Lifeline WA

FIFO/DIDO Mental Health Research Report 2013

RAW HIRE

Australian Institute of Management WESTERN AUSTRALIA

The Sellenger Centre for Research in Law, Justice & Social Change

ECU EDITH COWAN UNIVERSITY

Table of Contents

List of Figures 4
List of Tables 4
Acknowledgements 5
Executive Summary 6
1. Introduction 14
2. Methods of Research 17
2.1 Research design 17
2.2 Ethical considerations 17
2.3 Literature review 17
2.4 Stakeholder group 17
2.5 Instruments 18
2.5.1 Survey 18
2.5.2 Interview schedule 19
2.6 Recruitment methods 19
2.7 Procedures 20
2.7.1 Survey data collection 20
2.7.2 Semi-structured interview data collection 21
2.8 Data analysis 21
2.8.1 Survey analysis 21
2.8.2 Interview analysis 21
3. Review of Existing Literature 22
3.1 Introduction 22
3.2 Background of mining in Australia 23
3.2.1 Increasing trend in FIFO work model 23
3.2.2 Work schedules 25
3.3 The associated costs with Fly-in Fly-out 25
3.3.1 Turnover 27
3.3.2 Impact of FIFO on individuals and their families 29
3.3.3 Female experience 34
3.3.4 Alcohol consumption/substance use amongst FIFO workers 35
3.3.5 Coping strategies and supports for FIFO workers 37
3.4 Fly-in Fly-out benefits 40
3.5 Literature review: Summary 42
4. Quantitative Findings 43
4.1 FIFO workers: Stress, coping and support 43
4.1.1 Sample demographics and FIFO indicators 43
4.1.2 Likelihood of accessing support structures 46
4.1.3 Mode of mental health information and services 49
4.2 Quality of relationships 51
4.3 Wellbeing and coping outcomes 54
4.3.1 Job satisfaction 54
4.3.2 Self-efficacy 56
4.3.3 Effective and non-effective coping 56
4.3.4 K-10 58
4.3.5 Stress 59

4.4 Open-end survey responses: Challenges of FIFO/DIDO work 63
4.4.1 Time away from family and friends: Sense of 'missing out' 63
4.4.2 Challenges with telecommunications 64
4.4.3 Rosters/shifts/ and transport to work 65
4.4.4 Adjustment 65
4.4.5 Workplace conditions 66
4.4.6 Organisation management/procedures 66
4.5 Open-ended survey responses: Coping mechanisms used by FIFO/DIDO workers 67
4.5.1 Identified means of coping with the challenges associated with FIFO/DIDO 67
4.5.2 Participants' recommendations for support services 70
4.5.3 Positive aspects of FIFO/DIDO work 70
5. Qualitative Findings: FIFO workers: Stress, coping and support 72
5.1 Interview participant sample: Demographic information 72
5.1.1 Ethnicity 72
5.1.2 FIFO/DIDO work 72
5.1.3 Education and training 74
5.1.4 Relationship and family 75
5.2 Common themes derived from data 76
5.2.1 Pre-FIFO awareness 76
5.2.2 Types of stress 77
5.2.3 Coping mechanisms 82
5.2.4 Awareness of supports for FIFO workers 85
5.2.5 Support seeking behaviours 86
5.2.6 Support suggestions 91
5.2.7 Positives of FIFO work 93
6. Conclusions and Recommendations 94
7. References 99

List of Figures

Figure 1. Percentage responding support type *Not Available to my industry* *46*
Figure 2. Mean levels of likelihood to use a source of mental health information or mental health service *49*
Figure 3. Mean levels of how well workers get along with other people at work and at home *52*
Figure 4. Mean levels of how well workers get along with their family and friends, organised by parental status and rotation compression..... *53*
Figure 5. Percentage of Workers Reporting Effective Coping Strategies..... *57*
Figure 6. Percentage of Workers Reporting Non-effective Coping Strategies..... *57*
Figure 7. Mean stress levels at 9 points during roster rotation, plotted by gender..... *59*
Figure 8. Mean stress levels at 9 points during roster rotation, plotted by occupation..... *60*
Figure 9. Mean stress levels at 9 points during roster rotation, plotted by occupation..... *60*
Figure 10. Mean stress levels at 9 points during roster rotation, plotted by roster rotation.. *61*
Figure 11. Mean stress levels at 9 points during roster rotation, plotted by relationship status *62*
Figure 12. Mean stress levels at 9 points during roster rotation, plotted by parental status *62*

List of Tables

Table 1. Demographics of respondents *44*
Table 2. Mean Values of Relationship Quality Across Demographics..... *52*
Table 3. Mean Values of Key Outcomes Across Demographics *54*

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Executive Summary

The Sellenger Centre for Research in Law, Justice and Social Change at Edith Cowan University was commissioned by Lifeline WA to conduct research regarding Fly-in-Fly-Out/Drive-in-Drive-Out (FIFO) worker supports. The research aimed to identify the stressors associated with FIFO work and the ways in which FIFO workers cope with these stressors. The research further sought to reveal which services would best meet the needs of FIFO workers. A mixed method approach was used which included the completion of a survey by 924 FIFO workers and the conduct of interviews with a sample of 18 FIFO workers.

Quantitative survey findings: key points

The respondents were 924 FIFO/DIDO workers, comprising predominantly males (81.2%) and almost exclusively Caucasian (86.5%). Roughly, eighty per cent of respondents were aged 49 years or younger. One in ten respondents were divorced and half of the sample were parents.

Regarding support services, one in five workers claimed their industry did not have on-site mental health or on-site counselling facilities and one in ten reported their industry as not having an Employment Assistance Program (EAP). Female workers were more likely to access an EAP, on-site mental health and counselling services, self-help information, and their supervisors, friends and family as support structures. While younger workers reported a likelihood to access on-site counselling, older workers were less likely to talk to friends during times of stress. Tradespersons and professionals were more likely to access hometown mental health services. Single respondents working high compression roster rotations were more likely to access telephone crisis lines as support structures.

A significant number of FIFO workers were not likely to make use of any mode of mental health information and services; however, differences between demographic groups did exist. Low compression rotation workers were least likely to use any of the modes of mental health information and services. Older workers were less likely

to use mental health information and services available online, whereas younger workers reported a likelihood to access information and services using these modes.

All workers reported getting along very well with the people around them at both work and at home. High compression rotation workers who were parents reported the lowest relationship quality with family and friends compared to high compression workers who were not parents, and low compression workers who were both parents and not parents.

Overall, workers reported engaging in fewer non-effective coping behaviours compared to effective coping behaviours (3 versus 4, respectively). Withdrawing emotionally and ignoring personal needs were the predominant non-effective coping behaviours. Respondents working high compression rotations and those who were partnered reported engagement in the most non-effective coping behaviours.

Lower levels of job satisfaction were reported by labourers compared to all other occupation types. Parents reported higher job satisfaction than workers who were not parents. High compression rotation workers reported higher K-10 scores compared to those working lower compression rotations, and their K-10 scores were more prevalent within the “likely to have a severe disorder” range. Partnered workers reported higher levels of overall stress compared to singles.

During rotation, stress generally increased and was reported at highest levels in the days leading up to leaving for work, and reduced steadily while away, dropping to lowest levels upon returning home. Females’ stress levels reduced to lower levels upon arriving home, compared to men’s stress levels, and professional workers who reported higher stress the day before leaving work compared to all other occupation types. Workers earning $200 000+ reported higher levels of stress while at work. Higher compression rotation and partnered workers reported higher stress in the lead up to leaving for work compared to lower compression workers and singles, respectively. Workers with no children reported lower levels of stress upon returning home compared to workers with children.

Qualitative interview findings: key points

Most FIFO workers had minimal knowledge of the realities of FIFO work before starting. The number one stress of FIFO work was family/home separation. A significant dimension of the stress of family/home separation related to FIFO rosters; longer periods at work were more stressful, particularly for workers with young children.

In addition, adjusting to long day/night shifts disrupted sleep and led to fatigue. Another significant stress arose from accommodation and work conditions on-site, which were isolating and subject to overly onerous rules that for some FIFO workers created a distinct sense of entrapment.

Overall, the majority of FIFO workers maintained a 'suck it up princess, you just do it' approach to their FIFO role and coping. However, maintaining communication with family and friends was highly regarded as a coping tool. A significant number of FIFO workers spoke of using alcohol and/or illicit drugs to manage disrupted sleep and stress.

Most FIFO workers were aware of formal supports offered by their employees, but the majority were reluctant or unwilling to engage in a formal support service either in person, by telephone or online. Barriers to help-seeking were linked to stigma around accessing support and appearing 'soft.' Another significant barrier to seeking support was structural; many work sites lacked the communication coverage to support current services, such as telephone counselling. Most FIFO workers preferred to go to immediate family and/or friends for support. Female FIFO workers found accessing support in a male dominated workplace especially challenging.

FIFO workers reported various benefits to working FIFO, namely high remuneration and the opportunity to spend quality time with family during periods rostered at home. FIFO workers would like support maintaining their family relationship obligations, especially when family members are in need (i.e. due to illness). Many FIFO workers believe that capping rosters to a maximum of 3 weeks away from home would reduce the stresses of family separation. FIFO workers also sought

more opportunities for recreational pursuits than those currently offered on-site as a way of coping.

Key recommendations

Recommendation 1:
Develop supports that focus on increasing help-seeking behaviour within FIFO populations.

The principal finding of this research was a general reluctance across FIFO workers to seek help during times of stress; in particular from formal support services. This finding is not unique to FIFO workers as research consistently demonstrates within the general population individuals are more likely to seek help from *informal* as opposed to *formal* support services (Rickwood & Braithwaite, 1982, Rickwood & Wilson, 2007). Furthermore, "up to one-half of those with depression, and only one third to one-half of those affected by anxiety disorders seek professional help" (Gulliver, Griffiths, Christensen & Brewer, 2012, p2). Therefore, this finding is indicative of a general reluctance to seek help within the population.

Currently, it not possible to definitively recommend supports evidencing an increase in help-seeking. Recent research conducted by Gulliver et al. (2012) has demonstrated that existing support services are not typically informed by help-seeking models and show limited evidence of behavioural change. Therefore, it is important that the development of any support service intended for FIFO workers be grounded within a help-seeking model and be assessed to determine if behavioural change occurs.

Recommendation 2:
Develop targeted supports.

Findings showed that a significant number of FIFO workers were divorced. For this sample, effects of divorce on support structure preferences, coping, relationship quality with family and friends, stress and psychological distress were borderline significant and were therefore not reported within the findings section of this report.

However, the pattern of findings did show that divorced workers reported lower wellbeing and relationship quality with friends and family, and higher stress, compared with all other workers (i.e. singles, those married or partnered and widowed workers). These effects were more pronounced for divorced workers with children, and the differences became more noticeable with each additional child. With greater statistical power, these trending effects may become detectable and facilitate a more reliable recommendation for the provision of services for this *already* vulnerable population. Types of services might target navigating the Family Court, how to maintain open communication with an ex-spouse where children are concerned, how to develop a parenting plan, and how to maintain mutually rewarding relationships with children post-separation.

In addition to the issue of divorce, it is important to acknowledge that survey data showed:

- Males were more likely to access informal supports during times of personal stress and females were more likely to access formal supports.
- Young people were more likely to access formal and informal supports.
- Those 50+ were less likely to access *any* form of support.
- Trades and professionals preferred to access mental health services at home whereas labourers did not.

Research has also shown that men are less likely than women to recognise emotional problems or feelings of distress (Kessler et al. 1981). Collectively, these findings imply that if support services are to be successful, they must target at-risk groups differently, taking into consideration preferences associated with the location and mode of the support service and the time of day they are offered (to accommodate those on day and night shifts).

Recommendation 3:
Develop pre-employment services: What to expect from FIFO and how to cope.

Survey data showed that workers were not aware of mental health support services within their organisation. This finding is consistent with expectations, as support

services are not typically noticed until they become relevant to immediate needs. However, this finding was inconsistent with interview data indicating that workers were aware of support services within their organisation. This inconsistency could be attributed to differences across samples, as those consenting to an interview may be more invested in addressing issues associated with mental health and therefore be more aware of the existence of support services. Despite this issue, collective findings show that organisations need to promote employee awareness of actual services and their availability. This is particularly important as this research also demonstrated that compared to the general population there is a higher prevalence of psychological distress and a greater likelihood of psychological disorder incidence amongst FIFO workers. Collectively, 30% of this sample evidenced a likelihood of having a psychological disorder and a significant number adopted poor coping mechanisms such as reliance on stimulant drinks, illicit drugs and alcohol. Workers also coped by suppressing problems and burying themselves in work.

These issues might be addressed within pre-FIFO employment training addressing:

- What to expect from FIFO work.
- How to cope effectively with the practical demands of FIFO work (hydration, eating healthily).
- How to cope effectively with the impact of FIFO work on the self, family and friends.
- Types of support services and their availability.
- Role of support services and different health professionals.
- How to recognise symptoms associated with mental health problems.
- Self-care.

Recommendation 4:
Develop ongoing post-employment support services that reduce stigma and address mental health literacy and coping.

As this research demonstrated that FIFO workers were unlikely to access support services during times of personal stress and unlikely to use any of the modes by

which mental health services could be delivered, there is a clear need for ongoing support services to:

- Reduce the stigma associated with mental health and help-seeking.
- Increase mental health literacy.
- Promote effective coping.
- Promote self-efficacy in this highly regulated and regimented working environment.
- Promote self-care.

This is supported by additional research showing that support services should aim to reduce inaccurate beliefs about mental health treatment by providing accurate information regarding the role of different health professionals (Wilson, 2005). This teaches people to recognise early symptoms and signs of psychological distress and encourages people to seek assistance for symptoms of general distress. Research has also demonstrated that early prevention and treatment successfully reduces the long-term impact of a number of mental health problems (Rickwood et al. 2007).

Recommendation 5:
Address organisational culture.

Regimented safety routines impacted on the ability of workers to apply judgement in situations where they were able and capable to do so. They also felt vulnerable to intensive scrutinising, intimidation from higher management and the threat of job loss. Workers also reported no control after working hours – they were not free to move around, drink in their room, or have meals at a preferred time. Workers felt trapped as they had financially committed themselves in accordance with current earning capacity and therefore could not leave. The impact of this on self-efficacy, or the perceived ability to succeed in a particular venture, is not known. However, workers did report a sense of powerlessness about their ability to exercise control over their lives in the tightly regimented confines of the FIFO working environment.

Bower (2011) also recommends that a productive and successful mental health strategy should be well thought out, have real commitment at a broad level, tackle all

possible challenges such as cultural resistance, and should be a robust element of an organisation's culture and policies. Given these collective findings, there is a clear need for organisations employing FIFO workers to actively address the 'suck it up princess' culture and build policies and services from the 'ground' up to address the 'real' mental health needs of workers.

1. Introduction

The Sellenger Centre for Research in Law, Justice and Social Change at Edith Cowan University was commissioned by Lifeline WA to conduct research regarding Fly-in-Fly-Out/Drive-in-Drive-Out (FIFO) worker supports. In this report FIFO refers to "circumstances of work where the place of work is sufficiently isolated from the worker's place of residence to make daily commute impractical" (Watts 2004, p.26). In turn, the report uses the term "FIFO" to describe both flying and driving forms of long distance commuting, unless otherwise specified. This is to ensure clarity and is in keeping with previous research using 'FIFO' in a similarly catch-all manner (Storey, 2010; Morris, 2012). A research agenda was developed by Lifeline WA, in collaboration with ECU and sought to determine:

- Why some cope with the demands of FIFO work and others do not.
- The characteristics that promote resilience within FIFO workers.
- How support services should be structured to meet the needs of FIFO workers.

Research in the area of FIFO work holds significance to numerous state and national stakeholders. Sustaining the mining industry over the long-term represents an obvious national priority for Australia in which the resources sector forms a vital part of national economic growth (Cancer of the Bush, 2013). By extension, the FIFO model of work that is key to the industry and has been in existence for over 25 years is an important area of interest (Morris, 2012). Over 100,000 FIFO workers operate in Australia (McHugh, 2012). In Queensland and Western Australia, reliance on resources industry funds and FIFO work models are especially notable; WA is expected to have 63,500 FIFO workers by 2015 (Morris, 2012; Spooner, 2012).

The FIFO boom has attracted mixed responses from political and social sources. As was shown in the recently held federal inquiry into the impact of FIFO work on regional Australia, the FIFO industry is seen as a massive pot of wealth from which individuals, families and communities can benefit; but it has also attracted strong criticism (Cancer of the Bush, 2013). In his submission to the inquiry, the Mayor of Kalgoorlie called FIFO the 'cancer of the bush' for the way that the normal

functioning of regional communities has been disrupted and undermined as a result of FIFO's expansion.

Although subject to mixed opinions, much of what is known about FIFO and its impact has been generated by anecdotal observations and media articles. The number of academic studies regarding FIFO is limited; this lack of reliable information in the area was noted by the federal inquiry (2013), which observed that without empirical information, governments are uninformed and thus unable to address the complex impacts of FIFO on individuals, families and communities. In turn, some of the recommendations forwarded by the federal inquiry specifically called for more research. Moreover, even though the inquiry was not focused on health, its findings drew close attention to the need for greater understanding of specifically the *health* impacts of FIFO work (Weeramanthri, & Jance, 2013). For example, the inquiry suggested:

> '. . .a comprehensive study into the health effects of FIFO/DIDO work practices and lifestyle factors.' (Recommendation 8)

> '. . .research on the effect on children and family relationships of having a long-term FIFO/DIDO parent.' (Recommendation 10)

It is clear from the inquiry's conclusions that there is widespread concern for the health implications of FIFO work and a need for empirical research to inform government and community services. The research commissioned by Lifeline WA makes a contribution toward filling this gap in knowledge about FIFO, specifically in relation to the mental health of FIFO workers.

