for the most part worked in South Australia, although a number of participants worked interstate and several overseas. Participation in the study was voluntary with no individuals or employers being coerced to be involved.

We adopted a purposive, maximum variation sampling approach (Higginbottom, 2004). This was done to ensure as far as possible heterogeneity of perspectives within and between different groups within the sample including persons from different geographical origins, of different genders, with different employer arrangements, disparate family make-up, different employment sectors and different employee types. As a consequence of the desire to obtain heterogeneity, a sample size larger than is often reported for qualitative studies of this type was obtained.

Participants were identified through social and other networks of the researchers and through advertisements placed in regional newspapers, postings on a website that offered support services for families of LDC workers ([www.fifofamilies.com.au](http://www.fifofamilies.com.au)) and by the distribution of 'postcards' in a range of workplaces and at regional airports frequented by LDC. Additional participants were identified as a result of participants passing postcards or study information sheets to their colleagues. Participant information was de-identified at both employee and employer level to protect the identity of the individuals as well as employers.

The categories of LDC represented included managers, engineers, geologists, surveyors, project managers, field operators, heavy equipment operators, above ground as well as underground workers, process operators, occupational health

and welfare officers, paramedical and nursing support staff, medical officers, contractors, graduate and trainee program staff as well as participants who worked in support services including in the travel industry, catering and hoteling services. Six LDC partners who did not work in the mining industry also consented to be interviewed.

Face-to-face, telephone or small focus group semi-structured interviews were used for data collection. Information sheets were offered to all participants and written or verbal consent was obtained prior to interviews. Interviews as a method of enquiry was chosen over surveys because of the likelihood of elucidating richer data than if survey approaches are used (Berg, 2008; Higginbottom, 2004). Unlike interviews, surveys or questionnaires do not provide an opportunity for the researcher to clarify questions, or to verify that responses have been understood as intended nor do they allow the researcher to seek clarification or elaboration of responses or to pursue related lines of enquiry that may arise as a result of a particular response from a participant (O'Leary, 2013).

The question guide included lines of enquiry about employee background, work history, general demographics (e.g. marital status, children) likes, dislikes, advantages and disadvantages of LDC, among other domains. Interviews were audio-taped, transcribed and together with researcher notes, were imported into the NVivo™ qualitative data analysis software (QSR International Pty Ltd Version 10) for analysis.

Analysis was guided by the method of Braun among others and involved a first reading of transcripts and notes to gather a general sense of the participant responses. This was followed by re-reading the text and identifying units of meaning related to the participant perceptions regarding LDC. These 'meaning units' were coded and annotated with researcher thoughts on issues raised. These codified units were subsequently aggregated into categories of similar context and finally synthesised (reduced) to produce themes explicating the differential experiences and impact of LDC (Braun and Clarke, 2006; Giorgi, 2000). Analysis involved iterative review of interview data to ensure essence statements, themes and sub-themes had been consistently identified. Themes were identified and reported irrespective of coding and source frequency. Consistent with thematic analysis in this type of qualitative research, no quantification of expressed sentiments was undertaken and no priority was assigned to particular themes (Braun and Clarke, 2006). Ethical approval was obtained from the Human Research Ethics Committee of the University of South Australia. Data was collected from September 2011-March 2012.

## **Participants**

One hundred and four volunteers participated in interviews either as individuals or in small groups (Table 1). About two thirds of participants were male (63%) with age groups relatively evenly distributed over the deciles 21 through 59 years. Two participants volunteered their ethnicity as of Aboriginal descent, although this was a question not asked of participants. Over half of participants were employed directly by mining companies and others by contractors providing a range of contract services to the mining / resources sector. Almost all participants commuted by airplane to their place of work after only a short drive or taxi transfer to the airport. Some workers did report having to drive up to five hours to reach the transport hub from which they then caught a flight to the work site, but these represented less than 10 per cent of workers interviewed.

Employee backgrounds were not consistently quantified but suffice to say workers ranged in background before becoming LDC from having no mining experience or skills who learned or were trained on the job; unskilled workers (e.g. hoteling, cleaning); to some with experience for example in operating heavy machinery, transport vehicles or earth moving equipment; workers with trade backgrounds, professionals (e.g. human resources, travel), business, management or experience in other industries; tertiary trained (e.g. engineers, geologists) mining professionals; other tertiary trained employees (e.g. nurses, paramedics); construction workers and those with previous mining experience (e.g. drilling, processing, underground).

## **Findings**

Three overarching key themes were derived from the data analysis. These were motivations for LDC, enablers of LDC and LDC stressors.

**Table 1:** Profile of study participants

	MALE	FEMALE	TOTAL	(% OF TOTAL)
<b>AGE GROUP</b>				
<20	2	1	3	(3)
21-29	13	9	22	(21)
30-39	13	6	19	(18)
40-49	18	6	24	(23)
50-59	14	7	21	(20)
60+	1	0	1	(1)
Unknown	5	9	14	(13)
<b>Total</b>	<b>66 (63%)</b>	<b>38 (37%)</b>	<b>104</b>	<b>(100)</b>
<b>Employment status</b>				
Mining company	49	8	57	(54.8)
Contractor	15	21	36	(34.6)
Health professional	2	3	5	(4.8)
Non-LDC Partner	0	6	6	(5.8)
<b>Total</b>	<b>66</b>	<b>38</b>	<b>104</b>	<b>(100)</b>
<b>Relationship Status</b>				
Single	18	6	24	(23.1)
In a relationship	46	29	75	(72.1)
Unknown	2	3	5	(4.8)
<b>Total</b>	<b>66</b>	<b>38</b>	<b>104</b>	<b>(100)</b>
<b>Family Status</b>				
No Children	27	17	44	(42.3)
Adult children	13	7	20	(19.2)
Dependent children	21	10	31	(29.8)
Unknown	5	4	9	(8.8)
<b>Total</b>	<b>66</b>	<b>38</b>	<b>104</b>	<b>(100)</b>

### Motivations for LDC

For the purposes of this study motivations were conceptualised as the enunciated reasons why participants chose to undertake LDC as a method of work. The key motivations for LDC expressed by participants were the financial and career

opportunities available in mining and resources sector, particularly for semi-skilled workers.

### *Contentment*

In looking at motivational subthemes it is perhaps important to summarise firstly the general sentiments expressed by study participants. In the first instance the overwhelming sentiment was one of general satisfaction and overall contentment with their choice of working for the mining and resources industry as an LDC. For study participants the years in the industry ranged from only several weeks to decades but with few exceptions most had no immediate intention of leaving the industry by choice. Participants were generally able to describe clear life and other goals as a result of choosing to be LDC, which they aimed to achieve over the short term, at which time they would make a decision about their future as an LDC. Participants were also generally able to identify benefits, enablers and stressors associated with long distance commuting and to enunciate strategies they and their partners used to mitigate their sequelae.

For younger workers, contemplating starting a family sometime in the future, a horizon of three to five years as an LDC was often described. Participants commented that a young family and LDC were not a good mix particularly for the stay-at-home partner. These workers suggested during such a period of their lives a residential mining position might be preferable, with a return to LDC when children were older.

More mature workers with older children, no dependent children or no children saw little reason to cease LDC. Workers did however describe LDC as becoming more difficult as one got older and 40-45 years of age was viewed as being the sunset threshold for heavy work. Workers approaching this point envisaged changing jobs to less physically demanding roles but still hoped to continue as LDC. Others described the long hours, shift work and heavy work as having become routine and commented that as long as their health and life circumstances allowed or until they attained their goals of early retirement (often at 50-55 years of age), they were hopeful of continuing as LDC in some form.

While there were a number of descriptions of workers changing employers over time, the main reasons described were unfavourable rosters, long periods of absence from home, feeling homesick, career progression, long travelling times or cost of travel, rather than LDC as a work model. Invariably once settled in a job that provided what workers considered reasonable work and terms and conditions, workers were committed to continuing in the LDC work model, at least for several years to come.