This research aimed to address the following key topic areas and questions:

FIFO coping mechanisms

- What did workers know about FIFO beforehand and what information was most helpful in enabling them to cope with FIFO work?

- What do workers find are the best coping mechanisms for dealing with stresses and/or stressors in their work and personal lives?
- What awareness do FIFO workers have about lifestyle and behavioural factors that support mental health – and what level of awareness do FIFO workers have about self-care techniques?

Relevance of support services

- What do FIFO workers know about various support services and would they use these services in times of personal stress and difficulty?
- What knowledge do FIFO workers have of online mental health services and would they use these services for personal information, or for therapy and treatment?
- Do FIFO workers use helplines, and in what circumstances?
- Do FIFO workers use employer programs if they need personal support?
- Would FIFO workers ask work colleagues for help, or offer help?

Predictors of mental health awareness, knowledge of support services and likelihood of help-seeking

- How do gender, income level, work type, education level, family status, ethnicity, factors interact with FIFO worker support preferences?

To address these questions, the research adopted a mixed-method, qualitative and quantitative design. Two data collection methods were incorporated including a survey and a semi-structured interview schedule. These were applied to a sample of over 1,000 FIFO workers. A detailed outline of the methods of research is provided in chapter 2 of this report.

2. Methods of Research

2.1 Research design

Research questions were addressed using a mixed-methods approach, incorporating both quantitative and qualitative methods of data collection. Mixed-method approaches allow for the triangulation of data, which assists in establishing the reliability of research findings (Hesse-Biber, 2010). Further, quantitative and qualitative research methods can be complementary in that one method may provide further insight to the results obtained using a secondary method (Hesse-Biber, 2010). Consequently, both quantitative surveys and qualitative interviews were incorporated in this research, thus providing a more comprehensive understanding of FIFO/DIDO workers' stressors and supports. Each phase of the research is summarised below.

2.2 Ethical considerations

This research was subject to, and satisfied, the ethical requirements for research involving human participants as required by the Edith Cowan University Human Research Ethics Committee. The ECU Human Research Ethics Committee follows the National Statement on Ethical Conduct in Human Research. Key ethical issues regarding informed consent were addressed by providing participants with written information relevant to the nature and purpose of the research and an understanding of their right to withdraw from the study.

2.3 Literature review

A comprehensive review of the literature was carried out to ensure that the development of the project and all measures were consistent with the research evidence. Based on this review process, *draft* data collection instruments were developed. Data collection instruments consisted of a survey using standardised measures and a semi-structured interview schedule.

2.4 Stakeholder group

Before finalising instruments, a FIFO Research Stakeholder Briefing forum was held on 11 February 2013. At the forum, a FIFO Stakeholder Brief Questionnaire was distributed to a range of industry stakeholders to allow them to provide advice in

relation to draft data collection instruments and proposed recruitment methods. The FIFO industry stakeholders invited to the forum included: WA Police; Mental Health Commission; AIM WA; Raw Hire; Department for Communities; Emeco; the Chamber of Minerals and Energy; CFMEU. Instruments and recruitment methods were than modified in accordance with feedback and advice.

2.5 Instruments

2.5.1 Survey

The primary focus of the survey was to examine several occupational and mental health factors amongst FIFO workers, including coping mechanisms, mental health awareness, knowledge of support services, awareness of occupational demands and substance use. A number of standardised inventories were employed to assess the factors outlined above. These are summarised below:

- Tactics for Coping with Stress Inventory – a 22 item scale that lists common ways of coping with stress. The scale is intended to measure two distinct styles of coping: effective coping and non-effective coping strategies. Scores for each scale are a sum of engagement in behaviours, and provide information regarding the magnitude of a person's need to cope and their prevailing strategy.

- Job Satisfaction Scale – a three-item scale intended to measure the affective component of global job satisfaction. The scale has been shown to have psychometrically sound properties, including strong internal consistency and has established construct validity. The scale is ideal given its combination of strength and accuracy with compact administration.

- Kessler 10 – a 10 item self-report scale intended to measure non-specific psychological distress. While non-specific, the scale has been shown to discriminate between cases and non-cases of DSM-IV disorders within a community setting; thus, as a measure of mental health, the scale provides sensitivity across the dimension. Composite sum scores between 10 and 19 are interpreted as "likely to be well"; scores between 20 and 24 are interpreted

as “likely to have a mild disorder”; scored between 25 and 29 are interpreted as “likely to have a moderate disorder”; and, scored between 30 and 50 are interpreted as “likely to have a severe disorder”. Extensive research has substantiated the K-10’s strong psychometric properties in multiple populations. Further, there is provision to compare the sample collected for this project with the wider Australian community, as the ABS gathers K-10 data from the Australian population.

- General Self-Efficacy Scale – a 10-item self-report scale intended to measure perceptions and beliefs around one’s ability to cope with difficult events. The psychometric properties of the scale have been substantiated across 28 countries, including Australia. The scale’s unidimensional robustness has been consistently reported, making this scale a highly reliable option.

2.5.2 Interview schedule

A semi-structured interview schedule was developed consisting of open questions that sought a rich understanding of the experience of FIFO workers to supplement survey findings. The semi-structured interview technique was employed because it enables interviews to be conversational in style while still allowing for both consistency and spontaneity regarding the topics discussed between the interviewer and participants (Berg, 2001). The interview questions asked about the sorts of coping strategies FIFO workers employ, and their awareness and readiness to seek support services.

2.6 Recruitment methods

To obtain survey and interview participants, multiple channels of recruitment were used to maximise the number and diversity of people taking part in the study. The primary means of recruitment adopted were:

- Hard copy dissemination of surveys at domestic airports frequented by FIFO workers.
- Online distribution of a secure web link to the FIFO survey.

- Dissemination by stakeholder group of FIFO survey to FIFO workers' email lists and various other networks and media channels, such as advertisements in local newspapers.
- Personal contacts of the researchers.
- Snowballing new participants through existing participants.
- Posting research information explaining the purpose of the research and a survey link on FIFO specific websites and social networking groups (e.g., Facebook).

2.7 Procedures

2.7.1 Survey data collection

Permission was granted to disseminate hard copies of the FIFO survey at two Perth domestic airports (Network Aviation Australia & Cobham Aircraft Charter) frequented by hundreds of FIFO workers each day. Researchers visited the airports on four separate occasions at different times in the day. FIFO workers who expressed a willingness to participate were offered an information letter and a survey. If participants had any questions in relation to the survey, researchers were available to answer such questions. Completed surveys were returned to the researchers on the airport premises.

The survey was also completed online using an independent survey site, Qualtrics. A link to the Qualtrics-hosted FIFO survey was sent in an email or post on FIFO workers' email lists, websites and online support groups. The survey link was always accompanied by an explanation of the research. As no identifying information was required, FIFO workers remained anonymous. The survey site was security protected, only enabling the Chief Investigators to access data. The survey link was posted on the website, blog or Facebook page of the following groups/organisations:

- Lifeline WA.
- *FIFO bids* an online 'human resource marketplace'.
- *FIFO Families* a supportive community of people with a family member who works FIFO/DIDO (Facebook and website).
- The Construction, Forestry, Mining and Energy Union (CMFEU).
- Edith Cowan University's Alumni Facebook page.

- Researchers' Facebook pages.

2.7.2 Semi-structured interview data collection

At the end of completing the survey, FIFO workers were asked if they would consent to a follow-up interview. If consent was given, they were asked to provide telephone and email contact details. Researchers contacted the FIFO worker in the first instance to organise a suitable time for an interview. All interviews were conducted via telephone and were recorded with an MP3 player. Interviews were up to 1-hour in duration. Recorded interviews were transcribed verbatim and analysed using thematic content analysis. Data collection ceased when interviews failed to provide new information and it was determined that data saturation was attained.

2.8 Data analysis

2.8.1 Survey analysis

Survey data were analysed using a combination of descriptive methods, and analysis of variance and chi-square inferential tests.

2.8.2 Interview analysis

All interviews were recorded using an MP3 player and were transcribed verbatim. The transcripts were then analysed using a thematic content analysis which involved reading transcripts several times and coding significant information, specifically regarding how participants described their stressors and support use and preferences (Liamputtong & Ezzy, 2006). This process of coding involved reading transcripts, taking notes and identifying common themes and representative quotes, which were then taken to another level of analysis as recurring themes became apparent. Findings were then given further context drawing on existing literature.

3. Review of Existing Literature: Coping Mechanisms and the Impact of FIFO Work on Individuals and Families

3.1 Introduction

Good mental health is essential not only to an individual's wellbeing, but also to the wellbeing of their families and the broader population (Australian Bureau of Statistics [ABS], 2013). The impact of mental illness on the mental health and wellbeing of the Australian population has become increasingly evident. In 2007, the Australian Bureau of Statistics (ABS) conducted a National Survey of Mental Health and Wellbeing, which found that an estimated 3.2 million Australians had a mental disorder in the twelve months prior to the survey; amounting to 20% of the population aged between 16 and 85 (ABS, 2007). The ABS reported that in 2011-2012, approximately one in 10 adults (1.8 million people) experienced high, or very high, levels of psychological distress (ABS, 2013).[1]

Whilst national statistics highlight that mental health and wellbeing is an issue of interest and concern within the general population, less information is available regarding the mental health and wellbeing of specific populations or occupation types. This review of the literature outlines what current research has revealed about the stressors associated with mining occupations, specifically fly-in-fly-out (FIFO) or drive-in-drive-out (DIDO) work.[2] The review starts by providing background information about the mining industry and the FIFO model of working. It then focuses on outlining what the literature has shown about the negative and positive impacts of FIFO work. The review aims to provide contextual information to the overall research and the core objective of examining the factors associated with employment in FIFO work and how these factors may impact the mental health and wellbeing of employees. Such knowledge will help to ensure that mental health and wellbeing prevention efforts and supports in this area are relevant and targeted. This is an area of particular relevance within Australia, particularly Western Australia where 47% of

[1] The ABS used the K10 measure to draw this finding. One means of measuring the mental health and wellbeing of the population is through the use of the Kessler Psychological Distress Scale (K10). The K10 is a global measure of psychological distress based on questions about people's level of agitation, nervousness, depression and psychological fatigue in the past four weeks (Coombs, 2005).

[2] For the purposes of this report, 'FIFO' refers to all forms of long distance commuting (including DIDO), unless otherwise specified.

publically listed organisations in mining, construction and related sectors currently adopt a FIFO roster for all or part of their workforce (The Chamber of Minerals & Energy, 2005, 2011).

3.2 Background of mining in Australia

Australia is a country rich in natural resources: it boasts the world's largest economic stores of mineral sands, brown coal, nickel, zinc, lead, and uranium (Commonwealth of Australia, 2013). It also ranks in the top six countries worldwide for resources of black coal, bauxite, gold, copper, iron ore, industrial diamond, lithium, limonite, vanadium, niobium and manganese ore (Commonwealth of Australia, 2013). Unsurprisingly, Australia is one of the world's leading mining nations, with total annual mining production more than doubling in the 20 years up to 2007-08 (ABS, 2010). Since 2000 Australia has faced a phenomenal growth in the mining industry, widely dubbed the 'mining boom' (O'Donnell, 2005). Global demands, particularly from the rapidly growing economies of China and other Asian nations, together with enhanced methods of extraction, processing and transportation, have encouraged this boom (Carrington, Hogg, & McIntosh, 2011). As of August 2011, Geoscience Australia estimated there were 365 mines in operation in Australia, employing approximately 269,300 people (ABS, 2012). Thus the resource industry is a significant contributor to the country's wealth, accounting for 8.4% of Australia's Gross Domestic Product (GDP) and contributing 121.5 billion dollars to the Australian economy in 2009/10 (ABS, 2012). Moreover, the mining sector treasury estimated in 2011, that the boom will likely continue booming at least until 2025 (Bureau of Resources and Energy Economics, 2011; New et al., 2011).

3.2.1 Increasing trend in FIFO work model

Strong growth rates in the mining industry have generated a parallel increase in the adoption of the FIFO model of working. FIFO work, as defined by Price (2008), refers to workers who travel for work, stay a pre-determined number of days ('roster') and then return to their home location for a set break time. FIFO is also referred to as long distance commuting (LDC), and can also include ship in/ship out (SISO) and drive in/drive out (DIDO) via company bus or private vehicle. The FIFO model is a significant asset to any mining company as it plays a critical role in fulfilling the

economic, social and workforce needs of the contemporary mining industry (Costa, Silva, & Hui, 2006). The majority of long distance commuting workers in Western Australia commute on a FIFO basis, with a minority using DIDO arrangements (The Chamber of Minerals & Energy, 2005).

When 50% of all employees are accommodated for whilst residing and working on the mine site, the mine is classified as a FIFO mining organisation (Hogan & Berry, 2000). FIFO has become a significant commuter-work system in several mining industries and has replaced the construction of residential rural towns where remote mining operations exist (The Chamber of Minerals and Energy, 2005). FIFO is more prevalent in Western Australia than any other state or territory due to its abundance of mineral resources (O'Donnell, 2005). These mineral deposits are situated in rural areas, found commonly in the North West and Eastern Goldfields regions. As the life expectancy of a mine is generally less than five years, it is a more cost effective method to fly staff in and fly out staff rather than pay high rental prices or build permanent accommodation for employees and their families (Houghton, 1993; Pilbara Regional Council, 2012).

Recent statistics suggest that by 2020, FIFO employees will constitute approximately 83% of the mining workforce in the Pilbara region alone, with overall employment in the mining sector expected to double (Australian Broadcasting Corporation, 2008; The Chamber of Minerals and Energy, 2012). This model of employment has become so popular in Queensland and Western Australia that there are more mining employees living in large cities (e.g., Mackay and Brisbane) and commuting than living in mining towns (e.g., Mount Isa) (Torkington, Larkins, & Gupta, 2011). Although metropolitan Perth is used as the main source of labour (Storey, 2001), the mining boom has rendered this employment market highly competitive. Therefore, the ability to attract and retain skilled, committed, loyal and productive employees has become more difficult. As more Australians adopt a FIFO work model and as mining companies face the complex challenges of employee retention, FIFO research can play a much-needed practical role in the mental health and wellbeing of this occupation group. Research which identifies the costs and benefits of FIFO lifestyles for FIFO employees and their families enables mining organisations and

relevant support service providers to put in place strategic and necessary initiatives that minimise costs and maximise benefits to employees.

3.2.2 Work schedules

FIFO employees operate according to compressed work schedules. Therefore, employees work the weekly average of 40 hours in fewer days across a rostered pattern. Research suggests that 70% of all employees in the mining industry work 41 hours or more per week (Heiler, Pickersgill, & Briggs, 2000). Furthermore, 72% of Western Australia mining sites have average, ordinary working hours of 49 hours or more per week (Heiler et al., 2000). Working shifts may consist of four 12-hour shifts followed by four days of no work, but can also be longer in duration with 14 days working a compressed schedule followed by 7 days off (Heiler et al., 2000). The most common shift rotation schedules are 2 weeks on/1 week off, 3 weeks on/1 week off and 6 weeks on/1 week off (Watts, 2004). This commuting lifestyle has become increasingly popular, with couples motivated to spend less time together in order to secure a higher standard of living in the future (Hardill & Green, 2003). In most families it is often the father/husband who works away from home as the mining industry is still a male dominated workforce, with 80% of mining employees being male (Tranter, 2012). The workforce is also older than the national average, with a median age of 40 years, compared to the average 37 years for the national workforce (KPMG, 2013).

3.3 The associated costs with Fly-in Fly-out

Published studies on the impact of FIFO work on the psychological wellbeing of workers in Australia have generally come from Western Australia and research in this area is still growing. Thus far, research has demonstrated that a FIFO lifestyle is associated with a number of challenges and benefits for workers and their psychological wellbeing (Haughton, 1993; Keown 2005).

Research has shown that the use of FIFO operations by mining companies has significant work and social implications which may include concerns regarding occupational health and safety, productivity and performance failure, poor quality of

working life and disruptions to social and family life (Heiler et al., 2000; Houghton, 1993). A FIFO lifestyle has been illustrated to impact negatively on psychological wellbeing, marital and partnered relationships, and the wellbeing of families in general (Costa et al., 2006). Research has also found that whilst a sense of mateship is often identified in the FIFO workplace, dominance and competitiveness (e.g., comparing salaries) can lead to difficulties in the workplace (Carter & Kaczmarek, 2009). International research on the FIFO model in the oil and gas industry suggests that working away from the family unit causes family identity issues, conflict over work and family roles, and may even negatively affect child development; all of which increase stress and other mental health problems in employees (Collinson, 1998; Mckee, Mauthner, & Maclean, 2000; Sutherland & Cooper, 1996).

Further research indicates that the shift work and extended work schedules that are associated with FIFO rosters can induce medical, social and lifestyle problems which in turn can create occupational health and safety concerns (Heiler et al., 2000). Shift work can lead to long-term fatigue and reduced performance due to continual disruption of the circadian rhythm (Bjorvatn, Kecklund, & Akerstedt, 1998), high blood pressure, moodiness, depression, and increased vulnerability to illness (Pocock, Van Wanrooy, Strazzari, & Bridge, 2001). Heiler (2002) reviewed the impact of extended shifts in the Tasmanian mining industry and found evidence of fatigue problems across the industry due to extended and intensive rosters. Self-reported sleep data revealed that employees did not obtain sufficient sleep on nightshift and reported poor quality sleep which negatively impacted on self-reported performance outcomes. These findings reveal a significant future risk of work-related accidents and fatigue-related errors (Heiler, 2002). Additionally, extended rosters were found to adversely affect family relationships, with 66% of all employees agreeing that extended rosters had a detrimental effect on family life (Heiler, 2002).

Similarly, Keown (2005) examined the general, psychological and social health of a representative sample of 744 male mine workers from 29 mining organisations within the Goldfields region of Western Australia. A mixed qualitative-quantitative approach was utilised in which both the employee's and their partner's perspectives were explored. Results found that male mine workers were concerned with a number of

personal health issues including fatigue, stress, adverse physical, emotional, and behavioural changes, social isolation, and relationship problems. There were also differences found depending on the nature of the shifts worked. Those working night shifts reported more acute cognitive, emotional, and behavioural changes in comparison to day workers. Cognitive problems included problems with short-term memory, concentration levels, and alertness. Emotional problems included depressed mood, irritability, anxiety, and stress. Behavioural problems reported by night workers included the consumption of excess amounts of alcohol and cigarettes, maintaining a sedentary lifestyle, and poor sleeping habits. Chronic fatigue symptoms were found in all workers, especially shift workers (Keown, 2005).

Significantly, FIFO workers in Keown's (2005) study reported that the toll of shift work and long hours, such as changes to energy levels and mood, were transferred from the work place to home, and consequently had a negative impact on both work and family relationships. Those who were shift workers reported less time for social and domestic activities, hobbies, sports, as well as their families (Keown, 2005). The transference of such effects from the workplace to employees' home lives also posed a significant safety concern to workers. For example, DIDO workers are more likely to be injured or killed on the roads commuting to and from work after long work schedules rather than at work (Carrington, 2012). Although mine safety has improved significantly over the last 20 years (Cliff & Johnston, 2010), many of the harms associated with mining have shifted from on-the-job to individuals, their families and communities, which Carrington (2012) argues often escape regulatory focus. Accordingly, the impact of shift work and long hours on employees' work and home lives is, in part, responsible for high turnover rates in the mining sector (Carrington, 2012).

3.3.1 Turnover

An increasing rate of labour turnover within the mining sector, Colley (2005) explains, is unsurprising given the extreme rosters, long hours, ageing workforce, and number of employees with family responsibilities. In 2003, a study on turnover conducted by the Centre for Social Responsibility in Mining (CSRM) illustrated a significant correlation between harder rosters and higher turnover. Another

significant finding of the CSRM study was that employee preferences for harder rosters and longer hours often also correlated with high labour turnover; they were just as susceptible to withdrawing from FIFO employment. This illustrates that individual choices about roster length and working hours cannot always be sustained in the long run. Further, employees may choose to work longer hours because of the financial gain, however they may also consider it a short-term endeavour; “they want to get in, make some money, and get out” (Colley, 2005, p. 5). Alternatively, there are FIFO workers who may have intended on working long hours for the long term, but after a short time cease their employment due to fatigue, distance from their spouse, children and friends. Hence, FIFO employees leave because they can no longer cope, regardless of their original preferences for long hours (Colley, 2005).

More recently, Colley’s (2005) findings were supported by Funston (2012) who examined the effects of long rosters on workers’ family lives and vice versa. Funston defined Work Family Conflict (WFC) as the perception of insufficient time to perform successfully in home roles and at work due to the conflict that arises between both settings. A less balanced roster with more time leaning towards days at work was found to correlate with an increase in WFC. This relationship was stronger if participants had children, especially more than two, and was the strongest for single parents. Employees who felt more supported reported lower levels of WFC and when levels of WFC increased, so did turnover intentions (Funston, 2012). Therefore, another factor found to contribute to employee turnover is employees’ level of commitment to the organisation they are working for, influenced by the level of support they receive from the organisation (Walford, 2012). Walford (2012) found that high employee turnover rates reflect a low level of commitment to the organisation, caused primarily by employers not meeting the higher needs of their employees, such as recognition, a sense of belonging, privacy, respect, and self-esteem. As FIFO work involves workers being away from sources of support, such as family who could address their higher needs, it is likely that workers are turning to their organisation to meet these needs. If they are not met, employees are likely to leave (Walford, 2012).

Similarly, Iverson and Maguire (2000) found in their study involving 286 Queensland mine workers that job satisfaction had a positive effect on life satisfaction and vice

versa; however the latter relationship was less strong. Thus if organisations can increase an employee's level of work satisfaction this is likely to have a carryover effect to their level of life satisfaction. Job satisfaction was also found to mediate the impact of other work, personal, and environment-related variables. One such variable was the repetitive nature of the work: an increase in repetitiveness was linked to a decrease in work satisfaction and in turn a decrease in levels of life satisfaction. As mining naturally involves repetitive work, such as dredging, digging, and driving, organisations need to take into consideration ways in which they can relieve the levels of boredom for workers. An open cut coal mine in remote central Queensland alleviated this problem by increasing the skill base of its employees, renumerating them for their newly acquired skills, and allowing them to rotate amongst jobs (Iverson & Maguire, 2000). This is an important consideration for mining employers since a number of the risks associated with FIFO work, such as fatigue, can have a negative impact on employees' home and family life, which in turn impacts job satisfaction and turnover rates.

Other research examining employee turnover in nine mine sites across Queensland and Western Australia found a 21% average turnover (Beach and Cliff, 2003). The highest rates of turnover were among mine operators and professionals. Results from interviews found that FIFO employees were emotionally and physically exhausted from FIFO rosters (2 weeks on, 1 week off), which was labelled "FIFO fatigue" (Beach & Cliff, 2003). Muller, Carter, and Williamson (2008) reported similar findings when considering the effect of FIFO on employee fatigue in the Australian mineral industry. They found that workers had significantly increased fatigue ratings and slower response times at the end of the first two night shifts when compared to the beginning of the shifts. Their findings also indicated that this fatigue put excessive strain on family relationships, negatively impacting cohesive family units (Beach & Cliff, 2003).

3.3.2 Impact of FIFO on individuals and their families

There are a number of interacting community, company and individual factors that have been shown to contribute to the impact of FIFO work on individual workers. These include location and size of the worksite, standard of FIFO accommodation,

community attitudes, availability and access to psychosocial supports, individual coping strategies and family situation e.g., the presence and age of children (Sibel, 2010). Whilst it has been found that mental health issues, such as symptoms of depression are not restricted to any specific gender, age, or socio-economic status within the mining sector, men with young children have been found to be especially vulnerable to the stressors of a 'split lifestyle' (Bower, 2012). Furthermore people with limited or no experience of having lived outside the city, a history of negative reactions to isolation, and mental illness have been identified as contributing factors which put people at greater risk of developing a mental health problem whilst working and living in a remote mining location (Bower, 2011). In addition, reduced involvement in community and social networks back at home, such as sporting clubs, has been identified as a barrier to having a support network when back at home (Sibel, 2010). Research has found that judgemental and derogatory community attitudes surrounding FIFO work can negatively impact on FIFO families and influence negatively their willingness to form relationships within their local community. Thus, for the family members of FIFO workers who remain at home and depend on family and community for support, this can be particularly isolating (Sibel, 2010; Sibel & Kaczmarek, 2005).

The research regarding the mental health and wellbeing of FIFO workers and their children and families, has generated conflicting finings (The Commonwealth of Australia, 2013). Gallegos (2005) qualitatively explored the parenting and relationship experiences of 32 Western Australia families engaged to FIFO employment. The research investigated how a father's repetitive cycle of absence impacts a multitude of family unit factors. Gallegos found that parents experienced a range of emotions during the FIFO cycle. Most families felt a sense of relief and happiness when the worker returned home and was able to embed themselves into the family routine after a period of readjustment. However, prior to departure, many parents felt increasingly grumpy, cranky, anxious, and edgy, causing extreme tension in the household. This was seen as a process of detaching from the family before returning to work. This tension was replaced by emotions of sadness the day before departure, during which workers became quiet and withdrawn from the family. Once workers were away, they experienced feelings of helplessness and loneliness, while mothers at home generally felt anxious until their partner returned home safely.

These cycles of emotion were difficult for couples, however they were managed by focusing on the ability to provide a financially secure future for their family. Similar findings have also been reported in regards to younger people employed in FIFO work. Carter and Kaczmarek (2009) recently explored the experiences of 10 male Gen Y workers (aged 18-28) employed in the offshore FIFO industry. Results from semi-structured interviews found that reports of negative feelings varied according to periods in their roster schedule. Participants reported depressive symptoms in the time preceding their return to work and during the first few days of the work period. This was heightened if workers believed they were going to miss out on important social events (Carter & Kaczmarek, 2009).

In a relatively early study, Adler (1983) demonstrated that the intermittent absence of one parent is stressful for the family. When repeated absences occur, levels of stress escalate, impacting negatively on child development. Balcom (1998) also demonstrated that when fathers are intermittently physically absent from family life this can negatively impact on their son's self-worth, manifesting in relationship and intimacy difficulties for the son during adulthood. Furthermore, sons are unable to identify with an absent father and may develop an intense early attachment with the mother which can manifest in separation anxiety later in life (Adler, 1983). The effect of FIFO lifestyles on FIFO families can include feelings of loneliness and a sense of isolation, feelings of abandonment, sadness, grief, and loss, as well as feelings of guilt for leaving the family. These factors combined place pressure on FIFO family relationships, increasing the potential for episodes of depression and alcohol, tobacco, and substance use problems (Watts, 2004).

In a study from the United Kingdome, Collinson (1998) examined the impact of offshore oil industry rotational work on family life. Data revealed that economic and time-space pressures lead to marital problems and exceedingly high divorce rates. This impacted significantly on the personal lives of offshore workers who engaged in heavy alcohol consumption once they returned home to escape the pressures of work. Increased alcohol consumption was also shown to impact negatively on family relationships. Similar issues were identified by Iverson and Maguire (2000) who examined the relationship between job and life satisfaction for 286 male employees working in a remote Queensland coal mine. Findings demonstrated that "job

satisfaction has a positive and direct impact on life satisfaction" (p. 826) with FIFO employees reporting above average rates of alcohol consumption and suffering from family isolation (Iverson & Maguire, 2000). More recently, the Australian Centre for Rural and Remote Mental Health (ACRRMH) visited a number of mining sites and conducted interviews with workers. Bowers (2011) reported that the interviews revealed that extensive periods of separation from family and friends was often linked to a sense of isolation and a loss of a "sense of belonging" (Bower, 2011, p. 5). One of Bower's participants explained:

> "I've missed my kids' birthdays three years running and every time I miss another one my wife just gets madder with me. She likes the money though. We'll have a fight just before I fly out for my roster and I'll spend the next fortnight wondering if I have a marriage to go home to" (Bower, 2011, p.5)

Findings from Bower's research suggest that personal and family relationships are particularly fragile for FIFO workers. It is important to note however, that whilst it has been shown that FIFO work can impose a higher than normal level of stress on workers and their families, there is also research that indicates otherwise. Recently, Kaczmarek and Sibbel (2008) investigated the effects of fathers' employment-related absence on children's psychological wellbeing and mothers' perceptions of family functioning. The sample consisted of three groups of children: children with fathers employed in FIFO mining, children with fathers employed in the military, and children whose fathers' employment did not involve long periods of absence. Results indicated no significant difference between the three groups on all measures of child wellbeing, and children were functioning at a healthy level across all three groups. Mothers from FIFO families, however, reported significantly higher levels of stress than community and military groups in regards to support, behavioural control, and communication within the family.

Similarly, Clifford (2009) conducted two studies which investigated the long- and short-term impacts of FIFO work and extended working hours on a representative sample of Western Australia FIFO mining employees and partners. Study one involved 222 participants, including FIFO and Daily Commute (DC) workers employed in the mining industry. Participants completed an anonymous

questionnaire which examined the long-term impacts on lifestyle, work satisfaction, health, and relationships. A proportion of this sample (32 participants) and their partners also participated in a second study, which explored the short-term impact of FIFO work and extended working hours, and how these fluctuate during the mining roster.

Those involved in study two provided saliva samples and completed a diary every day throughout the scheduled roster. The study found that FIFO work and extended working hours were often reported as being disruptive to employees and their partners, and had a negative impact on employees' level of work satisfaction. FIFO work and working extended hours was not, however, associated with high stress levels, poor health, or poor quality relationships. Overall there were no significant differences amongst these characteristics between FIFO and DC employees, or between the FIFO participants and the broader community. Clifford noted, however, that some people find the working arrangements particularly stressful. He suggested that improved roster design, FIFO facilities, and assistance tailored to the needs of workers be implemented to alleviate the impact of FIFO work on vulnerable employees. Fresle (2010) outlined that the impact can vary depending on family circumstance, although argued that due to the "many stressors involved with the cyclic lifestyle", there is a need for social support for the partners of FIFO workers.

Families of FIFO workers have suggested ways in which this support could best be provided. Suggestions include: the development of a parenting resource which would include communication strategies, managing children's behaviour, and facilitating positive interactions, provided through employment packs, inductions or industry websites, and the dissemination of a newsletter to families and a hub website which provides details of supports. As well as opportunities for families to access emergency in-home child care, they also suggest the provision of information regarding the emotional cycle to help "normalise the experience" and the introduction of a mentoring scheme in which FIFO families assist others with social activities and provide assistance with techniques for stress and fatigue management (Gallegos, 2005). These findings reveal that a great deal of the research into the impact of FIFO work is focused on the impact of father absence on families, with little research exploring the impact on other specific populations, such as women who work FIFO.

3.3.3 Female experience

Women who work in mining are a minority and thus much of the FIFO research has focused exclusively on male workers. However, the number of women working in the mining and construction industry has increased. In 2011, women accounted for 15 per cent of the workforce employed in the mining sector, a 4 per cent increase from 2001 (Equal Opportunity for Women in the Workplace Agency [EOWA] 2012).

Women employed as FIFO workers have in the past reported feeling that they 'must blend in' (Smith, Crowley, & Hutchinson, 1993). A recent study by Pirotta (2009) explored the experiences of 20 women who worked on mine sites in Western Australia on a FIFO basis. These women were attracted to FIFO work for similar reasons to those identified by their male counterparts, including financial security and quality time off with family, as well as work satisfaction, and satisfying a sense of adventure. The key challenges to working in a male dominated environment that were identified from qualitative interviews were: lack of privacy, being the focus of attention, coping with male mine site behaviour, lack of female contact, coping with harassment and discrimination and having to prove oneself. A number of psychological costs were also identified, including loneliness, anxiety, depression, and social and professional isolation. Only one participant was a mother and most held the view that if you wanted children you could not work FIFO (Pirotta, 2009). These findings are supported by The National Council of Women (NCW) who reported family commitments as one of the main inhibitors identified by women to working in the resources sector, especially on a FIFO basis. The impact of these barriers can be observed in the roles women are often employed for, with a large proportion of women being employed for a support position in regional or metropolitan centres. Women make up only three per cent of 'site based' employees and seven per cent of technical professionals (Skills Australia, 2011).

Similarly, Steed and Sinclaire (2000) researched the stressors faced by women employed in mining in remote areas. They concluded that gender and FIFO rosters were additional stressors on professional women employed in the mining industry. In addition, it was reported in a study by Finlayson (2005) that around 80% of women were not prepared for the FIFO lifestyle, such as needing to live a double life, living

remote, and facing the 'glass ceiling syndrome' which inhibits women from climbing the corporate ladder to the level they would like to reach (Finlayson, 2005). Women have been reported to earn less than their male counterparts. The Australian Bureau of Statistics reported in 2012 that on average a male employed in the resource sector earns $2405 a week, 30 per cent more than the average female weekly earnings of $1692 (ABS, 2012). Efforts have been made by companies to change the perception of the workplace and increase the number of women employees. For example, by introducing policies which focus on increasing the flexibility of work arrangements, including maternity leave, family rooms, and compressed hours of work.

3.3.4 Alcohol consumption/substance use amongst FIFO workers

High levels of alcohol consumption are associated with certain occupations, industries and population groups, including mining (Drugs and Crime Prevention Committee, 2004; Roxby Downs Community Board, 2005). Higher levels of alcohol consumption and substance use have been found amongst FIFO workers when compared to the national average. Aiken and McCance (1982) examined the alcohol consumption of offshore oil rig workers in the North Sea oil industry. Findings demonstrated that 30% of men drank more than the recommended safe limits during their offshore week. Similar patterns were observed by Midford, Marsden, Phillips, and Lake (1997) in a survey on the alcohol consumption patterns at two Pilbara mining related worksites in Western Australia. Findings showed that the mining workforce drank more frequently and consumed a higher quantity of alcohol when compared to national data (Midford et al., 1997). More recently the Construction, Forestry, Mining and Energy Union (CFMEU) has expressed concern that longer work hours and increased pay associated with FIFO has increased methamphetamine use among FIFO construction workers (ABC Corporation, 2008). It has further been noticed that illicit drugs, such as methamphetamines may be used by employees working compressed work schedules to keep them awake during shift work (Commission for Occupational Safety and Health, 2008). This abuse of alcohol and illicit substances has become a contentious occupational health and safety issue (Holland, 2003)

Carrington et al. (2011) suggests that the conditions in some work camps in which drinking in the 'wet mess' is one of the only forms of recreation and where 'courtesy' buses take workers to licensed premises external to the mine site after a 12-hour work shift, fits the 'typology' of a workplace culture which fosters alcohol abuse. Berry, Pidd, Roche, and Harrison (2007) found that a number of workers also drink in excess during their rostered time off, when away from worksite controls. Worksite arrangements involving block rosters and 12-hour shifts might transfer a proportion of the risk of alcohol-related injury or death from the workplace to the broader community.