### **Remuneration**

The high remuneration paid to all levels of staff employed by both mining companies and contractors appears a key incentive for people to work as LDC. For semi-skilled and non-tertiary-educated workers, those living in rural areas, Aboriginal people, trainees and apprentices, participants commented that neither jobs nor similar levels of remuneration were available closer to home or in traditional employment settings

*'Money is good – where I come from there is no money, no jobs, so money here is good. Money is not everything but it helps and seeing you're away from home may as well have it.'* (Male, 65 years old.)

*'I live rurally so [there is] not much work there except in deli or farm, so for me FIFO means I can have a good job but I can still live where I want to live.'* (Female, 40s)

*'As a University drop-out I am earning 2-3 times what I could have earned anywhere else.'* (Male, 32 years old.)

The high level of remuneration offered material and lifestyle benefits, including for the purchase of goods and chattels, travel and holidays, private school and university education for children, property purchase or renovation, and planning for early retirement. High income was perceived as compensation for the long periods of time spent apart from home, friends and family.

For participants with children, the high rate of pay was perceived as offsetting income forgone as a result of the stay-at-home partner not being able to work or otherwise to compensate for the cost of child care if the stay-at-home partner also worked.

*'I believe FIFO work needs to be properly compensated, about an extra 50% over and above other work and that is because often your partner can't work, especially if you have kids, and you need to be compensated for that. Or if wife still wants to work then childcare etc. is expensive and you need extra money to cover that.'* (Male, 47 years old.)

In addition to salary, LDC reported other elements of the LDC work model which resulted in savings compared with other work situations, which augmented the direct remuneration.

*'...living expenses are paid for, [as is] food and shelter so you save, [you're] paid more to compensate your [being] away from home a lot. [Company de-identified] will pay for you coming from any capital city, [so] you can live where ever you want.'* (Male, 23 years old.)

*'I save because I don't have to drive to work every day ... didn't want to go to Adelaide for work and have to drive every day.'* (Male, 22 years old.)

### ***Career opportunities***

While the high level of pay is a primary motivator for workers to adopt LDC, career opportunities are a significant incentive to remain a LDC. Tertiary trained professionals (e.g. geologists, mining engineers) generally understand from the outset that LDC is part and parcel of working in the resources sector and that career advancement and the need to travel to rural and remote areas were interdependent. Continued learning is an expectation of these careers.

*'There are no mines in Adelaide.'* (Male, 27 years old.)

*'There is always plenty of work but not too many other industries for geologists, so if you choose this career you have to be prepared to work away.'* (Male, 54 years old.)

For non-professional staff, the opportunity for additional training probably is not appreciated until they commence work but regardless, the available opportunities are both welcomed and embraced to support career progression, increased responsibility and increased pay and other benefits. Non-tertiary trained workers commented that working in the mining industry offered challenging and rewarding work and career opportunities which were not as easily available in other industries.

While support for training is not exclusive to the mining industry nor specific to LDC, participants perceived training prospects as being more available than in other sectors because of the apparent skills shortage, the desire to maintain a skilled workforce and the increased liquidity of the industry compared with other sectors. The training opportunities reported included apprenticeships; vocational certificates and diplomas; human resources (HR), leadership and management training; and Occupational Health and Safety (OH&S) training; operator licenses, as well as support to undertake University undergraduate and postgraduate qualifications. Participants reported that many companies also have schemes that provided support, incentives, training or work experience for individuals from disadvantaged groups (e.g. Aboriginal and Torres Strait Islanders) as well as for people from local regional and remote towns to begin work in the resources and mining sector.

Participants commented that the mining sector offered opportunities to manage resources and projects that were orders of magnitude greater than in other

industries and that often involved managing large and expensive plant and equipment or projects worth many millions of dollars where room for error was very small.

*I like the responsibility; being responsible for millions of dollars of work (although this can be stressful as a result because you can't afford to make mistakes or have something go wrong; always new challenges, new problems to solve, which I like.'* (Male, 46 years old.)

Participants found these opportunities daunting at the outset but with training and experience, personally challenging and rewarding. As a result, participants were keen to pursue company sponsored training that allowed them to take up such challenges and work towards career promotion.

There was however a sense of inevitability regarding the longevity of the apparent boom of employment opportunities in the mining industry. A number of workers expected that at some point there would be downsizing of mining operations consistent with boom and bust cycles and the short lifetime of some mines and some mining towns in recent history. Notwithstanding the uncertainty in this regard, the general sentiment was to 'make hay while the sun shines', work hard to reap the rewards of the buoyant times and take the opportunity to 'set yourself up'. Others commented that unlike traditional residential employment arrangements where when one became redundant there were generally few other jobs on offer. For LDC workers, the risk of unemployment was less because workers could simply take a job in another location and not have to worry about needing to consider relocation of the family.

### ***Rest and recreation (R&R)***

Participants reported that the extended periods of time off between rosters was an important motivator for LDC. Shorter rosters that offered more frequent breaks were favoured, particular for younger workers and those with young children. For example, workers on an 8/6 roster particularly enjoyed the five or more days they had off every fortnight. Workers also felt these breaks reduced the need for annual leave.

*'You don't feel the need to take leave so much because you get regular breaks.'* (Focus group participant)

Workers were able to augment the usual breaks between rosters could by arranging to take R&R breaks 'back-to-back' which then allowed ten days of R&R before returning to regular shift arrangements. These breaks could be further extended by combining R&R with short periods (one to two weeks) of annual

leave. In so doing, workers were able to leverage their leave entitlements and have multiple extended breaks over the course of the year.

*'I can combine leave and shift breaks to get larger blocks of time off, for example, up to one month off twice a year by taking a shift break, two weeks leave and then another shift break before coming back to work.'*  
(Focus group participant)

Workers utilised the regular breaks in different ways to the benefit of their goals and lifestyle. For example the regular six days off provided by an 8/6 swing provided LDC with regular periods in which to tackle major home renovation or other projects. For others, the same roster meant being home several weekends each month which enabled them to commit to regular sporting, social or volunteer activities, which were not possible when working longer rosters. Others used the breaks for professional development including University study.

Participants on shorter swings reported having more time with family and children compared to when they had worked in 'mainstream', non-LDC employment involving residential day or night shifts and / or regular Monday to Friday employment. Although it was acknowledged that having long periods away was stressful for both parents and children, this seemed to be offset by long uninterrupted periods at home between rosters. Workers described being home for long periods every two weeks or so as offering the opportunity to spend 'quality time' with partners and children.

*'It's good when he comes back as he does the cleaning and cooking, sometimes picks up daughter early from child care and does things with her. Gives me a break from those type of things. (Stay-at-home partner of LDC)*

Workers commented that unlike other modes of employment, when an LDC was off-site there were few interruptions from work and no expectation of having to be available for work enquiries. This was because when one LDC was not on site, there was generally another team or another worker doing the job.

*'While working for 2/52 straight can be hard, when I get home I don't think about work; I am free to do other things. When I used to work as a manager before FIFO I used to leave home before kids were awake and get home late, and then be on call 24/7. Now when I'm home, I have nothing to do with work except check emails every few days or a rare occasion when no-one else is around to do certain work and they call me. There's sort of an unwritten rule that you don't get called when on break.'* (Male, 47 years old.)

As a result, R&R was effectively quarantined and not having any work demands during these periods gave LDC workers the opportunity to commit to relieving partners from regular home-based activities, for example taking young children to and from school, spending time at school with children, and attending daytime sporting and other child and family events.

*'I only used to see daughter for maybe an hour a day, and just in passing and then out again. So get more quality time this way, can pick her up from school, take her to school stuff, sports stuff (swimming, netball, basketball), make sure I do all that.'* (Male, 43 years old.)

## **Enablers for LDC**

### ***Rosters***

Participants almost overwhelmingly expressed a preference for shorter rosters, particularly if they had young families. While some described a 14/7 roster and the extended break between rosters positively, the 8/6 or 7/7 rosters appeared to be becoming more common and more popular among workers and partners. Shorter rosters reduce the length of periods away from home. Participants said that shorter swings also reduced fatigue compared with the longer rosters.

*'When we first started it was 14/7 for 2-2½ years, then 9/5 then 8/6 from October 2011. I prefer 8/6. It's less tiring than other rosters particularly as you get older.'* (Female, 50s)

These comments seemed particularly pertinent for older workers, those with physically demanding jobs or those who had been in the industry for long periods and who had experienced rosters of different durations over the years.

Participants commented that even though the shorter roster resulted in a slight reduction in remuneration, this was outweighed by the benefit of shorter periods on site between breaks, and the roughly equal periods spent on site versus time at home.

*'It's good money and I'm only having to work 7 months of the year.'* (Male, 35 years old.)

Conversely, workers on longer rosters (three to four weeks on with one week off and sometimes longer, particularly for LDC working overseas), commented that longer rosters were not only physically and mentally taxing but had detrimental effects on families and relationships compared with shorter rosters.

*'When you are on two weeks on and one week off you are only home one week per month and you feel like you are rushing things at home. Have*

*to pack everything into that week because you know if you don't get things done you won't be back for another month, so one week about is better. Wife is happy with shorter roster, doesn't want to go back to how it was.' (Male, 41 years old.)*

These effects were compounded in situations where communication was difficult because of extreme isolation.

*'Longer rosters are harder, when I was with [Company, de-identified], I used to do 16 days on and six off and was away from home for four months at a time, contact not good to home, hard on marriage, killed my first marriage.' (Male, 41 years old.)*

Some employees, particularly those commuting from interstate or who had to drive for several hours to a key metropolitan or regional transport hub (e.g. Melbourne, Adelaide, Port Augusta), commented that the shorter rosters did involve more travel, which they found more tiring than when working the longer rosters. When workers had to meet the cost of such travel they also suffered financially. For other employees not involved in mining operations or in processing, and generally for personal rather than financial reasons, there was a preference for rosters of different lengths to the 8/6 roster. These included 4/3 or 12/9. However it appeared flexibility of this nature was generally available only to more senior staff.

Shorter rosters were reported to be more common for employees of mining companies compared with those working for mining service contractors. Contractor employees more commonly worked a minimum roster of 14/7 and the shorter rosters available elsewhere were a motivator for workers to seek employment with mining companies.

### ***Amenities***

The quality of facilities at mining sites was an important enabler for LDC and one that that offered benefits for the worker when on site. There was however some variance in the standard of facilities available depending on the nature of the job. LDC who worked in drilling, exploration or construction during the establishment phase of mining operations reported living 'rough', for example in tents or 'swags', with few amenities or home comforts. Moreover, because of the nature of the work and the remoteness of the sites workers often endured longer rosters. Workers in these circumstances reported limited communication due to the remoteness of some sites and in the absence of satellite phones, they were unable to contact friends and family easily.

Conversely, participants working in the operational phases of mines reported having access to air-conditioned ‘huts’ in well maintained accommodation blocks and work compounds, Private rooms, modern telecommunication facilities, well equipped sporting and recreation areas, laundry facilities, cribs and wet messes were standard features in most sites.

*‘Accommodation is good, food is good enough, facilities are good – gym, pool, bar. (Male, 34 years old.)*

*‘They try and make it feel comfortable up here for you, clean sheets when you arrive, food prepared and cooked for you, access to laundry, own toilet , bathroom and shower, it’s easy to live up her’ (Male, 23 years old.)*

Workers reported using mobile phones and email most often as their mode of communication with family and friends. Social media as well as Skype or similar technologies were also used. In some instances telecommunication technologies had to be ‘booked’ and use was limited. In other instances, mobile phone towers had been installed on site and wireless internet was available in communal areas and even in worker’s accommodation.

Workers reported undertaking a range of activities between shifts including socialisation at the crib and wet met mess, using walking paths for example between the mine site and camp or playing sport (e.g. indoor cricket), attending the gym or doing fitness classes. Down time between shifts was also used for personal care, doing the laundry, watching television or movies, communicating with friends or family, reading or for study.

### ***Camaraderie***

Participants commented on life on the mine site as being somewhat akin to ‘family’. Workers were part of teams with common work goals and circumstances. Because they were all away from home in a tough, remote environment and worked hard for long hours in close company, workers generally got to know each other well, particularly within work teams.

*‘Good feel up here, more like a family, easy to talk to people, people like a second family because you spend half your life up here.’ (Female, 52 years old.)*

Workers commented they usually ‘looked- out’ for each other and were sensitive to pressures that co-workers might be under and tried to provide support where necessary.

*'Guys talk to each other about problems, sharing helps, no use bottling it all up for 8 days, would drive yourself nuts.'* (Male, 43 years old.)

*'I talk to mates on the job, particularly if am having relationship problems. Can talk to blokes because most have had similar problems. All in same boat so can share situations although sometimes blokes might be reluctant to talk about their problems'* (Male, 27 years old.)

The culture of mateship, camaraderie and peer support appeared to cross gender boundaries with men seeking support from female colleagues and vice versa depending on the nature of issues at hand.

### ***Regimentation***

The camp and site culture was described by participants of both gender as being somewhat military in nature with numerous policies and procedures and a fastidious emphasis on work, health and safety, which some found overbearing. Interestingly though this wasn't perceived as an impediment to LDC work but rather was seen as a positive circumstance. Participants noted that the regimentation and rigidity manifest on site and in the mine camps meant that rules and processes, tasks and activities, roles and responsibilities, reporting relationships and the separation of work and down time, were clearly outlined and understood by all on site.

*'Everyone here is always focused on their jobs, 12 hours a day with work mates work people, not thinking about what you're going to do that night because you're on site. We're here to work not to play but it doesn't feel like a 12 hour day, lots of jobs and projects to do.'* (Male, 23 years old.)

*'Don't have to shop, cook dinner, can concentrate on work and nothing else.'* (Male, 32 years old.)

### ***Family and employee friendly organisational culture***

Work sites or employers that espouse family-friendly cultures were particularly appreciated by study participants and partners. Workers were appreciative of company or management practices that acknowledged workers were a long way from home and sometimes felt helpless, or stressed when things went wrong at home and they couldn't be there to help out or provide support. Workers felt more in control if within reason, company policy allowed them to keep mobile phones with them while on shift and that for special circumstances workers could return home at short notice or request time off for important events.

*'It's important for companies to be supportive of families wherever possible. To try and accommodate factors that are important to employees, which will be different for different people, for example birthdays, weddings, funerals, rock concerts, marathons, things like that. If you can plan 6 weeks or so in advance [the request] can usually be accommodated.'* (Male, 47 years old.)

*'My job is pretty flexible - if I need to get home for emergencies I can do that.'* (Male, 37 years old.)

Participants commented that they were able to better tolerate the limited flexibility regarding certain work-site practices, for example limited alcohol use, work, health and safety (WH&S), and sometimes inflexible travel arrangements, because these were offset by accommodating policies regarding family and other special occasion events.

*'Good thing about [Company, de-identified] is that if you have a reasonable request then the company will assist. (Focus group participant)*

Moreover, companies with less rigid policies regarding phone, email or internet use were more highly regarded.

*'[Company, de-identified] doesn't log phone calls or track emails or internet like [Company, de-identified] do which I did find unacceptable. Don't have the 'Big Brother' thing here - we rely on company respect and integrity. (Focus group participant)*

*'[Company, de-identified] is family friendly and they don't mind if you use phone while on the job ... they are aware that you are a long way from home and that things can go wrong at any time. They also have special provision for 'family emergencies'. They also bring family up for 2-3 days over Xmas. It's good because they see where dad works when he is away and get a bit of understanding of what it is like. (Male, 47 years old.)*

Participants commented about preference for normalisation of class strata on the work-site. For example, on some worksites, all classes of employees – from apprentices to general managers – wore similar attire and adhered to the same WH&S policies and procedures while on site.

Employees were also more content if they felt that site supervisors and managers were approachable and responsive to worker difficulties and concerns. Senior managers who maintained an open-door policy were well regarded. Similarly,

employers with less prescriptive attitudes to socialising during work times (e.g. lunch-time BBQs), were favoured by participants.

*'Would be good for our department to do more team building, more team bonding. Maybe knock off an hour early occasionally and have a BBQ down at the village. Some departments do it well but our department doesn't do that kind of thing very well.'* (Male, 24 years old.)