More recently, Joyce, Tomlin, Somerford, and Weeramanthri (2012) examined the association of health behaviours and outcomes with employment type in the West Australian adult population. A cross sectional approach was adopted using self-reported information collected in the Western Australia Health and Wellbeing Surveillance System between 2008 and 2010. Of the 11,906 residents who participated, 4.4% were FIFO workers. Results found that FIFO workers displayed similar health behaviours to shift workers but had a different socio-demographic profile. Compared to other types of employment, FIFO workers were significantly more likely to drink alcohol at risky levels, be overweight or obese, and to be current smokers, after adjusting for sex, age and survey sampling strategies. Interestingly FIFO workers also had a lower self-reported prevalence of current mental health problems compared to other employment types. However as Joyce et al. outline, the results may reflect a degree of self selection by workers to enter FIFO work, where knowledge of the worksite characteristics attracts people who are prepared to endure the work conditions, and thus were always more likely to have a lower prevalence of mental health conditions. Thus Joyce et al. (2012) concluded from the findings that health interventions need to be informed by the demographic mix of the workers, and targeted towards specific employment patterns (e.g., type of employment and length of shifts) to improve the current and future wellbeing of FIFO workers.

3.3.5 Coping strategies and supports for FIFO workers

FIFO workers, according to the literature, use a number of both effective and non-effective coping strategies to manage the stressors associated with their job, such as fatigue, and disruptions to their domestic and social life. Some of these coping strategies include the consumption of alcohol, sleeping pills and other drugs to assist with sleep between shifts and on days off (Keown, 2005). Interestingly however, it was found that mine site based (re-located) FIFO workers, use more effective means of coping more frequently when compared to residentially based workers. The positive coping styles adopted included positive reframing, planning responses, and active coping (Keown, 2005).

When it comes to seeking help for work-related stress, a study involving eleven FIFO/DIDO workers found that none of the participants reported having sought help with issues relating to their work (Torkington, Larkins & Gupta 2011). The awareness of on-site supports, such as Employee Assistance Programs (EAP), administration/office staff, medics or nurses, varied amongst the participants and some were uncertain as to the role nurses and medics would play in regards to mental health issues. Few participants were aware of off-site supports, such as GPs or other community based supports. Instead, trusted colleagues or friends were identified as their preferred means of support, over and above formal supports, such as EAP. Participants demonstrated a lack of insight into their own levels of stress and expressed a general reluctance to seek support. Some of the barriers to support-seeking included embarrassment, a culture of not discussing problems, fear of loss of employment if problems were openly discussed, and mistrust in supports.

Similarly, Voysey (2012) found in their study involving 245 FIFO workers and 314 partners who completed a self-report survey, that aside from EAP, less than 50% of participants were aware of the range of supports and resources available, and even less had accessed them. Personal supports such as friends, family, work colleagues, as well as FIFO support groups/websites, were ranked the highest in terms of usefulness. The mining sector is known for having a ‘macho’, ‘stoic’ culture (Bower, 2011). Given that 80% of FIFO employees are male and the stigma adjoining mental health is a barrier to men discussing this topic, important areas for consideration in

the provision of FIFO support are how to reduce the stigma associated with seeking support for mental health issues and how to demystify the role of support service providers (Laponge, 2010).

Early prevention and treatment has been shown to successfully reduce the long-term impact of a number of mental health problems (Rickwood, Deane, & Wilson, 2007). However, men in particular may be unable to recognise the signs of psychological distress and are often reluctant to seek help (Addis & Mahalik, 2003). Research has shown that men of different nationalities, racial and ethnic backgrounds, and ages seek help less frequently than women (Husaini et al, 1994; D'Arcy & Schmitz, 1979; Neighbors & Howard 1987; Hammer, Vogel, & Heimerdinger-Edwards, 2012). Men are less likely than women to seek help for issues as varied as substance abuse, depression, stressful life events and physical disabilities (Addis & Mahalik, 2003; McKay, Rutherford, Cacciola, & Kabasakalian-McKay, 1996. Men are also less likely when compared to women to seek counselling, psychotherapy, or psychiatric services (Vessay & Howard, 1993; Gove, 1984). This is particularly concerning given the increased rate of suicide and substance use amongst this population (Compton, Thomas, Stinton, & Grant, 2007; Kaplan, Huguet, McFarland, & Mandie, 2012).

These findings may be explained in part by research which has shown that men are less likely than women to recognise emotional problems or feelings of distress (Kessler, Brown, and Boman 1981). Another factor is the influence of gendered role stereotypes, formed through social norms, ideologies and cultural values. For example, the tasks connected with seeking help, such as recognising and naming an emotional issue, acknowledging a need for help, and relying on others, often contrast the messages received by men about the importance of psychical toughness, emotional control and self-reliance (Addis & Mahalik, 2003). Magovcevic and Addis (2005) found that men who are more likely to adhere to masculine norms experience increased levels of stigma toward the term 'depression' (Berger et al, 2012). Similarly, the term 'anxiety' can also be threatening to men's sense of masculine strength and invulnerability and can contribute to their hesitation to seek treatment (Berger, Addis, Green, Mackowiak, & Goldberg, 2012).

Wilson (2010) conducted a study in which he explored the associations between psychological distress and intentions to seek help in a sample of 109 TAFE students (aged 15-25 years) from rural Australia. The main classifications of professional help seeking include medication, psychotherapy, or a combination of both; in contrast, informal help seeking often includes seeking support from friends or family (Berger et al., 2012). Wilson (2005) found that participants' intentions to seek help from informal supports were significantly stronger than for formal supports. However, higher levels of psychological stress were linked with stronger intentions not to seek help from anyone. Males demonstrated significantly greater belief based barriers to seeking out formal help when compared to females. Thus negative beliefs about seeking mental health support and an increase in the level of psychological distress was linked to avoidance in seeking help for mental health issues. Wilson argued that symptoms of distress may have to reach a critical level before a young person will look for formal help. Low to normal levels of psychological distress symptoms may not relay to intentions for seeking support because the symptoms are not interpreted as severe enough to warrant formal support. Therefore, Wilson (2005) suggests that interventions should aim to reduce inaccurate beliefs about mental health treatment by providing accurate information regarding the role of different health professionals, in addition to teaching people to recognise the early symptoms and signs of psychological distress and encouraging people to seek out appropriate assistance for general distress symptoms.

Over the past decade, efforts have been made to target mental health and wellbeing campaigns specifically to men. For example, the Real Men Real Depression (RMRD) campaign was launched by the National Institute of Mental Health (NIMH) in 2003. This campaign aimed to raise awareness about depression amongst men by incorporating strategies targeted to males. For example, acknowledging the difficulty men may experience in seeking help and using credible spokespeople to discuss the issue. Rochlen, Whilde, and Hoyer (2005) suggested that such strategies may be a necessary means of reaching men, especially men who cannot identify their symptoms of depression or seek treatment. Hammer and Vogel (2010) conducted a study involving 1,397 depressed men (aged 18 to 69 years), which explored the effectiveness of a male-specific brochure aiming to reduce self-stigma of seeking help and to improve attitudes regarding seeking counselling. The brochure contained

an aspect on depressive symptoms, facts specific to depression and men, as well as photographs and testimonials of men of different racial groups who have been identified as having experienced depression. The brochure used language more consistent with masculine gender roles (e.g., “strategy for attacking”, “mental health consultant” explained counselling as “solution focused”, “cost effective”, and “client directed team effort”). The results from viewing this brochure were compared to having viewed a gender neutral version of the brochure. The male-targeted brochure significantly reduced male self-stigma, suggesting that approaches tailored towards males may reduce their level of self-stigma and improve their attitude to seeking help (Hammer & Vogel, 2010).

That said, it has been argued in the context of the mining sector that brochures do not represent a mental health strategy, nor will their impact be great enough or change an ‘ingrained culture’ (Bower, 2011). Bower suggests that a productive and successful mental health strategy should be well thought out, have real commitment at a broad level, would tackle all possible challenges including cultural resistance, and should be a robust element of an organisation’s culture and policies. Bower argues that until physical health and mental health are on the same level in regards to the attention and priority they receive, the mining and construction industry will experience an increase in sub-standard productivity, stress claims, absenteeism, and diminished returns. The benefits from rolling out a ‘whole-of-business mental health strategy’ include increased stability and lower turnover rates, improved morale, reduced rates of absenteeism, improved standing as a preferential employer, better recognition and management of risk, improved occupational health and safety procedures and policies and enhanced profitability and production (Bower, 2012).

3.4 Fly-in Fly-out benefits

The practice of FIFO has also been shown to be advantageous for FIFO workers and their families. Firstly, workers are offered high remuneration packages in order to attract and retain employees in remote locations (Keown, 2005 Gent, 2004). Workers have few expenses whilst at work, thus affording them more money to spend on recreation when returning home or to invest in assets such as property

(Carter and Kaczmarek, 2009). In addition to financial enticement, compressed work schedules provide the employee with substantial periods of leisure time during their rostered time away from the mine site. This leisure time enables the employee to spend quality time with their partner, friends and family (Watts, 2004). FIFO also means employees' families do not have to relocate to an isolated mining community away from the support network of family and friends (Houghton, 1993). Additionally, families who live in metropolitan areas have access to better health, educational and social facilities rather than moving to an isolated mining town with poor commercial and government services (The Chamber of Minerals and Energy, 2005). A parliamentary inquiry conducted in 2013 found that one of the most consistently argued benefits for children who have a parent who works FIFO, is the continuity of education and opportunities for education provided through having the family based in a main centre, preventing the otherwise necessary option of sending children to boarding school so they can complete secondary education (2013).

Many FIFO employees often describe the FIFO lifestyle as facilitating stronger partnerships and family relationships (Watts, 2004). This happens when they apply sound communication skills and the provision of adequate support for their partner. FIFO research participants have stated their enjoyment of FIFO work:

> "I am a very happy FIFO worker...I think that we all have choices and everybody needs to do what suits them best" (Watts, 2004, p. 71).
> "FIFO is right for me at this time in my life...it's a young fella's game...I don't know how I'll feel in a few years' time" (Watts, 2004, p. 71).

Other positive experiences associated with FIFO practice include the growth of personal independence and freedom, strengthening coping skills, bonding and mateship ties, and parental role expansion (Watts, 2004). FIFO further provides indigenous Australians with the opportunity to advance their careers by offering apprenticeships which include comprehensive practical and theoretical knowledge (Woodside Energy, 2008). Gallegos (2005) identified three reasons for the continuation of FIFO work: financial security, increased quality of time spent with children and job enjoyment. However, participants in Gallegos' (2005) sample did not view FIFO as a permanent job, rather a short-term plan to establish financial security

for the future. Further results from one United Kingdom study found that wives of offshore workers generally adapted well to their husbands' intermittent absence but the majority of participants acknowledged family hardships and negative effects on children when the father left to work offshore (Parkes, Carnell, & Farmer, 2005).

3.5 Literature review: Summary

FIFO commuting is a well-established, integral part of mining organisations and will continue to expand at a rapid rate as increased competition in the resources sector spurs a shift to more intensive FIFO roster patterns (Storey, 2001; Watts, 2004). The above literature review should make evident that a great deal of the research into the impacts of FIFO work is focused on the impact of father absence on families. Little research has been published in Australia on the effects of FIFO on employees or more specific populations such as women who work FIFO. Moreover, although there is a growing body of evidence demonstrating the negative impact of FIFO on social and emotional wellbeing, there is limited research focused on identifying the characteristics that promote resilience within FIFO workers. These data are essential to inform the development of services that address the social and emotional needs of FIFO workers.

4. Quantitative Findings

4.1 FIFO workers: Stress, coping and support

4.1.1 Sample demographics and FIFO indicators

General demographics of the entire sample (*N* = 924) are displayed in Table 1 below. Participants were on average 38.32 (*SD* = 11.39) years of age, ranging 19 through 70, and comprised predominantly males. The sample almost exclusively comprised Caucasians; however, one in thirty respondents were either Aboriginal or Torres Strait Islander. The largest ethnic proportion within the '*Other'* ethnic response category was "Maori" (1.6%). Given the lack of ethnic variation in the sample, differences between the ethnicity groups will not be presented.

Almost three-quarters of the sample reported attaining Year 12 completion or more, with one in ten reporting Year 10 completion at most. It is important to note that few workers reported finishing Year 8 at most and as such, specific analyses of their responses have been excluded from the report. Three-quarters of the workers were in a partnered relationship of some type and 1 in 10 workers reported their marital status as divorced. The ABS (2011) reported a lower instance of divorce in the general Australian population with almost 1 in 12 Australians over 15 years of age divorced as at the 2011 census. Half of the sample reported having children and the average number of children reported was two. Although the instance of divorce was higher in this FIFO population it is not possible to determine if a FIFO lifestyle contributed to the marital dissolution, or if divorced males were attracted to a FIFO lifestyle post-separation or divorce. Given the well-documented drive to recoup financial losses post-separation and the need to establish a new home environment and meet child support commitments (Henry & McCue, 2009), the latter is the most likely explanation.

Nine out of ten workers reported FIFO as the predominant mode of employment and four per cent selected *Other* in response to this item. Comprising the four per cent, 1.5 per cent stated that they worked both FIFO and DIDO, and one per cent stated that they were employed on an "as needed" basis. Almost half of the sample worked

roster rotations equalling a ratio (days at work divided by days at home) of 1.4 or lower, where one in five reported more compressed rotations equalling to 2.01 or greater. The predominant rotations reported were 14 days on and 7 days off (29.9%), 8 days on and 6 days off (20.8%), and 14 days on and 14 days off (7.6%). The majority of the sample was employed in labouring roles, with trade persons and professionals representing one-quarter of the sample each. Income was relatively evenly distributed, with almost half of the sample self-selecting into the middle-income bracket (*$100 000-149 000*). Very few respondents reported earnings within the *$0-49 999* bracket and as a result, analysis specific to their responses were removed from this report.

Table 1. Demographics of respondents

	n	Valid %
Gender		
Male	748	81.2
Female	173	18.8
Mode of Employment		
FIFO	820	89.4
DIDO	60	6.5
Age Groups		
19-29	309	33.4
30-39	237	25.6
40-49	205	22.2
50-59	135	14.6
60-70	38	4.1
Rotation Compression		
< 1.4	348	41.6
1.41-2	304	36.4
> 2.01	184	22.0
Occupation		
Labourer/Transport	355	39.4
Administrative/Clerical	80	8.9
Tradesperson	232	25.7

Professional	234	26.0
Education Level		
Year 8	5	.6
Year 9	15	1.7
Year 10	105	11.6
Year 11	67	7.4
Year 12	153	16.8
TAFE	344	37.8
University	220	24.2
Income Bracket		
$0-49 999	5	.6
$50 000-99 999	176	19.5
$100 000-149 000	396	43.9
$150 000-199 999	226	25.1
$200 000+	99	11
Ethnicity		
Aboriginal and Torres Strait Islander	30	3.4
Caucasian	757	86.5
African	13	1.5
Asian	18	2.1
Other	57	6.5
Marital Status		
Single (never married)	198	22.0
Partnered (not married)	227	25.2
Partnered (previously married/divorced)	35	3.9
Married	359	39.8
Married (previously divorced)	26	2.9
Separated	18	2.0
Divorced	34	3.8
Widowed	4	.4
Children		
Yes	460	50.8
No	445	49.2

Number of Children		
1	118	11.1
2	154	19.6
3	66	11.7
4	19	4.3
5	4	2.0
6	1	1.1

4.1.2 Likelihood of accessing support structures

Respondents were asked to rate their likelihood of accessing certain support structures available to their industry during times of personal stress. The response metric also allowed for respondents to select perceived unavailability of any of the support structures in the list. Figure 1 displays the percentage of workers who responded '*not available to my industry'* for each support structure. Notably, close to one in five workers claimed their industry did not have on-site mental health or on-site counselling facilities, and one in four claimed their industry did not have union access. Further, one in ten reported their industry as not having an Employee Assistance Program. Perceptions of support structure unavailability did not differ by gender, income level, and marital or parent status. However, slightly more professionals than would have been expected by chance were found to report on-site counselling as not being available to their industry. These findings might be attributed to one of two factors having implications for workers' access to support for mental health-related issues.

1. Some organisations do not have support structures/services in place for workers. This would imply that greater standardisation is required across organisations to ensure the provision of basic support structures and services.
2. Workers are not aware of the mental health supports within their organisation. As support services are not typically noticed until they become relevant to immediate needs, this implies that organisations need to increase employee awareness of actual services and their availability.