### ***Family employment***

There were some incidences of both partners in a relationship working as LDC. The majority of LDC couples interviewed, either had no children or adult children (Table 1) which enabled both to engage in LDC. Some partners had experienced being a stay-at-home partner but indicated their preference to work as a LDC despite the travel burden and long time away from home. The extent of LDC couple interaction on-site varied from employer to employer or from department to department. For example, some employers allowed partners to work in the same department and others did not. Couples commonly stayed in couple's accommodation, however some couples preferred separate rooms in appreciation of different shift and sleeping cycles.

*'Wife and I have separate rooms, not couples quarters because we have different routines, she gets up before me and I go to bed after her.'* (Male, 50 years old.)

The opportunity for 'couple's employment' and sometimes for other family members was presented as a positive element as it provided a 'family type' presence on-site.

### **LDC Stressors**

#### ***Family separation***

Some participants reported that being away from home was stressful, particularly when problems arose on the home or family front. For some, calls from home were anxiety-provoking because the immediate assumption was that there was something wrong.

*'When family problems arise and I am not at home, makes me feel anxious, perhaps I am a bit of a worrier, don't like it when someone calls from home, first thought is that something is wrong, don't really want to take the call, guess I'm a bit of worrier.'* (Male, 54 years old.)

The separation of partners who have children commonly results in one partner operating as a sole parent while the commuter is away. Sacrifices, particularly in a career domain, made by stay-at-home partners were widely acknowledged.

There was also widespread acknowledgment of social sacrifices of LDC and that social and family events are missed while the LDC worker is away working on-site.

A number of workers commented on the sadness they felt being away from partners and children and also of the sadness children displayed prior to their leaving for the next shift and while workers were away.

*'Didn't like being away when children were younger. Doesn't worry me as much as in the 90's when the kids were younger. Started working away when kids were eight and six and it was difficult with family bonding. [It] affected the kids too, was on four weeks on / one week off, and lots of 2/1 and son used to get clingy with mum and didn't understand why dad was away so much. Used to scream and cry and it was hard to leave for both me and wife.'* (Male, 54 years old.)

### ***Family disruption***

Workers and partners commented on a range of difficulties that could arise with respect to family dynamics without effective negotiation and communication regarding home task management and family roles and responsibilities.

*'He's now paid monthly instead of weekly as before. Money a bit harder to manage, have had to rethink, re-arrange things a bit to adjust to different schedule.'* (Partner, female, mid-thirties age group)

*'I make pretty well all the decisions, I manage the investment properties largely by myself and tend to take most major decisions although I speak with him to let him know and generally keep him informed.'* (Partner, female, mid-forties age group)

Partners with children commented on feeling like a single parent and expressed some resentment on having to manage all household chores and decisions while partner was away.

*'I have my own routine now, have had to adapt over the years and have been doing this for a long time. I thought of myself as a single mum really when children were young, not much different now children have grown up. Find shopping and cooking a bit difficult because I am used to cooking for one, when he is home he doesn't tell me what he wants so I often end up throwing out things that I cook because he doesn't want them.'* (Partner, female, mid-forties age group)

*'It's hard having to manage on your own (like a single mum), particularly when it comes to housework and managing the baby. Because I work full time don't get much time to do things during the week. [I] have to pick up daughter from child care after work, go home, cook, feed her, bath her, get her to bed, then not much time to do anything. Then I have to do housework etc. on weekends. Can't get to play group and have lost touch with baby group. The monthly regular rental house inspections are stressful because I have to get house clean and tidy by myself' (Stay-at-home LDC partner, female, mid-thirties age group)*

Partners commented on difficulties with children when workers returned from the mine site and further stress when they returned to work. For some it seemed discipline was always left to the stay-at-home partner and that routines carefully established and enforced during the LDC partner absence were thrown into disarray when the LDC returned creating transition difficulties within the family.

*'I like it that there's not many arguments when he is away because he is not getting in the way or under my feet, upsetting my routine. Different when he's home. Daughter gets difficult a few days after husband leaves again for work. It's OK for the first day or two but then she seems to go into meltdown / tantrums and I feel like I'm having to fight with her to get her dressed, to get her to child care, to feed her, to dress her ... not just at home but she is also difficult at day care seems to settle down after a week or so.' (Stay-at-home LDC partner, female, mid-thirties age group)*

Others, usually for LDC on long rosters, bemoaned partners being too tired when home from the mine site to participate in family activities.

*'[Husband] now works for another company out of Sydney and is away for three to four weeks at a time and is home for only three days between rotors Partner very tired when he gets home. Things don't get done around the home anymore because he is away for so long and too tired or busy with other things when he is home. Doesn't get much time with daughter or granddaughter. Not much social life any more (as a couple).' (Stay-at-home LDC partner, female, fifties, age group)*

### ***Health issues***

Health issues were of potential concern for commuters, partners and health service providers included in the study. Sleep disturbance and obesity were identified as two potentially major issues, especially for people engaged in shift work and predominantly sedentary occupations.

*'It's a mindset thing, surely by now everyone knows you can't sit on your ass for 12 hours and eat a bag of spuds and half a cow at dinner and then ask yourself why you are fat?'* (Male, 45 years old)

*'Issues are usually multifactorial which results in stress, depression and anxiety, time off, relationship issues etc. One thing impacts on another and it tends to snowball. By the time I see them there a lots of issues to try and deal with.'* (Health Professional)

The physical and psychological toll from fatigue appears to be a consistent source of concern for both management, workers, partners and health professionals working with LDC. Many participants reported experiencing fatigue as a result of shift work, long working hours, sleep disturbance and the heavy physical nature of some jobs. This appeared compounded for older workers, those on longer rosters or those having to travel for long periods to and from work (e.g. Adelaide to the Pilbara in WA, to far north Queensland or the Philippines).

*'There is a lot of fatigue, older men in their mid-forties find it much harder to cope with long shifts, 12 hours and sometimes longer. They barely get through a block. It is a big problem for those who have to do repetitive tasks or who work on their own.'* (Health Professional)

Other participants expressed concern about risks some colleagues took in depriving themselves of sleep in order to get home sooner, For example, workers who completed a 12-hour shift (including a night shift), who then remained awake in order to catch a flight to a port near to home and who then had to drive for several hours before arriving home.

### ***Under-reporting of illness and injury***

Participants reported an increased emphasis upon WH&S within the resources sector over the years which has resulted in changes to the attitudes of some LDC. For some there was a fear of injury evident as they perceived that injured workers were considered disposable even though the harshness of the work made it inevitable that injuries would occur. There were reports that some LDC – especially contractor employees – had a tendency to carry ailments and injury without reporting them for fear of not having a contract renewed or being given alternate duties resulting in loss of field allowance, thus reducing overall income.

*'There's a reluctance to report stress and injury because you can very quickly lose your job if the doctor says you are only fit for light duties; also light duties means you don't get field allowances which can be almost as much as base salary so people don't want to risk it.'* (Male, 46 years old.)

*'The other thing I see is people who become injured or become so anxious or depressed that they can't work and when that happens suddenly the money is gone and they can have real problems because of that. People don't often appreciate how fast things can change or the money can go. You don't often hear about these people, they are the underbelly of the town and often go through a really hard time and there is very little available for them.'* (Health Professional)

A perception that there were many people lining up to take the place of an employee 'not up to the mark' was a source of stress and another reason for seeming reluctance to report injury or illness.

### ***Amenities***

As described previously, the standard of work-site amenities is an important enabler for LDC who spend long periods of time away from home. While the majority of respondents reported being satisfied with the standard of amenities, some decried the lack of tranquil spaces for reading, quiet conversation or silent contemplation other than in their often cramped personal quarters. Others commented there was a lack of alcohol free recreation opportunities or activities for those who were less interested in sport. Others noted the starkness of the camp environment which was often devoid of plants and gardens although it was acknowledged that lease arrangements or water restrictions in certain cases prevented landscaping of camp settings.

### ***Financial inexperience***

The high level of remuneration in the mining and resources industry was not without its drawbacks. There were reports of young people in particular who were not used to managing large sums of money and who were more likely to fritter away their income on material goods, travel, alcohol or socialising when off-site.

*'Other blokes I work with tend to fritter away their money, they live the high life and don't save much.'* (Male, 27 years old.)

While no person interviewed reported having money management difficulties, there were reports, from some participants, of other people who were caught in debt cycles as a result of large financial commitments. This debt cycle was perceived as creating a trap for some and a feeling of being unable to leave the LDC model as a consequence, even if workers wanted to. Similarly, workers with high financial commitments who were at real or perceived risk of not having contracts renewed or extended, or of losing site loadings during periods of illness, reportedly suffered significant stress and anxiety.

### ***Employment Inequity***

A number of contractor employees commented on the apparent differences between people working for contractors and those employed by mining companies. The contractor employees interviewed came from a variety of sectors as well as those working for mining service companies and included operators, drilling, blasting, construction, earth moving, travel managers, hoteling, catering and other mining service industries. Comments usually related to less favourable working conditions, a lower standard of accommodation (e.g. older, shared, no ensuite), longer rosters, lower remuneration, less supportive organisational culture, increased likelihood of being bumped from return flights in favour of company employees, and harsher expectations of employers and supervisors.

*'I've worked on a number of mine sites. Facilities seem to be a bit different depending on whether you are a contractor or employee. General working conditions are better for [mining company] employees. Contractors seem to be more concerned with just getting job done at a fixed cost, so not so concerned as major employer about safety and amenities' (Male, 35 years old.)*

Personnel working in catering, facilities management and housekeeping seemed most affected. Participants commented that contractor companies had higher staff turnover as a result of the above and that staff were more likely to cease commuting and return to main-stream employment or to try and obtain employment with host mining company.

Employees from some of these groups perceived they were overworked, underpaid, under-valued and more stressed compared than employees of mining companies. Participants reported a reticence to complain about working conditions for fear of not having contracts renewed or of losing their jobs.

*'Working for a big company you are just a number; company doesn't really look after its people except from OH&S; it's sort of every man for himself.' (Male, 46 years old.)*

### ***Nepotism***

There were concerns expressed regarding couples or family employment and policy transparency in some workplaces.

*'There is an inconsistent policy related to having couples working at the same site or in the same division'. (Male, 50 years; female, 26 years old.)*

*'Couples working on-site is OK if they work in different departments. It causes trouble when the couple are both supervisors and they have access and share private employee information. It makes you nervous. It sometimes slips through like de-facto couples with different names and once an appointment is done you can't do anything.'* (Female, 48 years old.)

The absence of support by some managers or employers to employ couples at the one work site was identified as a reason for seeking alternative employment. Likewise some commented on a resistance from their employer to have their partner, who worked for a different employer or at a different mine site, to be relocated to the same worksite or be offered employment by the same company. In addition some couples experienced barriers in their efforts to align rosters with those of their partners who worked at the same mine site.

### ***Other stressors***

Some other issues that LDC commented on included frustration over travel disruption, for example when they were 'bumped' off a planned return flight home resulting in delays getting home and loss of R&R time. Contractor staff claimed this was more likely for them than for company staff although this was not substantiated. Some participants complained about the repetitive nature of the jobs and wanted more variety such as the opportunity to work in the field or for more flexibility in roster configuration to give the opportunity to work in other teams

*'Would like to do some other jobs on site, for example core runs, scarifying and rehab., all of which get me off site and into the field.'* (Male, 19 years old.)

*'Would like to see teams get mixed rather than work with same people all the time. Seems to be a bit of favoritism for certain jobs and time away from pit, shed.'* (Female, 21 years old.)

*'Would like to be able to rotate and alternate rosters from 8/6 to 12/9 so that workers would meet with people from other teams instead of same people all the time.'* (Male, 47 years old.)

The limited accommodation in some mining camps was also a cause of frustration.

*'We don't have our own rooms any more. When we're not here someone else uses the rooms. We live here for most of the year so accommodation allocations should be permanent.'* (Male, 47 years old.)

## **Discussion**

Long Distance Commuting represents an increasingly common employment model for personnel working in the mining and resources sector as well as in other industries. While negative sentiments regarding LDC in the mining sector abound (House of Representatives Standing Committee on Regional Australia, 2013, ; McKenzie, 2011; Storey, 2001 ), this study has found that most participants regard the LDC lifestyle as rewardingly positive with few other than relatively minor detrimental encumbrances reported.

LDC emphasized the key motivators of LDC as being: opportunities to manage or be involved in large projects; to engage in challenging work; to visit remote regions; to meet new people and develop new skills; to avail themselves of training opportunities; to contribute to Australia's economic prosperity, and all the while enjoying a relatively high level of income. Additional reported benefits included regular and extended periods of leave and the limited disruption to partners and family by them not having to relocate to rural or remote towns with perceived lesser access to services, amenities, family and other support networks. These sentiments were largely consistent with industry and other findings from various reports and the literature (Catchpole and Gafforini, 2013; The Chamber of Minerals and Energy: Western Australia, 2005), suggesting that the experience of SA workers is not markedly different from those in other States.

Factors said to contribute to the impact of LDC on individual workers include location and size of the worksite, length of rosters, the standard of camp accommodation, availability and access to psychosocial support, stable family situation (Henry, Hamilton, Watson, and Macdonald, 2013) as well as regular communication with family ( Sibbel, 2010). Most study participants worked in SA, on mine sites that provided excellent accommodation. Access to health services as well as psychosocial support was readily available either through telephone services, visiting health professionals, chaplains or counselors and swings were generally no longer than 14/7 and often shorter. Three quarters of participants were in stable relationships and over two thirds had no dependent children resulting in stable and less stressful family arrangements. While respondents report that the LDC lifestyle abounds with rules and restrictions not unlike the military, workers reported a level of employee onboarding and provisioning and a culture of mateship that promoted work-place wellbeing. These findings are consistent with the literature commentary regarding factors that increase the likelihood of worker satisfaction, may have accounted for the general high level of satisfaction with LDC arrangements reported (Gallegos, 2006; Mclean, 2012; Sibbel et al., 2006).

Another major appeal of LDC is the clear separation of work and leisure afforded by having long periods of R&R between rosters unburdened by the need to be available for contact by the 'office'. This contrasts with traditional employment models which for many people involves hours of daily travel, work weeks of 40 hours or more and non-standard shifts. Professional, managerial, and technical employees are often expected to be contactable at work, home or elsewhere (Perlow and Kelly, 2014). Email, mobile phones and social media seemingly reduce the amount of uninterrupted worker R&R which can mean workers working traditional or non-standard hours never really get away from work. As a result family time is interrupted which in turn can strain relationships (Cornwell and Warburton, 2014). Non-standard work hours also results in limited wider social connectedness due to asynchrony between work schedules and those of others (Cornwell and Warburton, 2014).

In contrast, while LDC involves regular long periods away from home, when workers do return home, there is generally a clear separation between work and leisure because another individual or team is tending to business at the mine. Participants comment that this generally results in uninterrupted R&R and the long breaks between rosters means long periods of quarantined time for recreation, and other activity with friends and family and increased opportunities for community activities, volunteering and sport (Gillies, Wu, and Jones, 1997). Moreover, the compressed shift rosters on a mining site usually equate to fewer work hours averaged over a calendar month or year than mainstream employment which increases the appeal of LDC for many workers. In fact many workers boast working only six or seven months of the year.

The findings from this study challenge the popular media and other coverage of the LDC (or FIFO) workforce models which consistently identify the community and individual and family cost of this lifestyle for mining as well as other industry sectors (House of Representatives Standing Committee on Regional Australia, 2013; Peetz and Murray, 2011; Skinner and Pocock, 2008; Watts, 2004). In these instances workers described longer swings, little control over working hours and increased worker turnover than was the case for most of the participants in this study, as key causes for worker dissatisfaction.