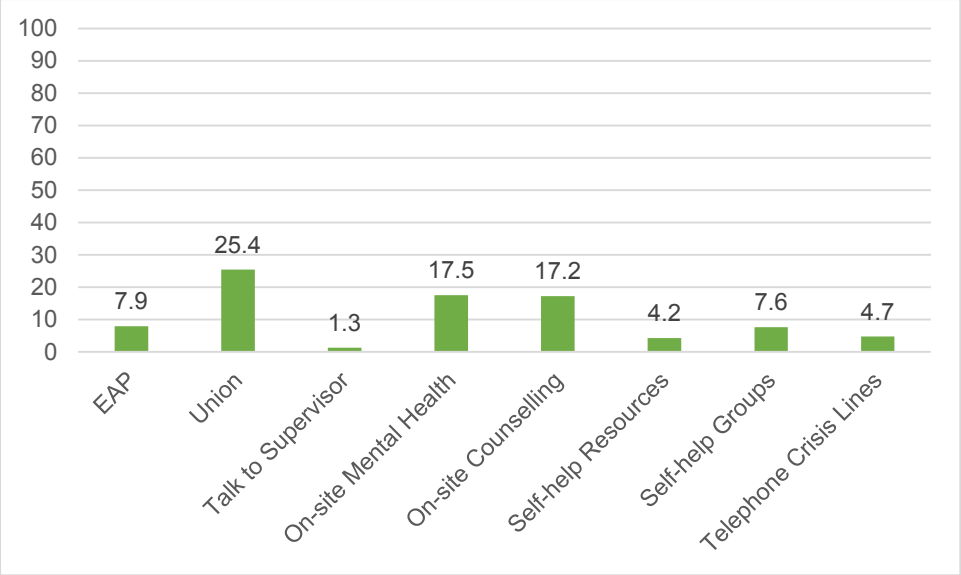

Figure 1. **Percentage responding support type** ***Not Available to my industry***

Likelihood of accessing support structures or services during times of stress differed as a function of gender. More females than would have been expected by chance reported a likelihood of talking to their supervisors or accessing EAP, on-site mental health and counselling services, self-help information, or using friends and family as available support structures; whereas more males reported a likelihood of accessing their friends as support structures than would be expected by chance. The gender differences evident here suggest that females express a willingness to access and engage both formal and informal support structures or services, where males express a predominant preference for informal support structures (i.e. friends). Between age groups, more 19-29 year old workers reported a likelihood of accessing on-site counselling services and talking to their friends than would have been expected by chance. More workers in the 50-59 year old group reported being unlikely to talk to their friends during times of stress. These findings show that:

- Males are more likely to engage with and access informal supports.
- Females are more likely to engage with and access formal supports.
- Young people are more likely to engage with and access formal and informal supports.

- Those 50+ are less likely to disclose stressors to friends and family; a response that is consistent the well-documented stigma associated with disclosure and help-seeking for mental health concerns.

Across educational attainment levels, many more workers who had completed university reported a likelihood to access home-town counselling services, information and self-help resources, telephone help lines, and friends, than would have been expected by chance. Therefore, those with higher educational attainment were more willing to seek formal and informal support services, suggesting that the stigma associated with help-seeking is in fact lower within this group.

Across occupations, no differences were found amongst labourer and administration groups and their support preferences, but differences did exist for trade and professional groups. Many more tradespersons and professionals reported a likelihood to access home-town mental health services than would be expected by chance. This finding may be due to the income differences across groups, as access to health services is positively associated with income (South Australian Council for Social Service, 2008). Tradespersons and professionals may indicate a preference to access mental health services at home because their income provides them with the means to do so; more labourers however, may have reported a lower likelihood to access hometown mental health facilities due to a comparatively lower means to do so. The data showed that higher proportions of professionals and tradespersons self-selected into the higher incomes brackets, with higher proportions of labourers within the lower and mid-level income brackets. In addition, more professionals also reported a likelihood they would access self-help groups in times of stress.

Across income brackets, more respondents in the two highest earning groups reported a likelihood to access self-help groups; however, no other differences in support preferences were found amongst these groups. Between rotation compression groups, more workers in the > 2.01 group reported a likelihood to access a union and self-help groups than would have been expected by chance. Across relationship status, more single respondents reported a likelihood to access on-site and home-town mental health services, and talk to friends than would have

been expected by chance. More respondents without children reported a likelihood to talk to friends during times of stress.

There was only one mean difference in likelihood of accessing support structures across demographic groups contingent on their rotation compression in that single respondents employed to work more highly compressed roster rotations (> 2.01) reported a greater likelihood of accessing telephone crisis lines during times of high stress.

4.1.3 Mode of mental health information and services

In addition to their likelihood of accessing certain support structures, workers were asked to report their likelihood of using different modes of mental health information and services. Shown in Figure 2, workers reported they were not very likely to use any of the modes by which mental health services and information could be delivered. Means across modes were below the mid-point of the scale (3 = *Neutral*). This finding is consistent with themes identified in interview data, which demonstrated that the stigma associated with help-seeking influences workers' likelihood of seeking support.

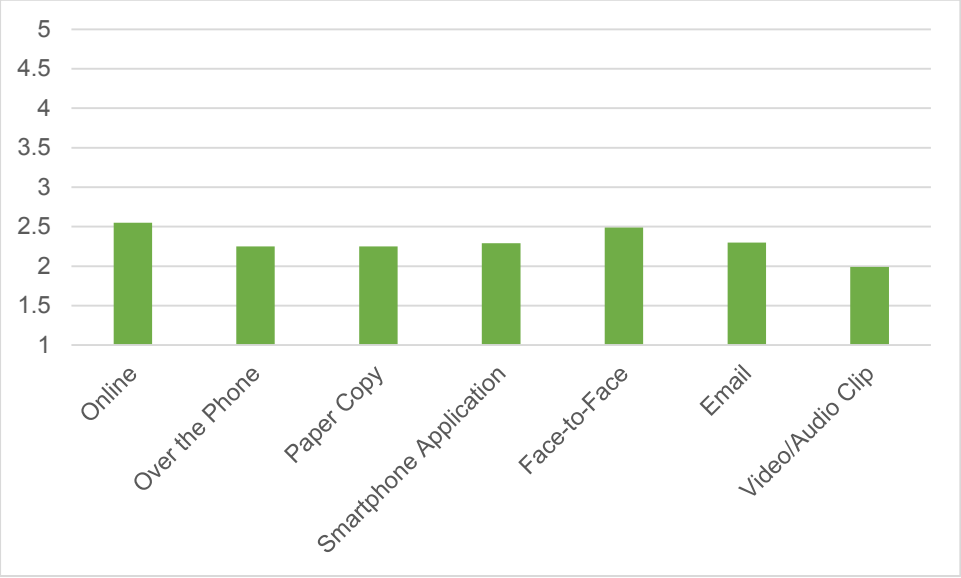

Figure 2. **Mean levels of likelihood to use a source of mental health information or mental health service**

On average, however, workers reported a greater likelihood of using online and face-to-face modes of mental health information and services, and were least likely to use Video/Audio Clips. The counterintuitive finding of both online and face-to-face modes of information and services may be a function of the perceived severity of need. Online sources of information may be preferred when the necessity for assistance is not critical, whereas, face-to-face may be preferred when support is perceived to be crucial and required immediately. Further, there were demographic differences in the likelihood of accessing certain modes of information and support. More female workers reported likelihood to access all modes of information and services, except for video and audio clips, than would have been expected by chance. Male distributions across modes were relatively even, with respondents spread evenly across possible response categories, weighting slightly more heavily in the unlikely responses. These findings are consistent with previous research demonstrating that FIFO work is characterised by a "macho" culture that maintains the stigma associated with support seeking for males with mental health issues. Females in the sample showed a willingness to access information and services, as well as to educate themselves about mental health. In contrast, males were either driven by culture and stigmatism, or were genuinely not interested in matters pertaining to their mental health.

More workers in the 60-70 year old category reported being unlikely to use mental health information and services online or on a smartphone application. More workers in the 19-39 year old bracket reported a likelihood of accessing mental health information and services using their smartphone than would have been expected by chance. These findings may be the outcome of age differences in technology use and confidence engaging with technology. For younger people, owning a smartphone is a necessity, and provides them with an instant source of information; hence, when required, a smartphone application that provides mental health information and services is likely to be used by a large proportion of young people. For people at the other end of the age spectrum, even for those who own a smartphone, using the technology to access mental health information and services may not be a normative behaviour, and as such, these workers are less likely to report doing so.

Across occupation groups, more professionals reported a likelihood to use online and face-to-face modes of information and services, than would be expected by chance. Conversely, many more professionals reported being unlikely to use telephone services than would have been expected by chance. More labourers reported a likelihood to use paper modes of information and services, and many more reported being unlikely to use online or face-to-face modes. Overall, fewer workers employed to work low compression rotations reported themselves as unlikely to make use of any of the modes of service and information. This may reflect a healthier, proactive means to cope with mental health issues amongst those working lower compression rotations. This interpretation is supported by findings reported later in the report, whereby those working higher compression rotations report engagement in more non-effective coping behaviours, such as ignoring personal needs and withdrawing. These findings are consistent with the suggestion that higher compression rotations are associated with negative wellbeing. No differences were found between income bracket groups.

Distributions were fairly evenly spread across parental status, suggesting neither being a parent nor not being a parent influences workers' likelihood of accessing certain modes of service and information over others. However, more single workers reported a likelihood to make use of paper copy information and services for mental health issues.

4.2 Quality of relationships

Respondents reported getting along with their colleagues, members of their communities both at work and at home, and with their friends and families (see Figure 3). These findings are in direct contrast to research showing FIFO employment is associated with lower quality relationships. While differences between demographic and FIFO indicators were reported (see Table 2), it is important to remember that the mean differences between groups can be interpreted as getting along very well and getting along well. Females reported higher levels than males of getting along with all reference groups measured. Workers employed to work more compressed rotations reported lower levels of getting along with general colleagues and general home communities than those working less compressed rotations. Interestingly, those with children reported getting along better with their immediate

colleagues, and less well with their family and friends, compared to workers who reported having no children. No differences were found in relationship quality and occupation type, income bracket, or relationship status.

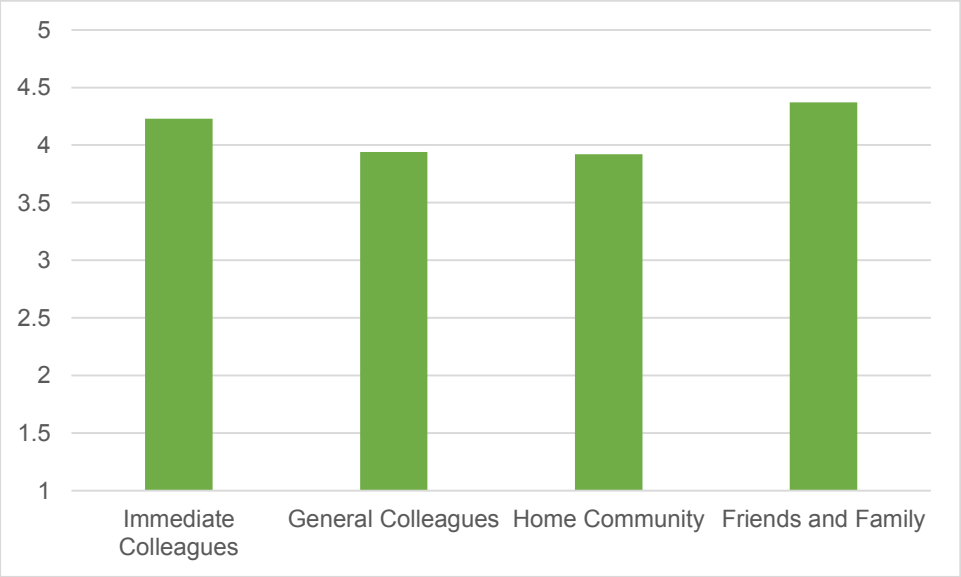

Figure 3. **Mean levels of how well workers get along with other people at work and at home.**

Of particular interest, workers with children who reported being employed to work high compression rotations (> 2.01) reported the lowest relationship quality compared to all other combinations of parental status and rotation compression (see Figure 4). Given cross-sectional data, causality cannot be inferred; however, this finding does suggest that spending more time away compared to home is associated with lower family and friend relationship qualities, especially for workers with children.

Table 2. Mean Values of Relationship Quality Across Demographics

	Immediate Colleagues	General Colleagues	Home Community	Friends and Family
Gender				
Male	4.2[a]	3.9[a]	3.88[a]	4.33[a]
Female	4.35[a]	4.11[a]	4.11[a]	4.54[a]
Occupation				
Labourer	4.2	3.91	3.89	4.43

Admin	4.29	4	3.84	4.31
Trade	4.2	3.91	3.93	4.32
Professional	4.29	3.99	3.99	4.5
Income				
0-49 000*	4	4	4	4.5
50 000-99 999	4.09	3.99	3.95	4.45
100 000-149 000	4.26	3.91	3.95	4.37
150 000-199 999	4.26	3.94	3.9	4.32
200 00+	4.31	4.03	3.88	4.36
Rotation				
Compression				
< 1.40	4.24	3.98[c]	3.92[c]	4.37
1.41-2	4.2	3.94[d]	3.97[d]	4.42
> 2.01	4.22	3.79[c,d]	3.76[c,d]	4.25
Relationship Status				
Single	4.24	3.97	3.94	4.3
Partnered	4.23	3.93	3.92	4.4
Children				
Yes	4.28[a]	3.99	3.92	4.3[a]
No	4.17[a]	3.89	3.94	4.44[a]

* not included in analyses due to small (*n* = 5) sample size.

[a,b] denotes significant differences between groups, p < .05.

[c,d] denotes differences between groups approaching significance, p < .10.

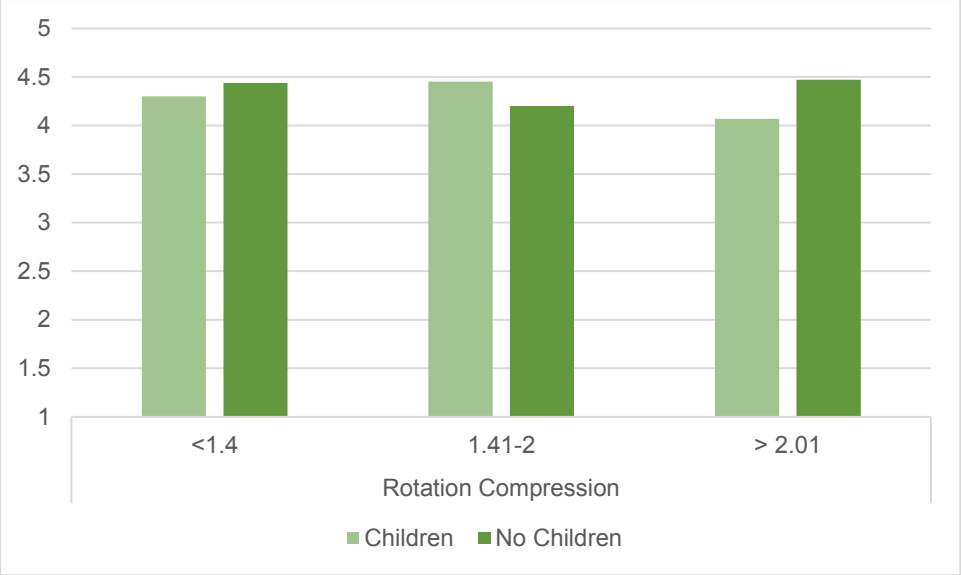

Figure 4. Mean levels of how well workers get along with their family and friends, organised by parental status and rotation compression

4.3 Wellbeing and coping outcomes

Table 3 displays means for wellbeing and coping outcomes, as well as group means reported across demographic and FIFO indicator categories. The table also denotes differences of significance between workers within demographic and FIFO groups.

4.3.1 Job satisfaction

On average, job satisfaction within the sample was slightly greater than the mid-point of the scale (3 = *neutral*); thus, on average, workers reported moderate job satisfaction. Job satisfaction varied across demographic indicators. Female workers reported slightly higher levels of job satisfaction than males did. Across occupation, only labourers and professionals differed substantially in relation to their job satisfaction, such that labourers reported lower satisfaction than professionals. Workers in the < 1.4 compression group (working fewer days for each day at home) reported higher job satisfaction than both the 1.41-2 and > 2.01 groups. Parents reported higher levels of job satisfaction than those who were not parents. No differences in job satisfaction scores were found between levels of income or relationship status.

Table 3. Mean Values of Key Outcomes Across Demographics

	Job Satisfaction	Self-efficacy	Effective Coping	Non-effective Coping	K-10*	Stress
Gender						
Male	3.63[a]	3.14	4.39	3.04	18.56	2.46
Female	3.82[a]	3.01	2.44	3.2	19.4	2.46
Age						
19-29	3.58	3.11	4.66	3.19	19.72[a,b]	2.48
30-39	3.61	3.1	4.11	3.39[a]	19.76[c,d]	2.51
40-49	3.72	3.2	4.31	2.89	17.99	2.52
50-59	3.8	3.13	4.43	2.73[a]	16.2[a,c]	2.32
60-70	3.81	3.11	5.17	2.35	14.9[b,d]	2.46
Occupation						
Labourer	3.55[a]	3.04[a,b]	4.25	3.14	19.03	2.49
Admin	3.75	3.15	4.31	3.43	19.22	2.45
Trade	3.64	3.16[a]	4.59	2.99	18.57	2.43
Professional	3.83[a]	3.20[b]	4.49	2.95	18.27	2.45
Income						
0-49 000**	3.44	3.1	3	1.5	8.33	2.44
50 000-99 999	3.62	3.1	4.84	3.02	18.71	2.38
100 000-149 000	3.66	3.1	4.41	3.11	19.03	2.47
150 000-199 999	3.65	3.15	4.31	3.06	18.67	2.49
200 00+	3.79	3.23	4.05	3.14	18.7	2.46
Rotation						
Compression						
< 1.4	3.8[a,b]	3.16	4.53	2.82[a]	17.78[a]	2.38[a]
1.41-2	3.59[a]	3.01	4.48	3.17	19.23	2.54[a]
> 2.01	3.48[b]	3.13	4.01	3.49[a]	20.41[a]	2.55
Relationship						
Status						
Single	3.67	3.12	4.71[a]	2.34[a]	19.05	2.34[a]

Partnered	3.67	3.13	2.48[a]	3[a]	18.6	2.52[a]
Parental Status						
Yes	3.75[a]	3.14	4.21[a]	2.9	18.0[a]	2.48
No	3.58[a]	3.11	4.63[a]	3.25	19.54[a]	2.45
Total	3.66	3.13	4.42	3.07	18.72	2.46

* K-10 values are composite sum scores.

** not included in analyses due to small (*n* = 5) sample size.

[a,b] denotes significant differences between groups, p < .05.

4.3.2 Self-efficacy

The average worker in the sample reported a perceived ability to effectively deal with challenges, as the mean was above the mid-point of the 4-point scale. Workers who self-selected into the highest income bracket ($200,000+) reported the highest self-efficacy, whereas labourers reported lower self-efficacy compared with both tradespersons and professionals. Self-efficacy did not vary between gender, rotation compression, relationship status or parent status.

4.3.3 Effective and non-effective coping

In general, workers reported more frequent engagement in effective coping behaviour versus non-effective coping behaviours. Respondents engaged in an average of four effective coping strategies and three non-effective strategies during periods of stress. Effective coping strategies differed by both relationship and parental status, such that single workers and those without children reported engaging in more effective coping behaviours. Respondents who were partnered, working more compressed roster rotations and were aged within the 30-39 age bracket reported higher levels of engagement in non-effective coping strategies. Figures 5 and 6 show the frequency of specific effective and non-effective coping strategies reported by respondents, respectively. Fewer respondents reported taking time off or confronting the source of the stressor as an effective means of coping; whereas exercising and seeking friends for support were each reported by close to half of the sample and were the most prevalent behaviours. Withdrawing emotionally and ignoring needs were the predominant non-effective coping behaviours reported by workers; this finding was consistent with thematic findings, where interviewees

reported a “head down, bum up” style of coping. Non-effective coping behaviours, such as worrying and sleeping too much were reported by fewer workers. The pattern of non-effective coping styles suggests that the adoption of these types of coping behaviours may be driven by the contextual and environmental expectations of FIFO work. In order to retain employment, workers are more inclined to suppress or ignore problems as a means of coping because the rotation and roster attributes do not allow for the servicing of personal needs in other ways; neither do these attributes allow for more time-indulgent non-effective coping strategies such as sleeping more and worrying. Thus, the characteristics of FIFO work may drive the problem-focussed styles of coping that respondents have reported.

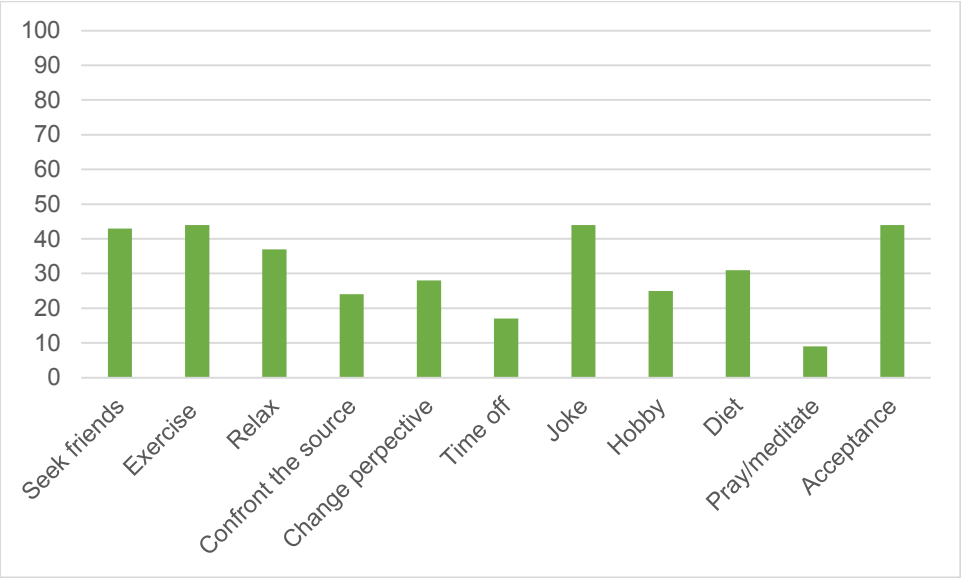

Figure 5. **Percentage of Workers Reporting Effective Coping Strategies**

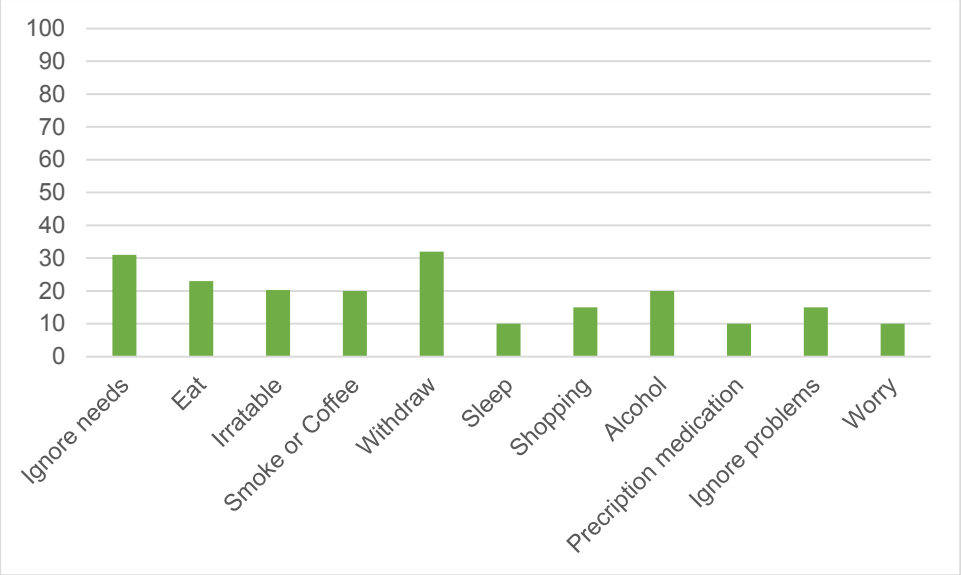

Figure 6. **Percentage of Workers Reporting Non-effective Coping Strategies**

4.3.4 K-10

In general, K-10 scores were low. Despite the scores trending lower for older age groups being consistent with general Australian population studies, the mean level for this sample (*M* = 18.72) was higher than reported in the general population (< 15; Saunder & Daly, 2000). Differences in non-specific psychological distress were found between those with and those without children, such that those with children reported lower mean sum scores. Those employed to work more compressed roster rotations reported much higher psychological distress compared to those working less compressed rotations. Workers aged between 60-70 years of age reported the lowest K-10 scores.

Sixty-four per cent of the sample reported sum scores falling within 10-19, the “likely to be well” category. In addition, most of the means of sum scores across demographic and FIFO indicator groups were at the top end of this range. In the National Health Survey (2007-08), the ABS (2012) reported that 67.3 per cent of all responders scored within the “not likely to have a disorder” category. Therefore, compared to the general population there is a higher prevalence of psychological distress, and a greater likelihood of a psychological disorder incidence amongst FIFO workers:

- Approximately 10 per cent were within the 20-24 range, and “likely to have a mild disorder”.
- Approximately 9 per cent were within the 25-29 range, and “likely to have a moderate disorder”.
- Approximately 11 per cent were within the 30-40 range, and “likely to have a severe disorder”.

Workers were collapsed into these range categories to check for differences across these groups between demographic and FIFO indicator groups. Across rotation compression groups, many more high compression rotation workers scored in the “likely to have a severe disorder” group than would have been expected by chance. No other differences across groups were found.

4.3.5 Stress

On average, workers reported mean stress levels that were around the mid-point of the scale, suggesting moderate stress. Stress levels were comparable across demographic groups; however, partnered respondents reported higher mean levels of stress compared to singles. Further, workers in the < 1.40 rotation compression group reported lower mean stress levels than workers in the 1.41-2 group.

Differences amongst demographic groups were found when examining their trending stress levels retrospectively at nine points during their roster rotation. Notably, all groups across demographic categories reported similar trends, whereby stress increased and was highest in the days leading up to leaving for work, reducing steadily during their time at work toward the lowest levels during the initial days after arriving home. Figure 7 displays trending stress levels for males and females during their rotation, showing that both are reporting fairly comparable stress levels. However, while males’ stress levels trend lower in the lead up to leaving work and during the initial days back at home, females’ stress levels remain constant in the lead up to returning home, before trending lower than males during the initial days home.

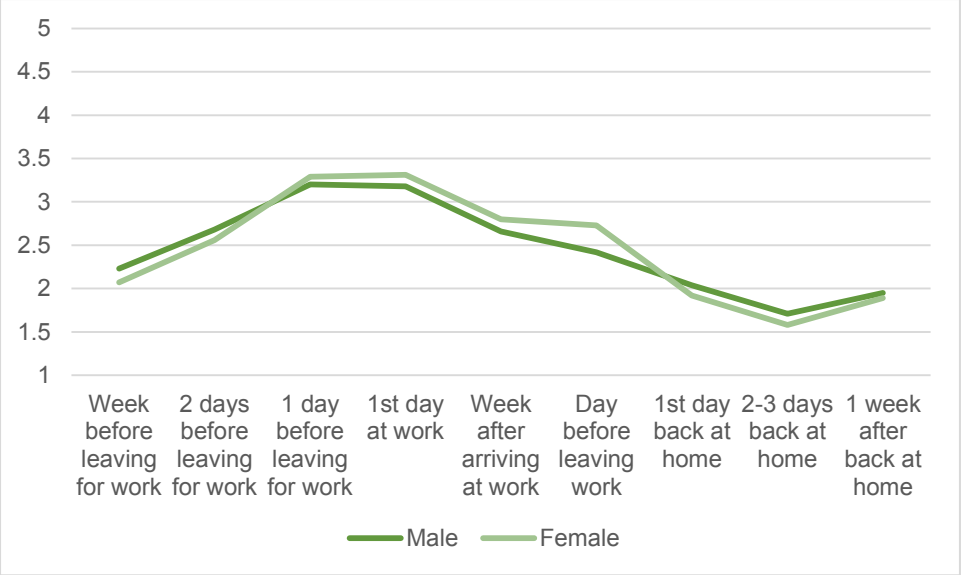

Figure 7. **Mean stress levels at 9 points during roster rotation, plotted by gender**

For the different occupation groups (Figure 8), those who worked as administration and clerical staff, compared to labouring and trade staff, reported lower stress in the days prior to leaving for work. Professional and administration staff reported higher stress levels on the day before leaving work, compared to labouring and trade staff.

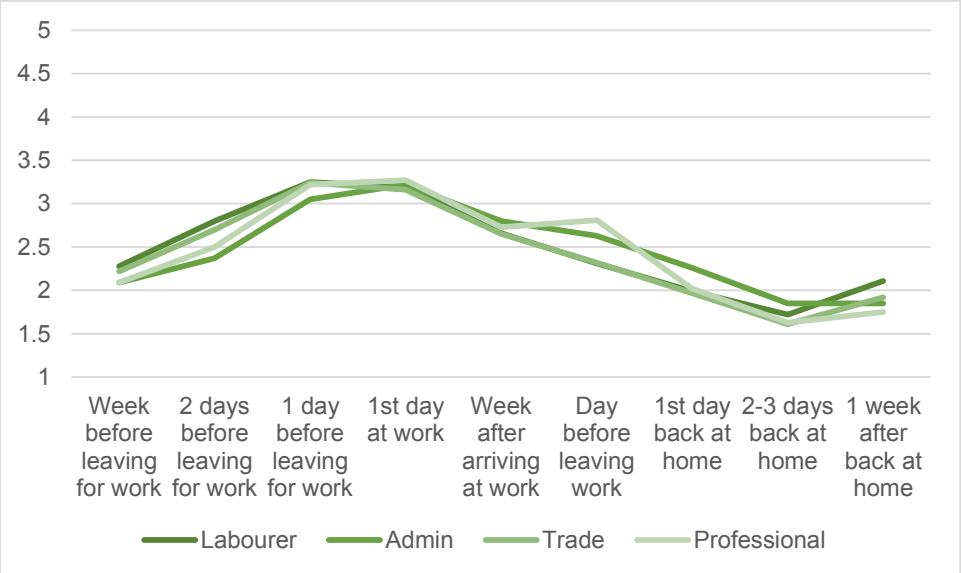

Figure 8. **Mean stress levels at 9 points during roster rotation, plotted by occupation**

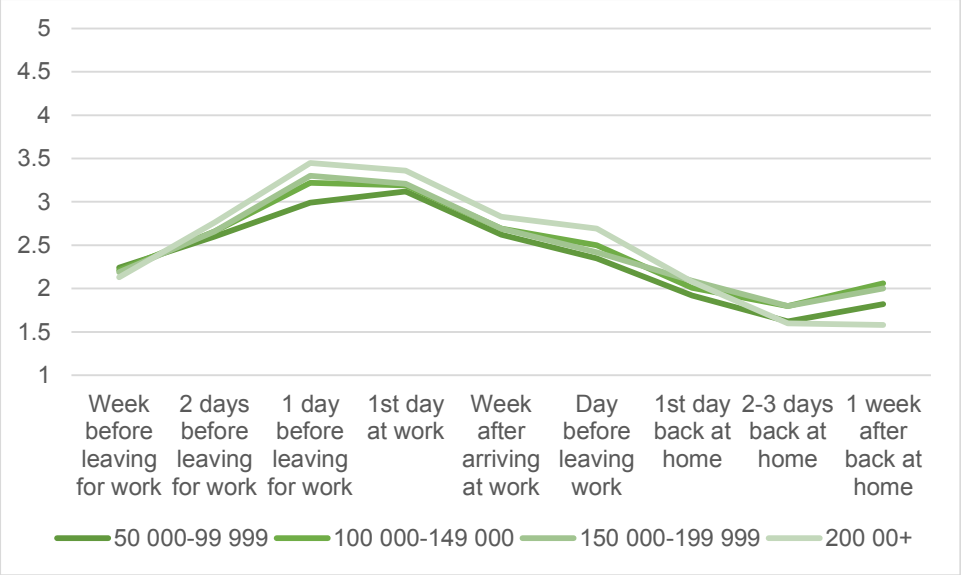

Figure 9. Mean stress levels at 9 points during roster rotation, plotted by occupation

Figure 9 displays stress trends by income bracket. The figure shows that higher earnings were associated with greater stress levels prior to leaving for work. Those who reported the highest income bracket ($200,000+), reported more stress during their time at work, compared to the lower levels.

Workers reported differing stress trends depending on the rotation compression ratio they were employed to work. Figure 10 shows that respondents working less compressed rotation ratios, compared with those working more compressed ratios, reported considerably lower stress levels in the lead up to leaving home for work, but higher stress levels on the day before returning home. Those working more compressed rotation ratios reported higher levels of stress one week after returning.

Figure 11 displays trending stress levels for single and partnered workers. The trends show that partnered workers, compared to single workers, reported greater stress during the week leading up to leaving home and in the days after arriving home. Further, the trends show that between the last day at work and first few days back at home, single workers' stress levels decrease at a greater rate compared to partnered workers' stress levels.

Figure 12 displays trending stress levels by parental status. Interestingly, workers with children reported lower stress levels on their first day at work compared to the day before leaving for work. In the first few days after arriving home, workers without children reported lower levels of stress compared to those with children.