While it was commonly recognised that social and family sacrifices are required when adopting a LDC work arrangement, the benefits for career, improved socio-economic status and reserved family time were consistently identified as compensatory by both workers and the partners interviewed. This is not to say that LDC life was not without its stressors but rather that in the main workers, partners, families and children appear to develop a range of attitudes, strategies, coping mechanisms and support systems to manage the challenges that LDC

presents. (Carter and Kaczmarek, 2009; Clover-Taylor and Simmonds, 2009; Pini and Mayes, 2012). Strategies participants identified as important for combating the isolation and separation include shorter swings, goal setting, family cohesion, partner independence, regular communication, and a support network for the stay-at-home partner (Clover-Taylor and Simmonds, 2009; House of Representatives Standing Committee on Regional Australia, 2013).

While the participant commentary was overwhelmingly positive there were a number of issues raised that had potential negative ramifications. The literature describes the LDC / FIFO lifestyle as one with a number of negative health ramifications. These include detrimental effects on social and emotional wellbeing as well as on mental and physical health (Carter and Kaczmarek, 2009; Mclean, 2012; Sandow, 2013; Torkington, Larkins, and Gupta, 2011); negative impacts on family well-being have also been described (Gallegos, 2006; Hubinger et al., 2002).

While effects such as sleep disturbance, anxiety, depression, sexually transmitted diseases, substance abuse overweight and obesity have been described (Carter and Kaczmarek, 2009; House of Representatives Standing Committee on Regional Australia, 2013; Lenney, 2013; Mclean, 2012 ), there is little evidence that such effects differ from those in other industries or in fact from the general population. Our study, relying similarly on self-report by participants, differs from previous work in that it did not identify significant health concerns in LDC workers, including from those who had worked in the industry for long periods. In particular, apart from two interviewees out of the 104, no participants volunteered a history or incidence of debilitating anxiety or depression. In the first case the condition resulted from long rosters and separation from partner and family; in the second instance as a result of relationship breakdown. In both cases professional help was sought and participants reported having recovered from their conditions.

Elsewhere, few participants reported health problems as a result of LDC apart from tiredness and fatigue from shift work and long hours, effects which were ameliorated to some extent as rosters became shorter. Participants reported availing themselves of healthy meal choices, sporting and exercise facilities and fitness programs. They reported curbing alcohol intake while on site because of the zero-tolerance policies operating at all mine sites. Some mine sites offered support for smoking cessation in an additional effort to promote a healthy workforce.

A number of commentators have described work related fatigue as a feature of workers in the mining industry, mainly as a consequence of rosters and shift work. (Carter and Kaczmarek, 2009; Gallegos, 2006; Torkington et al., 2011). These

circumstances may have negative physical and psychological health impacts on workers as well as downstream effects on families and other relationships (Gallegos, 2006; Peetz and Murray, 2011; Sibbel, 2010) combined with significant potential for fatigue related accident and injury (House of Representatives Standing Committee on Regional Australia, 2013). Intensive commuting, long rosters, excessive overtime, long shifts, sleep disturbance, harsh environment, heavy physical work, a competitive, masculine work culture and other factors are an ideal recipe for fatigue among LDC workers (Wood, 2013).

These remarks are consistent with those of the study respondents who commented that long commuting times, longer rosters coupled with inflexibility of start times, particularly for late shifts, disrupted sleep patterns, limited sleep hours between shifts after allowing time for eating, wind-down and communication with family, all made for chronic fatigue. Many participants commented that it took a day or two for recovery between rotors which impacted on time with family and friends.

While study participants certainly made mention of tiredness and fatigue as a feature of LDC particularly when first starting LDC and on the first day back from leave and, most were able to identify strategies such as sensible eating, regular exercise, minimal alcohol and getting plenty of sleep between shifts to combat these effects. Some suggestions for fatigue management from the literature include allowing employees to have input into roster design, use of fatigue monitoring technology, sleep hygiene education, shorter shifts, changing starting times, shorter rosters, better positioning of sleeping quarters for night shift workers, for example away from day shift worker accommodation and away from generators, roads, and leisure areas (Construction, 2011; Gallegos, 2006; Wood, 2013). Site managers who were interviewed described strategies that were intended to reduce worker risk of accident when travelling home by car immediately following the end of a swing (Rae et al., 2011).

Isolation was another factor reported by a small contingent of participants that can have negative effects on the longevity of sustaining the LDC work routine. Emotions reported by some participants included feeling homesick and feeling sad when missing important family events. The impact was more apparent in workers with young families or in new relationships who often reported missing partners or children. Feelings of isolation were reported more often by those working longer rosters, or who spent long periods travelling, or where the remoteness of the mine site limited communication with partners and family, or where the mining environment was particularly harsh and the work hours long and physically demanding.

Feelings of loneliness and isolation are associated with negative consequences for both physical and psychological health (Holt-Lunstad, Smith, and Layton, 2010, ; Seeman, Lusignolo, Albert, and Berkman, 2001). Obvious symptoms of depression, anxiety and related disorders are often suppressed or ignored (particularly in men working in ‘macho’ environments) or present as physical symptoms or disorders including sleep disturbances, loss of appetite, weight gain, GI disorders, irritability, passivity, personal withdrawal and disinterest, alcohol and substance abuse or general fatigue (McClean, 2012; Pirotta, 2009). While the number of respondents volunteering such experiences were few, the several GPs, counsellors and health workers interviewed reported seeing many patients with the above symptoms suggesting that psychological distress in LDC may be under-recognised and under-reported. This remains to be further investigated.

The resource sector is characterised as a high income workforce with employees earning significantly higher incomes than non-mining workers (House of Representatives Standing Committee on Regional Australia, 2013). The literature describes mining and resource workers enjoying average weekly earnings at least 62 per cent higher than the all industries average (Minerals Council of Australia, 2011) and more than double the Australian average (House of Representatives Standing Committee on Regional Australia, 2013), a finding that provides significant incentives for workers to continue as LDC even when there were perceived personal sacrifices. Apart from trainees and apprentices, few study participants described annual salaries less than \$90,000 per year with many earning \$120 – 150,000 or more including site allowances and bonuses. Senior managers, engineers, geologists, surveyors and underground workers commanded salaries significantly higher than this.

For some workers high salaries can lead to problems while for others, more sophisticated in their money management, the high remuneration can help lay the foundation for financial security and even early retirement. Some commentators report that while workers have a high disposable income they have little to spend it on while on-site so there is a tendency to spend it when off-site on items such as toys (e.g. cars, boats), holidays, drugs and alcohol, gambling or other recreational activities (Carter and Kaczmarek, 2009; House of Representatives Standing Committee on Regional Australia, 2013; McClean, 2012; Storey, 2010). For ‘cashed-up’ LDC workers who are most often male, young, unattached and competitive, this can also lead to high indebtedness as a result of frivolous expenditure or from poor financial advice (Peetz and Murray, 2011) sometimes referred to as the ‘golden hand cuff’ ( Sibbel et al., 2006; Watts, 2004). While no participants in this study reported such problems there were several reports of workers ‘who knew of others’ who had experienced these types of issues suggesting the problem is probably under-reported. As a result, younger LDC as

well as others new to the sector and unused to high disposable income may benefit from financial counselling as part of their induction to employment in the resources sector.

Another apparent although less overt stressor is the perceived lack of transparency in appointment and promotional processes in some organisations. This was augmented by a perception that nepotism was commonplace as a mode of recruitment in the mining industry, including the not uncommon practice of employing spouses of existing workers on an apparent non-merit basis. Nepotism or patronage bestowed or favoritism shown on the basis of family relationship, as in business and politics ([www.dictionary.com](http://www.dictionary.com)) while sensitive is in reality commonplace in organisations (Various, 2012; Wong and Kleiner, 1994). Most workplaces have regulations or management guidelines that guard against the non-merit based employment of spouses, relatives in the workplace. While problems can and do arise, some contend that in industries that find it difficult to attract and retain skilled employees, recruitment through word of mouth or employee referral may have its benefits, particularly with regard to selecting people more likely to be a cultural fit with an organization and with more pre-hire knowledge, resulting in longer tenure, better performance and higher job satisfaction (Bellow, 2003; Coleman, 2002; Shinnar, Young, and Meana, 2004). Recruitment methods of this nature however can be cost effective, reducing the need for advertising, interviewing and related activities (Coleman, 2002; Shinnar et al., 2004). However, others have suggested that such practices are counterproductive for employers who seek to build a diverse team and a merit based career culture (Banuria, Eckel, and Wilson, 2010; Coleman, 2002).

In our study, workers saw a number of advantages in having spouses or other family members working on site including reduced separation anxiety and increased family support, better family understanding of work routines and stresses, more communication, increased company loyalty and of course improved financial security. While these findings suggest that the employment of spouses or relations can be an advantage for both employers and LDC, employers should ensure that recruitment processes are non-discriminatory in this regard and that clear, consistent and transparent recruitment processes are in place.

### **Study Limitations**

This study involved a large number of participants recruited as a volunteer, purposive sample rather than using a randomisation process and as such may not be representative of all mining and resource LDC in South Australia. Similarly as this sample was drawn from SA, it may not be reflective of the experience of LDC workers nationally, although the findings are consistent with others reported

in the literature. Only a handful of stay-at-home partners of LDC workers were interviewed limiting the transferability of findings for this subgroup within the sample group. The authors note that the sample only included LDC mining / resource workers and partners so it is not known whether the sentiments of this sample differ from for example, residential mining sector employees, LDC associated with other industries, workers who had ceased as LDC or who had left the employ of the industry.

## **Summary and conclusion**

This research is a unique investigation of the work satisfaction and wellbeing of SA men and women who commute long distances to work in mostly South Australian mine sites. This large qualitative research project, which included a larger number of participants than most previous research in the field and included women as about one third of the sample, has identified key motivations, enablers and stressors for South Australian LDC.

LDC in this sample were generally very satisfied in their choice of LDC as an employment model and content with the choices and benefits it brought despite the challenges sometimes presented. Few participants expressed any immediate desire to discontinue the LDC lifestyle despite acknowledging the regular travel, shift work, long hours, fatigue and separation from loved ones was sometimes difficult. LDC allowed employee's families to remain close to services and support networks and obviated the need for family relocation when LDC changed jobs.

LDC in the mining and resources industry enjoy relatively high levels of remuneration which participants described as the key motivation for adopting and continuing with the LDC employment model. This translated into improved lifestyle benefits, investments, debt reduction, education opportunities for children and family holidays and travel. Skills development, training opportunities, challenging and rewording work and career progression were the other key motivators. Participants with roster configurations of 14/7 or less reported an improved balance between work and family life and valued the long and regular breaks for the quality time it offered with family and friends.

Enablers of the LDC lifestyle were the move to shorter rosters, the high standard of mining camp amenities, camaraderie and peer support on the mine site, a culture that valued hard work, team work and offered clear policies and procedures regarding work, and work, health and safety. Unlike many traditional employment arrangements, when LDC workers travelled home after a roster, they were not expected to be available for work related matters. Family and employee

friendly organizational cultures were valued and engendered employee loyalty and commitment. Company policies that did not preclude the employment of family and friends and that encouraged employee referrals was seen in a positive vein providing recruitment policies were consistent and transparent.

Stressors which are not consistently reported and generally manageable include: fatigue caused by regular travel, shift work and long working hours; reported family separation; disruption to family routines; job insecurity and work related stress; under-reporting of illness and injury; financial inexperience, and perceived employment inequity.

While separation from partners, family and friends, feelings of isolation, as well as loneliness and fatigue are stressors of LDC, they are not unique to LDC. Participants report that the high levels of remuneration generally provide adequate compensation for the negative aspects of LDC. Negative health consequences and in particular anxiety and depression as has been reported in other literature, did not feature markedly among study participants.

In conclusion, South Australian LDC workers were both purposeful and content in their choice of adopting the LDC lifestyle. This may be a result of favourable rosters and working conditions less apparent in previously published work. For the overwhelming majority of participants in this study, LDC presents a satisfying, challenging and rewarding career choice with a range of personal, lifestyle and family benefits. The personal, family and relationship challenges are in general met with considered coping strategies that foster a willingness to remain in the mining industry. Easy travel arrangements, short rosters, comfortable accommodation, a high standard of on-site services and amenities coupled with training and career opportunities, are key factors contributing to sustainability of this workforce model for SA workers. Additional enablers include roster flexibility, local management and peer support for employees, an employee and family friendly organizational culture, infrastructure that allows regular communication with family and friends as well as adequate support for the stay-at-home partner.

## References

- Banuria, S., Eckel, C., & Wilson, R. (2010). Does Nepotism Pay? <http://cess.nyu.edu/conferences/2-2010/papers/banuri.pdf>
- Barkway, P. (2001). Michael Crotty and nursing phenomenology: criticism or critique? *Nursing Inquiry*, 8, 191–195.
- Bellow, A. (2003). In Praise of Nepotism. *The Atlantic*. <http://www.theatlantic.com/magazine/archive/2003/07/in-praise-of-nepotism/302753/>

- Berg, B. L. (2008). *Qualitative Research Methods for the Social Sciences* (Seventh ed.). Boston: Pearson.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. doi: 10.1191/1478088706qp063oa
- Carter, T., & Kaczmarek, E. (2009). An Exploration of Generation Y's Experiences of Offshore Fly-in/Fly-out Employment. *The Australian Community Psychologist*, 21(2), 52-66.
- Catchpole, M., & Gafforini, S. (2013). Submission to the House of Representatives Standing Committee on Regional Australia Inquiry into the use of 'Fly-In, Fly-Out' (Fifo) Workforce Practices in Regional Australia
- Clover-Taylor, J., & Simmonds, J. (2009). Family Stress and Coping in the Fly-in Fly-out Workforce. *The Australian Community Psychologist*, 21(2).
- Coleman, A. (2002). Should you phone a friend? *Director*, 55(10), 30.
- Construction, Forestry, Mining and Exploration Union (CFMEU). (2011). Submission to the House of Representatives Select Committee on Regional Australia Inquiry into 'Fly-In, Fly-Out' and 'Drive-In, Drive-Out' Work Practices Perth, Western Australia.
- Cornwell, B., & Warburton, E. (2014). Work Schedules and Community Ties. *Work and Occupations*, 41(2), 139-174. doi: 10.1177/0730888413498399
- Costa, S. D., Silva, A. C., & Hui, V. (2006). *What are the Opportunities and Challenges for Women in Fly-in-fly-out (FIFO) Mining in Canada? An Exploratory Study*. Retrieved from [http://www.ausimm.com.au/content/docs/fifo\\_women.pdf](http://www.ausimm.com.au/content/docs/fifo_women.pdf)
- Crotty, M. (1998). *The Foundations of Social Research: Meaning and perspective in the research process*. London, England: SAGE Publications Ltd.
- de Silva, H., Johnson, L., & Wade, K. (2011). *Long distance commuters in Australia: A socio-economic and demographic profile*. Paper presented at the Australasian Transport Research Forum, 28 - 30 September, Adelaide, Australia.
- Downes, P., Hanslow, K., & Tulip, P. (2014). The Effect of the Mining Boom on the Australian Economy - Research Discussion Paper. Canberra, Australia.
- Erny-Albrecht, K., Brown, L., Raven, M., & Bywood, P. (2014). Fly-in Fly-out/Drive-in Drive-out practices and health service delivery in rural areas of Australia Primary Health Care Research & Information Service (PHCRIS); Adelaide, Australia.
- Gallegos, D. (2006). Fly-in fly-out employment: managing the parenting transitions. In Centre for Social and Community Research (Ed.). Perth: Murdoch University.
- Gillies, A. D. S., Wu, H. W., & Jones, S. J. (1997). *The Increasing Acceptance of Fly-in Fly-out within the Australian Mining Industry* Paper presented at the Resourcing the 21st Century: 1997 Annual Conference of the Australasian Institute of Mining and Metallurgy, Ballarat, Victoria.
- Giorgi, A. (2000). Concerning the application of phenomenology to caring research. *Scandinavian Journal of Caring Science*, 14, 11-15.
- Greer, L., & Stokes, K. (2011). Divorce and separation in the Australian mining sector: Is it what we expect? Report for the Minerals Futures Collaboration Cluster in CSIRO Minerals Down Under National Research Flagship *Regions in transition: Social impacts of mining*.