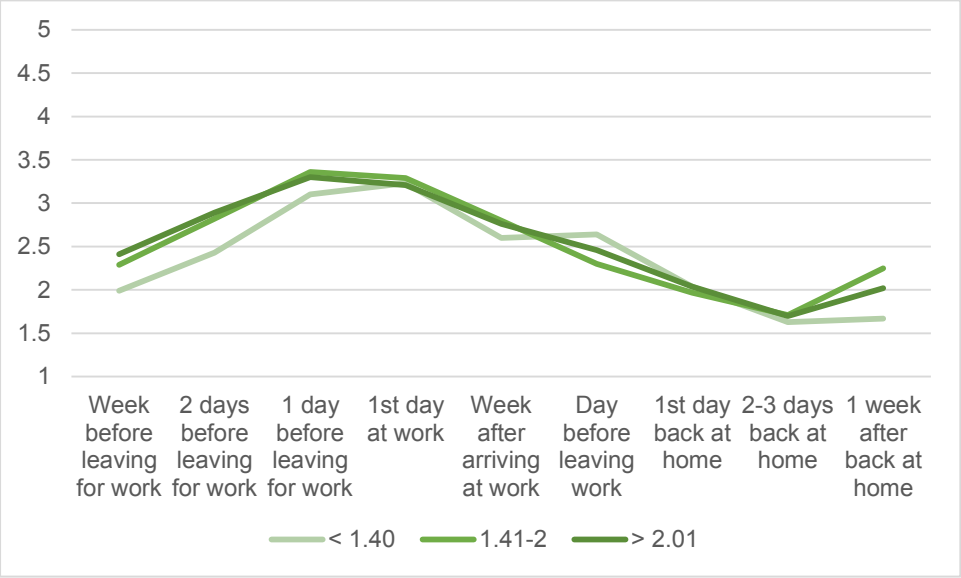

Figure 10. **Mean stress levels at 9 points during roster rotation, plotted by roster rotation**

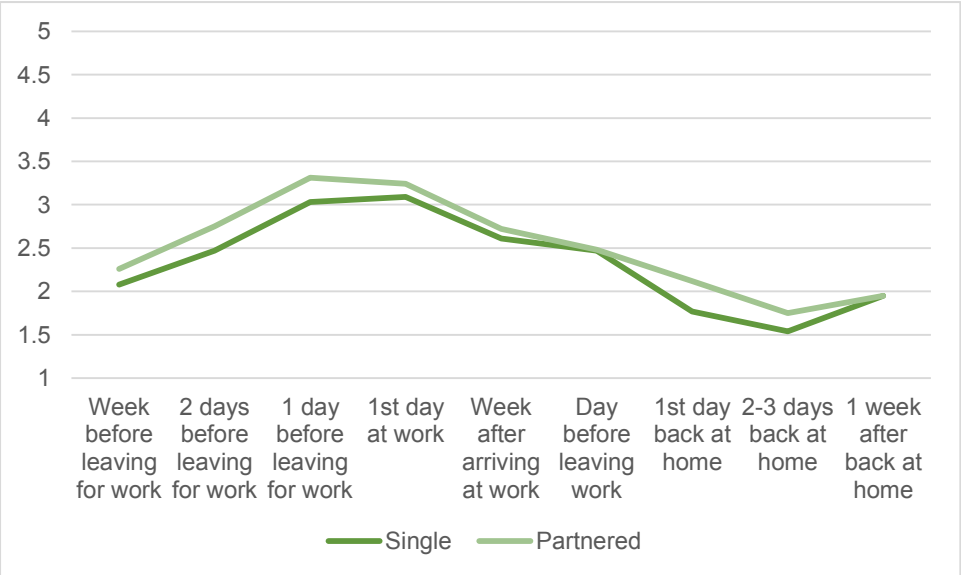

Figure 11. **Mean stress levels at 9 points during roster rotation, plotted by relationship status**

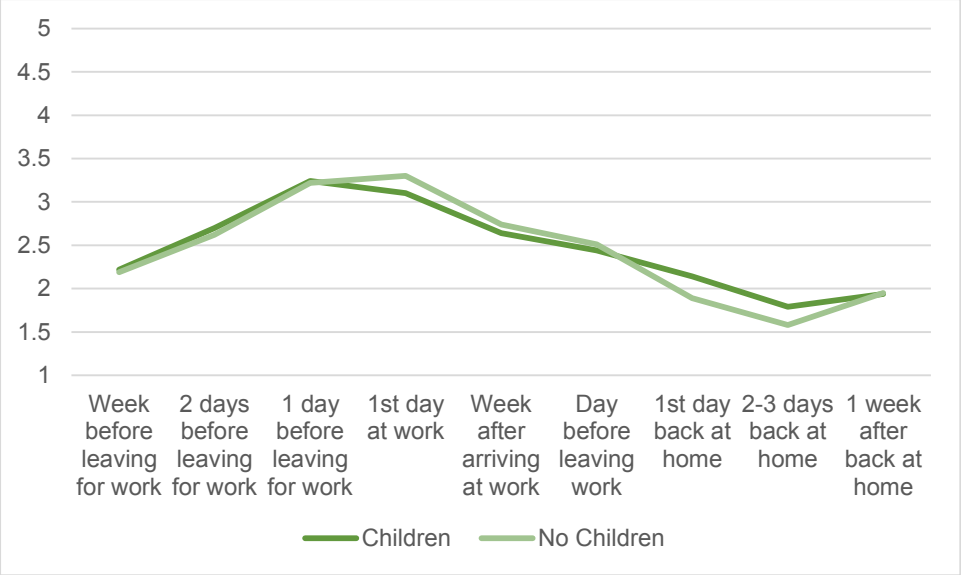

Figure 12. **Mean stress levels at 9 points during roster rotation, plotted by parental status**

4.4 Open-end survey responses: Challenges of FIFO/DIDO work

4.4.1 Time away from family and friends: Sense of 'missing out'

An overwhelming number of participants outlined time away from their partners, children, grandchildren, families and friends as being a significant challenge associated with FIFO work. Specifically, participants noted the challenges associated with their absence from important family events such as a family member's birthday, Christmas, or a child's graduation and the difficulties encountered in trying to co-ordinate leave for such events. The challenge of not being available to support their spouse or children during times of need, such as a family emergency, or through physical or mental illness was a significant challenge identified. In addition to the more general challenge of not being present in their family's life on a daily basis and thus not being able to help out with daily chores, or in raising the children, assisting with homework, or taking an active role in disciplining teenage children. Such challenges were attributed to putting strain on intimate partner relationships, with a number of participants outlining that the time away would often lead to arguments

with their spouse and difficulties in maintaining relationships. Such arguments were difficult to resolve once at work, due to time constraints and sometimes poor communication services (e.g. mobile/wireless coverage).

In addition to missing out on family events, participants also noted the challenge of finding a work life balance and often missing out on personal ventures, social and community engagement and events. For example pursuing further studies (e.g. a university diploma or degree), belonging to a sports team (as most team sports meet weekly), catch-ups with friends, and public events (e.g. concerts & sporting games). It was highlighted that missing out on such events impacted on participants' sense of "being a part of the community when at home". As participants reported they were often unable to participate in such events, this also inhibited their opportunities for making friends and establishing relationships. A number of participants noted the challenge of making friends and or trying to organise dates, with one participant stating that "no one wants to date a FIFO worker" due to them being away for long stints of time.

A large number of participants also highlighted the challenges associated with being away from amenities (e.g. banks & health care services), accessing and contacting these services (especially when opening hours are 9-5pm), and scheduling appointments. For example, organising doctor's appointments, paying bills, and even being able to attend a home open or purchase a house were tasks described as difficult to organise around participants' roster schedules.

4.4.2 Challenges with telecommunications

A large majority of participants rely on regular communication with family and friends whilst on-site to help them cope with being away. Therefore it is not surprising that if there are problems with the communication systems, these pose as a significant challenge. Such problems include:

- No access to mobile phone.
- No mobile coverage.
- No internet access.
- Poor quality mobile/wireless coverage.

4.4.3 Rosters/shifts/ and transport to work

A large number of participants outlined factors associated with their roster pattern or shifts as being a challenge associated with their work. The challenges outlined, included:

- Being away for so long.
- Being away from family for 4 weeks at a time.
- Being on the opposite roster to their partner who also works FIFO.
- Difficulty in taking time off, other than scheduled rostered days off.
- The length of shifts.
- Night shift.
- Trying to keep shifts to 12 hours.
- Having to wake up early and start work early.

A number of challenges were also raised in relation to getting to work, such as long waits at the airport, connecting flights, the distance between home and the airport, or the distance from home to work (for DIDO workers). This was particularly relevant for some participants given they had travelled sometimes up to five hours (from a rural location) to get to the airport, to then fly to site and commence work that same day. Similarly, fatigue was raised as a challenge in relation to having to drive home after flying back into the main city. The costs associated with such travel and accommodation was also raised as a challenge.

4.4.4 Adjustment

Adjustment was a key theme that emerged as a challenge associated with FIFO/DIDO work. This included:

- Adjustment to home life after working.
- Adjustment to work.
- Adjustment to sleep patterns.
- Adjusting to the transition between shift patterns (e.g., nights to days).
- Adjustment to different time zones, when working in a different state to an employee's place of residence.
- Adjusting to a change in workplace rules.
- Learning how to use new equipment.

Participants also noted that adjusting to the FIFO/DIDO lifestyle could prove challenging in relation to maintaining fitness and health, with a number of participants reporting weight gain and a reduction in physical activity, often from being too exhausted to exercise after a day's work.

4.4.5 Workplace conditions

A large number of participants outlined the nature of FIFO work and the on-site lifestyle as being 'monotonous' and 'boring' and identified these factors as being challenges associated with the job. In addition participants' reported feelings of 'loneliness' and 'isolation', as well as 'fatigue', 'exhaustion' and even 'burn out' in relation to working long shifts, often in extreme weather conditions. A number of participants highlighted 'extreme heat' and 'dehydration' as major challenges associated with the work, along with mosquito bites and Ross River virus from the humid conditions. Sleep deprivation was a common challenge expressed by participants, with some outlining that the living quarters are not conducive to a good night's sleep. For example 'thin walls' and having the 'train track outside the room' were identified as factors that impede on sleep. Other factors relating to on-site accommodation and facilities that were outlined as challenges associated with FIFO/DIDO work included:

- Cramped conditions.
- Lack of toilet facilities on some sites.
- The deterioration of accommodation standards.
- Having to change accommodation, 'a different bed every night'.
- Remoteness of work location.
- A dislike for the food provided on some sites, specifically in relation to the lack of variety or healthy choices.
- Drinking culture of the workplace.

4.4.6 Organisation management/procedures

Participants identified aspects of management and or company procedures as being challenges associated with the job. Such challenges included pressure to ensure the job was done within the allocated time frame, and done safely. Some participants noted that workloads or requirements were unrealistic at times (e.g. getting a room

cleaned within 10-15 minutes). One issue that was raised by a number of participants was safety; specifically, 'contradictory safety rules' and 'victimisation due to raising safety concerns'. Participants also noted a perceived lack of control as being a challenge. For example, control 'over where you can and can't go' and control over what people can do in their personal time and an overall lack of private time outside of work activities. Furthermore it was mentioned that companies do not always stand by the 'rhetoric of being family-friendly'.

In regards to the communication and interaction amongst workers, a number of participants highlighted 'low morale', 'negativity amongst workers' and conflict with other workers or differences in opinions or perspectives as being a challenging aspect of the job. Specific challenges included, language and cultural differences, a perceived disrespect on the job for 'older more experienced people' and the challenge for some workers who work in a role in which they have to keep what is discussed confidential (particularly when on small mine sites), and thus are not able to share their day's activities with workmates. For women, working in a male dominated environment was identified as a challenging aspect of the work environment.

4.5 Open-ended survey responses: Coping mechanisms used by FIFO/DIDO workers

4.5.1 Identified means of coping with the challenges associated with FIFO/DIDO

In regards to coping with the stressors associated with FIFO/DIDO work, participants outlined a range of different coping mechanisms including: accepting, avoiding, adapting, distracting and compromising. Some participants mentioned that they don't cope and expressed a sense of powerlessness in being able to change their situation; "*put up with it due to no control"*. Others compromised. For example, the time away from family and friends was justified due to the financial remuneration the job provided. For others they would avoid thinking about the stressors associated with the job or time away from their family (e.g. *"I try to forget about loved ones when I'm at work"*); this sometimes involved them isolating themselves when at work. Distraction was a common coping mechanism adopted and included tactics such as,

keeping busy, going to the gym, reading and or watching movies. A number of participants coped by 'looking at the bigger picture' and setting goals. Such goals included, saving for a house, planning for the future, having a five year plan which involved working FIFO and getting financially ahead.

In regards to specific challenges associated with FIFO/DIDO work, participants illustrated various means of coping. In relation to the stress associated with being away from family, an overwhelming number of participants highlighted the importance of regular communication, in coping with such stress. Communication involved:

- Using social networking sites (e.g. Facebook).
- Having photos of children emailed to workers.
- Skype.
- The smartphone application 'Facetime'.
- Daily phone contact.

Participants also mentioned prioritising their time off to spend quality time with family and to schedule events when home. Some participants organised to celebrate birthdays and Christmas early or late to avoid missing out on sharing in the celebration with their family. It was also noted by a number of participants that they would use their time off to help out around the house and with the children. A number of the coping strategies outlined involved the spouse or family adapting to help the worker adjust (e.g. the worker's partner taking time off from work when they are home and scheduling their annual leave to coincide with when their FIFO partner has leave). Those whose partners also worked FIFO would often try to organise for their partner to work on the same site, or to share the same roster. Participants reported apologising to their family for their absence and a couple of participants reported 'divorce' as a means of coping with the relationship strain associated with the job.

In regards to the stresses associated with the physical nature of the job and reported experiences of exhaustion, dehydration, fatigue, monotony and burn out, participants highlighted the following means of coping:

- Keeping hydrated.
- Eating healthily.
- Setting regular breaks (e.g. away from the desk).
- Setting aside private time.
- Getting plenty of sleep, with some indicating that they would use earplugs to assist with sleep.
- Prioritising work load.
- Taking time off in lieu.
- Changing to job share.
- Ensuring to rest up on time off.
- Taking leave.
- Having hobbies.
- Religious prayer.
- Counselling (Such as via EAP).
- Socialising with workmates.

A number of participants reported using substances to aid with sleep, increase energy, reduce stress, or to alleviate boredom. These included:

- Red Bull.
- Caffeine.
- Sleeping tablets.
- Alcohol.
- Anti-depressants.

Stresses associated with getting to the airport for those who lived in rural areas included car pooling to stay alert and booking into a hotel the night before the flight. The stressors associated with accessing services whilst away were coped with in part through electronic banking and having personal medical records transferred to the mine site. In relation to the reported stigma that was identified as being associated with FIFO work, some participants, when asked, would tell people their profession (e.g. geologist) as opposed to telling them they are a FIFO worker.

Specific coping strategies were identified by female participants, in relation to challenges associated with working in a male dominated environment. These included:

- Ignoring advances by male co-workers.
- Going to the gym at times when there were no men there.
- Playing down appearance (wearing loose or baggy clothing).

4.5.2 Participants' recommendations for support services

Counselling was most frequently listed as a support service that would best meet the needs of FIFO/DIDO workers. Specific types of counselling suggested included on-site, EAP, telephone, and online. Participants listed support for help regarding marriage and relationship problems, substance use issues, and stress management, more than any other problem areas. An overwhelming number of responses indicated a need for support for workers' families and partners. Many participants relayed that provision of information, training and education (of a general nature and more specifically regarding mental health and coping), would best support FIFO workers. A number of formats for this information and education were suggested, including print, online, audio/visual, and guest speakers/presentations. Many participants also listed financial planning and support, as well as better communication facilities on-site (i.e. improved telephone and internet access/reception). A high number of responses demonstrated a perceived need for better services on-site regarding health, fitness and general wellbeing for FIFO workers, including better recreational facilities/activities, medical and nutrition support, and fatigue management. A number of participants also suggested better social activities on-site after work and support regarding networking and building communities at home.

4.5.3 Positive aspects of FIFO/DIDO work

The majority of participants outlined financial reward as being the most positive aspect of FIFO/DIDO work. Benefits associated with a high salary were noted, such as being able to afford particular expensive items (e.g. house, car, and travel) as well as to provide for their family. Participants noted time off as a positive aspect associated with the job. Having a block of time off affords workers more quality time

with friends and family and enables them to take holidays. In regards to relationships, a number of participants mentioned that working FIFO had a positive influence on their relationship, allowing them independence, as well as the opportunity to strengthen their feelings for their partner. Others noted that a positive element of FIFO work was being able to have a break from their partner and or family life. Many participants relayed their friendships with other workers and opportunity to meet new people as a positive aspect to the job; they used terms such ‘sense of mateship’, ‘camaraderie’, and ‘community spirit’. A large number of participants noted that they like having their work life and home life separate and distinct from one another, which FIFO work allows for. The conditions on site were also noted as a positive. For example, having food, accommodation, and cleaning payed for, and free facilities provided on site, such as the gym. A number of participants outlined that they were able to adopt a healthy lifestyle whilst at work, getting regular exercise and eating healthily. It was also expressed that the work itself was a positive, with participants using the following terms to describe the positive aspects associated with their work: ‘interesting’, ‘challenging’, ‘opportunity for career progression’ ‘good variety’, ‘job security’, ‘sense of accomplishment’ and ‘job satisfaction’. For some participants, working FIFO gave them the opportunity to explore locations in Australia, with a number of participants enjoying experiencing the environment and being ‘out in the bush’.

5. Qualitative Findings: FIFO workers: Stress, coping and support

5.1 Interview participant sample: Demographic information

The final sample for FIFO/DIDO interviews consisted of 3 females and 15 males. Female age ranged from 26 to 38 years (*M=30.33*). Males ranged in age from 26 to 60 (*M=44).* The interviews ranged in length from 7.43 minutes to 72.50 minutes (*M=23.27).* All other relevant demographic information is summarised below:

5.1.1 Ethnicity

Demographic information relevant to ethnicity is outlined below:

- 16 participants were Caucasian (1 specified that they were Irish).
- 1 participant was part-Caucasian, part-Aboriginal.
- 1 participant did not specify their ethnicity.