- Henry, P., Hamilton, K., Watson, S., & Macdonald, N. (2013). FIFO/DIDO Mental Health Research Report 2013: Sellenger Centre for Research in Law, Justice and Social Change at Edith Cowan University, WA.
- Higginbottom, G. M. A. (2004). Sampling issues in qualitative research. *Nurse Researcher*, 12(1), 7-19.
- Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social Relationships and Mortality Risk: A Meta-analytic Review. *PLOS Med*, 7(7), e1000316. <http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.1000316>
- Houghton, D. S. (1993). Long-Distance Commuting: A New Approach to Mining in Australia. *The Geographical Journal*, 159(3), 281-290.
- House of Representatives Standing Committee on Regional Australia. (2013). Cancer of the bush or salvation for our cities? Fly -in, fly-out and drive-in, drive-out workforce practices in Regional Australia. Canberra.
- Hubinger, L., Parker, A. W., & Clavarino, A. (2002). The intermittent husband - impact of home and away occupations on wives/partners. [http://www.qrc.org.au/conference/dbase\\_upl/2002\\_spk12\\_hubinger.pdf](http://www.qrc.org.au/conference/dbase_upl/2002_spk12_hubinger.pdf)
- Lenney, J. (2013). Research into the Impacts of Fly-in/Fly-out on Western Australian Communities.
- MacBeth, M. M., Kaczmarek, E., & Sibbel, A. M. (2012). Fathers, Adolescent Sons and the Fly-in/fly-out Lifestyle. *The Australian Community Psychologist*, 24(2), 98-114.
- McDonald, P., Mayes, R., & Pini, B. (2012). Mining Work, Family and Community: A Spatially-Oriented Approach to the Impact of the Ravensthorpe Nickel Mine Closure in Remote Australia. *Journal of Industrial Relations*, 54(1), 22-40. doi: 10.1177/0022185611432382
- McKay, B., Lambert, I., & Miyazaki, S. (2001). *Special Article - A century of mining in Australia*. Canberra: Australian Bureau of Statistics Retrieved from <http://www.abs.gov.au/ausstats/abs@.nsf/94713ad445ff1425ca25682000192af2/93136e734ff62aa2ca2569de00271b10!OpenDocument>.
- McKenzie, F. (2011). Fly-In Fly-Out: The Challenges of Transient Populations in Rural landscapes. In G. Luck, D. Race & R. Black (Eds.), *Demographic Change in Australia's Rural Landscapes: Implications for society and the environment*. CSIRO: Springer Science and Business Media.
- McClean, K. N. (2012). Mental health and well-being in resident mine workers: Out of the fly-in fly-out box. *Australian Journal of Rural health*, 20(3), 126-130. doi: 10.1111/j.1440-1584.2012.01267.x
- Mikkelsen, S., Bist, A., & Willison, B. (2013). Analysis of the long distance commuter workforce across Australia. In B. Salt & L. Verwoert (Eds.). KPMG for The Minerals Council of Australia, Melbourne, Australia.
- Minerals Council of Australia. (2011). FIFO and DIDO in the Australian Minerals Industry: Submission To The House of Representatives Standing Committee on Regional Australia Inquiry into the Use of Fly-In Fly-Out Work Practices in Regional Australia. Canberra, Australia.

- Murray, G., Peetz, D., & Muurlink, O. (2012). *Women and work in Australian Mining*. Brisbane: Centre for Work, Organisation and Wellbeing, Griffith University.
- Newhook, J. T., Neis, B., Jackson, L., Roseman, S. R., Romanow, P., & Vincent, C. (2011). Employment-Related Mobility and the Health of Workers, Families, and Communities: The Canadian Context. *Labour / Le Travail*, 67, 121-156.
- O'Leary, Z. (2013 ). *The Essential Guide to Doing Your Research Project* (SAGE Publications, London.
- Peetz, D., & Murray, G. (2011). 'You get really old, really quick': Involuntary long hours in the mining industry. *Journal of Industrial Relations*, 53(1), 13-30.
- Perlow, L. A., & Kelly, E. L. (2014). Toward a Model of Work Redesign for Better Work and Better Life. *Work and Occupations*, 41(1), 111-134. doi: 10.1177/0730888413516473
- Pini, B., & Mayes, R. (2012). Gender, emotions and fly-in fly-out work. *Australian Journal of Social Issues (Australian Council of Social Service)*, 47(1), 71-86.
- Pirotta, J. (2009). An Exploration of Experiences of Women who FIFO. *The Australian Community Psychologist*, 21(2).
- Rae, D., McDermott, L., Stevens, C., Hopkinson, S., Ruddock, S., Spandley, K., . . . Schoneveld, S. (2011). Social issues relating to permanent and non-permanent residents in the Moranbah mining community. Queensland: Regional Social Development Centre,.
- Sandow, E. (2013). Til Work Do Us Part: The Social Fallacy of Long-distance Commuting. *Urban Studies*. doi: 10.1177/0042098013498280
- Seeman, T. E., Lusignolo, T. M., Albert, M., & Berkman, L. (2001). Social relationships, social support, and patterns of cognitive aging in healthy, high-functioning older adults: MacArthur Studies of Successful Aging. *Health Psychology*, 20(4), 243-255.
- Shinnar, R., Young, C., & Meana, M. (2004). The motivations for and outcomes of employee employee referrals. *Journal of Business & Psychology*, 19(2), 271-283.
- Sibbel, A. M. (2010). *Living FIFO: The Experiences and Psychosocial Wellbeing of Western Australian Fly-in/fly-out Employees and Partners*. (PhD), Edith Cowan University, Perth, Western Australia.
- Sibbel, A. M., Sibbel, J., & Goh, K. (2006). *Fly in, fly out operations: Strategies for managing employee wellbeing*. Paper presented at the Australasian Institute of Mining and Metallurgy International Mine Management Conference, Melbourne, Victoria.
- Skinner, N., & Pocock, B. (2008). *Work, Life & Workplace Culture: The Australian Work and Life Index*: Adelaide Centre for Work and Life.
- Storey, K. (2001). Fly-in/Fly-out and Fly-over: mining and regional development in Western Australia. *Australian Geographer*, 32(2), 133-148. doi: 10.1080/00049180120066616
- Storey, K. (2010). Fly-in/Fly-out: Implications for Community Sustainability. *Sustainability*, 2(5), 1161-1181. doi: 10.3390/su2051161
- Storey, K., & Shrimpton, M. (1989). *Long distance labour commuting in the Canadian mining industry*. Kingston, Ontario: Queen's University, Centre for Resource Studies.

- The Chamber of Minerals and Energy: Western Australia. (2005). Fly In / Fly Out: A sustainability Perspective : A discussion of the triple bottom line impact of flyin / fly out operations in Western *The Chamber of Minerals and Energy*. Western Australia.
- Toombs, S. K. (2001). *Handbook of Phenomenology and Medicine* (J. H. Tristram Engelhardt & S. Kevin Wm. Wildes Eds.): Springer Netherlands.
- Torkington, A. (2010). The effects of working in the mining industry. *Queensland Government Mining Journal*(Summer), 50-51.
- Torkington, A. M., Larkins, S., & Gupta, T. S. (2011). The psychosocial impacts of fly in fly out and drive in drive out mining on mining employees: A qualitative study. *Australian Journal of Rural health*, 19(3), 135-141. doi: 10.1111/j.1440-1584.2011.01205.x
- Van Manen, M. (2001). Professional Practice and 'Doing Phenomenology'. In S. K. Tombs (Ed.), *The Foundations of Social Research: Meaning and perspective in the research process* (Vol. 68, pp. 457-474): Springer Netherlands.
- Various. (2012). *Nepotism in organisations* (R. G. Jones Ed.): Routledge, Taylor & Francis Group.
- Watts, J. (2004). Best of both worlds: Fly In – Fly Out Research Project Final Report. Pilbara, Western Australia.
- Wong, L., & Kleiner, B. (1994). Nepotism. *Work Study*, 43(5), 10.
- Wood, H. (2013). Managing FIFO fatigue in mining. Retrieved May 19, 2014, from <http://www.miningaustralia.com.au/features/managing-fifo-fatigue-in-mining>