5.1.2 FIFO/DIDO work

Demographic information relevant to type of work (i.e. FIFO or DIDO) is outlined below:

- 16 participants were engaged in FIFO work.
- 1 participant was engaged in DIDO work.
- 1 participant was engaged in both FIFO and DIDO work.

Demographic information relevant to industry of FIFO/DIDO work is outlined below:

- 14 participants worked in mining.
    - 3 of these participants specified iron ore mining.
    - 5 of these participants specified oil & gas mining.
- 3 participants worked in construction (including rail maintenance).
- 1 participant worked in power generation.

Demographic information relevant to occupation was broad and varied, and is outlined below:

- 3 participants worked as Riggers (1 also worked as a Scaffolder, another also as a Crane Operator).
- 1 participant worked solely as a Crane Operator.
- 2 participants worked as Electricians.
- 1 participant worked in Mining Maintenance Administration.
- 1 participant worked as a Chef.
- 1 participant was a Truck Machine Coordinator.
- 1 participant was an Apprentice Master.
- 1 participant worked as a Project Surveyor.
- 1 participant worked as a Health and Safety Environment Training Officer.
- 1 participant was a Construction Superintendent.
- 1 participant was a Paramedic and Safety Advisor.
- 1 participant worked in Pressure Testing.
- 1 participant worked in Bus Driving and Utilities.
- 1 participant was a Diesel Fitter.
- 1 participant did not specify their occupation.

Demographic information relevant to length of time engaged in FIFO/DIDO work is outlined below:

- 4 participants had less than 1 year's experience.
- 2 participants had 1 – 5 years' experience.
- 6 participants had 6 – 10 years' experience.
- 1 participant had 11 – 15 years' experience.
- 4 participants had 15 – 20 years' experience.
- 1 participant had 21 – 25 years' experience.

Demographic information relevant to work rotation is outlined below:

- 4 participants worked 2 weeks on and 1 week off.
- 3 participants worked 3 weeks on and 1 week off.
- 1 participant worked 4 weeks on and 1 week off.
- 1 participant worked 5 weeks on and 1 week off.

- 1 participant worked 4-5 weeks on and 4-5 weeks off.
- 1 participant worked 8 days on and 6 days off.
- 1 participant worked 9 days on and 5 days off.
- 1 participant worked 25 days on 10 off.
- 1 participant worked 26 days on and 9 days off.
- 4 participants did not have a regular roster.

Demographic information relevant to salary is outlined below:

- 3 participants earned $50-100K.
- 6 participants earned $100-150K.
- 8 participants earned $150-200K.
- 1 participant earned $200K+.

Demographic information relevant to location of FIFO/DIDO work is outlined below:

- 4 participants worked across multiple sites (1 at sites both within Australia and overseas).
- 5 participants worked in the Pilbara region, WA (including sites at Newman, Port Headland, Nullagine, Karratha).
- 2 participants worked at offshore sites (including Barrow Island, WA).
- 1 participant worked in Kurraba, NSW.
- 1 participant worked solely overseas (Gambia).
- 2 participants worked at sites in Queensland.
- 1 participant worked in the Yilgarn Region, WA.
- 1 participant worked in the Kimberley Plateau, WA.
- 1 participant worked in Kalgoorlie, WA.

5.1.3 Education and training

Demographic information relevant to education and training levels are listed below:

- 3 participants achieved a Year 10 education level.
- 3 participants achieved a Year 11 education level.
- 2 participants achieved a Year 12 education level.
- 4 participants had a Diploma.
- 2 individuals had a University Degree.

- 3 participants had gained Certificates through training, with one also having obtained supplementary tickets.
- 1 participant did not specify their level of education and training.

Demographic information relevant to education and training areas are outlined below:

- 2 participants were trained in Occupational Health and Safety, and Management.
- 1 participant was trained in Cooking.
- 1 participant was trained in Surveying.
- 1 participant specialised in Training and Assessment.
- 1 participant was trained in Mechanical Fitting.
- 1 participant was trained in Paramedics.
- 1 participant received training in Business & the Arts.
- 1 participant was trained as an Electrician.
- 9 participants did not receive education beyond high school, or did not specify their area of training.

5.1.4 Relationship and family

Demographic information relevant to relationship status is outlined below:

- 2 participants were single.
- 3 participants were in de-facto relationships.
- 8 participants were married (1 of whom was previously divorced).
- 1 participant was separated.
- 2 participants were divorced.
- 2 participants did not specify their relationship status.

Demographic information relevant to family (including step-family) is outlined below:

- 7 participants had no children.
- 1 participant had 1 child.
- 2 participants had 2 children.
- 7 participants had 3 children.
- 1 participant had 6 children.

Of these children:

- 15 lived at home.
- 17 lived out of home.

5.2 Common themes derived from data

5.2.1 Pre-FIFO awareness

The overwhelming majority of participants either knew nothing about FIFO work before starting or held vague understandings drawn from anecdotal conversations with friends already working in the mining industry or from media reports of good salaries available in mining. Participants commonly explained:

> *"I went into it fairly blind … didn't know if I'd like it"*
> *"Initially you sort of stumble through it as you go"*
> *"You just got thrown in the deep end"*
> *"I knew that it would be very isolated, very ground hog day kind of routine, I knew the money was good"*

The one exception to this 'mostly know nothing' before commencing FIFO work was a participant who had grown up with a close family member who had been a FIFO worker and this had given him/her good insight into what to expect.

Significantly, most participants did not think there was information that could adequately prepare new FIFO workers for the job, rather it was a form of learning that could only be achieved through firsthand experience. Two participants made minor suggestions regarding the types of information that would have been useful to them prior to starting FIFO work:

- Bring amusements to use between shifts (i.e. books and movies).
- Reminders to stay hydrated during shifts.

5.2.2 Types of stress

Participants described experiencing a number of stressors arising from FIFO work. Almost unanimously, the number one and most commonly reported stress was separation from home, family and friends. Other stresses included:

- On-site physical exertion and fatigue.
- On-site extreme heat (50+ degrees).
- Staying hydrated.
- Adjusting to night shifts and between day and night shifts.
- Adhering to on-site safety rules.
- Job insecurity.
- On-site conditions: “very isolating, “confined spaces”, “wilderness”.
- Sleep: acquiring enough each night and maintaining regular sleep patterns.
- Transitioning back home: fitting into home routines again.
- Maintaining home (i.e. gardens, bills) during work absences for single FIFO workers.
- Minimal communication and/or internet access on some sites.

Absence from home and loved ones entailed missing out on important social and family events such as birthdays, weddings and religious celebrations. For some participants, being away from home was exacerbated by having minimal opportunities for communication on-site; from one email per week to zero mobile phone usage during shifts. In the words of one participant:

> *“Basically people are locked up for three to four weeks with a bunch of acquaintances and you’re away from your friends and family, generally speaking where you go there’s shitty communications ... the telephone reception is hit and miss your … internet is hit and miss … and your phone and your computer are your lifeline to your family … If you couldn’t talk to your family you would be stuffed.”*

Absences added pressures to intimate relationships such as issues of mistrust. In general, it was recognised that maintaining relationships with family and friends

required extra thought and effort in light of the long absences generated by FIFO work.

The stress of being away from home, family and friends closely related to the issue of rosters. The majority of participants had experienced a variety of different rosters in their FIFO careers and all reported that stress levels were proportional to the amount of time spent on-site (away from home) and at home. All workers observed that the shorter the time rostered on for work, and the longer the time allowed off recuperating and being with family/friends, the less stress they experienced.

Longer rosters were more relevant to particular industries such as construction in which four weeks on-site was a standard roster. Moreover, despite the assumption that construction workers on '4 weeks on/1 week off' rosters recover during long non-work break periods in between projects; it remains common for them to have short breaks before entering new projects which further adds to their accumulated fatigue:

> *"The rosters in construction are quite a bit longer, four weeks on, one week off at times … within the construction industry … they expect that you're going to have a big break in between projects, which isn't the case. I think part of mental health at the moment is, well coping with it, is guys to understand that they need that work-life balance because a four to one ratio of work (and a lot of guys are travelling for one to two days of that to go back over east or something like that) is not healthy. … Physically your body can do it but mentally they're probably not realising just how fatigued and run down and mildly depressed they're becoming over small things and … you start to snowball in effect."*

The above quote illustrates participants' concerns with long rosters, particularly within certain industries, and how the nature of FIFO-related stress arose from minimal opportunities for recuperation from fatigue, which was often accumulative in nature.

As a corollary to the issue of rotations, one participant noted that the overall shift to shorter rotations across mining industries had, in general, undermined professional

satisfaction by undercutting the ability of workers to see specific tasks through to completion. Shorter rosters meant that workers left a task mid-way and handed it over to other people (or vice versa) and "*so no one actually sees a completed job*." In turn, the satisfaction and pride to be drawn from successfully seeing jobs through to conclusion had become limited.

The stresses of rosters with long periods away from home was particularly notable for participants with young children living at home and was observed by participants without young children of other FIFO workers with families. This stress was shared by partners with young children who may have coped prior to the arrival of young child(ren) but found long periods of family separation stressful with young children.

For some participants, long absences from home made certain common activities difficult, such as chores and necessities including signing official documents, banking, scheduling medical appointments, and playing in sporting teams. This was particularly an issue in cases where participants held irregular rosters and were thus unable to plan ahead. In turn, they either failed to keep up with such matters or relied on family members to assist them.

Findings have demonstrated that FIFO rosters significantly impacted on levels of worker stress regarding family/home separation and that stress levels were proportional to the amount of time spent on-site (away from home). This finding parallels Heiler's (2002) research which found that extended rosters adversely affect family relationships. It further supports Funston's (2012) more recent study, which found that rosters with more consecutive days at work increase Work Family Conflict (WFC) (i.e. FIFO workers have insufficient time to perform successfully home and work roles due to the conflict that arises between the two). Like Funston's findings, this research found that FIFO workers with children are more vulnerable to stress.

As a sub-issue of rosters, participants also commonly mentioned the challenges associated with adjusting to shifts. For example, shifts could be long and tiring; sometimes well in excess of 12 hours per shift. Maintaining long shifts within a roster involving over 2 weeks of consecutive work was particularly challenging. In addition,

adjusting to night shifts, and to transitioning from night shifts back to day shifts, was stressful. Stresses arose from disrupted sleep patterns and resulting fatigue.

Various aspects of site conditions were spoken of during interviews as stressful. In general, some participants explained; *"it's bloody hard work, it's really hot, and it's uncomfortable*". Similarly, the distant location and nature of accommodation conditions on sites were sources of stress. Camp sites were described as akin to living in the "*wilderness*" and as "*confined spaces*". At the more negative end of the spectrum, one participant described camp sites as akin to living "*in a prison camp*" in which your every activity (i.e. wake times; travel; eating) is regulated so that, in effect, "*you may as well be in a jail…you don't have a life…it's like lockdown"*. Further, the remote geographical location of sites was "*very isolating*". As one participant explained:

> *"They're missing their kids, they're missing their partner, they're missing their friends, they don't like it out there, I mean it's bloody hot out there, it's isolated, you know, it's not prison but you are isolated and it's the same regime, you know, it's ground hog day morning, night, morning, night, morning, night, two weeks flat out."*

In conjunction with isolation, workers must spend time with the same people for long stretches, which can get frustrating. Hence, participants often described FIFO routines and camp sites as highly isolated and regimented places which generated stress.

Of particular note, work relations/practices and the atmosphere of accommodation camps was stressful for many participants because of site regulations and an associated sense of job insecurity. Participants described sites as "*too over-regulated*" with "*too many rules … it was a lot of stress … there was a couple of blokes there got the sack for trivial things*." Or as another participant stated: workers are "*governed 24 hours a day … you daren't put a foot wrong.*" Moreover:

> *"They're getting harder and harder on alcohol because some people just can't control it and so every time some dickhead plays up at a camp and it's alcohol*

related there's a whole heap of changes and that affects everybody who can show restraint and don't get involved in antisocial behaviour."

Participants explained that where individual or small groups of FIFO employees were found to have violated rules it was common for all camp workers to bear the burden of penalties which further restricted workers' opportunities for relaxation (i.e. not allowed to take drinks back to their room because some workers abuse alcohol) and created resentment. In addition, where accommodation or living regulations gave cause for stress, voicing work practice safety concerns in opposition to management priorities likewise gave cause for stress; some participants reported having been the target of bullying and intimidation (i.e. job dismissal) for having questioned safety practices.

This sense of intimidation was further mirrored in the outcomes of mining safety regulations which in theory were designed to care for workers but in practice led to inflexible regulation over genuine safety concerns. For example, a participant recalled a situation in which a worker handling heavy loads required an adhesive bandage but was unable to ask someone to get them for him because he had to fill out an accident report first (which he was unable to do mid-job); hence he had to carry on working without attending to his cuts. Alternatively, another example of the application of safety rules in an inflexible manner was illustrated when a group of workers were reprimanded for not wearing safety glasses on a 40 degree day even though they could not see from them due to excessive sweating. Hence, safety rules themselves were accepted as a necessary part of work but their implementation in an inflexible uniform manner created stress as workers felt their impact hindered their ability to conduct basic work tasks safely and/or without attracting rebuke. Hence, site rules and regulations could translate into arbitrary and punitive forms of punishment, which undermined participants' ability to fulfil jobs to their satisfaction and left them feeling insecure with their positions.

Therefore, although past research has shown that site conditions and cultures, such as isolation and excessive drinking are problematic, this research shows that the regimented nature of working and living on-site also takes a toll on mental health and wellbeing. From the responses of many participants, it was apparent that following

site safety rules (either under pressure of internal monitoring or in the perceived absence of adequate safety precautions by co-workers and supervisors) was a significant stressor. Participants felt unable to apply self-perceived common-sense judgments and also reported feeling vulnerable to intensive scrutinising, intimidation and threats of job loss.

The restrictive nature of work safety regulations and monitoring was amplified for FIFO workers who were unable to switch off at the end of a shift. Instead, as described by various workers, they returned to site accommodation which itself was strictly controlled and monitored. Numerous choices in their daily lives (taken for granted outside FIFO sites), such as meal times, freedom to move, drink in their room, were no longer under their personal control once inside a tightly regulated FIFO environment. The matter of agency versus personal control is significant, for as shown in other population groups, like prisoners and soldiers, there are long-term negative impacts associated with undermining individual autonomy and decision-making. Whilst it would be superfluous to claim that FIFO workers experience a deprivation of liberty equivalent to prisoners or soldiers, there are relevant parallels to be drawn from the potential effects of working and living within a highly regulated, isolated and restrictive environment. In the immediate interview sample, some FIFO workers appeared to display a highly 'trapped' outlook regarding their situation and ability to change it. Having committed themselves to significant ongoing financial obligations (i.e. mortgages), they felt unable to leave FIFO work, regardless of their stress and dissatisfaction with it. This sense of incapacity seemed one layer within a wider mind-set associated with the frustrations of abiding by an intensive rule-based regime during work and off times for extensive periods.

5.2.3 Coping mechanisms

It was very common for participants to describe coping in terms of 'switching the mind off' to just get through work:

"Just head down, bum up, count down the days."

"Well it's really just a case of suck it up princess, you just do it."

In addition, participants reported using a number of specific coping mechanisms. In line with participants' main stress of being away from home/family, many commonly described employing coping mechanisms that directly related to dealing with separation by distance:

- Maintaining regular communication with family/friends on-site (i.e. texts, phone calls, Skype and email).
- Rescheduling family and holiday celebrations to dates that fall during off periods and allow workers to participate in significant social, family and religious festivities.
- Planning work leave bookings carefully to ensure that significant family and social events are not missed (i.e. weddings).
- Letting family/friends know when an off time is approaching and proactively scheduling social events rather than expecting others to stay on top of roster schedules.

The above coping mechanism were participants' ways of maintaining their significant relationships during absence and of maximising their opportunities for family/social engagement during off work periods. Overall, the ability to communicate daily with family and the knowledge that family could reach them for support in the event of a crisis was considered crucial to how they dealt with long period of separation.

Further, participants described employing a number of other coping mechanisms to help them manage the stresses they experienced on-site. These coping strategies were used to alleviate various stresses including fatigue, work dissatisfaction, and the difficulties of winding down:

- Making time to relax by reading, art work, watching TV alone in bedroom.
- Using off times carefully to recuperate, reengage with family/friends rather than party.
- Staying socially engaged on-site and at home.
- Exercising (i.e. attendance at on-site gyms, walking during shifts, jogging on-site).
- Eating healthily.
- Obtaining good sleep.

- Taking time off to recuperate.
- Talking to mates.
- Developing a familiarity with self-reliance and isolation.

Of particular note for participants was the use of exercise and getting a good night's sleep as important coping mechanisms.

A recurringly spoken of coping mechanism reported by participants, either through personal experience or through observation of co-workers, related to the use of legal and illicit drugs. Principally, participants recounted that alcohol and/or drugs were a common way of dealing with stress including the consumption of:

- Alcohol.
- Stimulant drinks in high quantities to ease fatigue (i.e. coffee, Red Bull).
- Illicit drugs to alleviate boredom and relax (i.e. marijuana, synthetic marijuana like Chronic, stimulants).

These coping methods were spoken of as common though there appeared to be notable variation between work sites, with some participants reporting that "*very few people didn't do it [use illicit drugs]*" and others indicating that it was extremely rare. Other research has shown that FIFO workers use alcohol and drugs at higher rates than mainstream populations; a concern clearly shared by the resources sector which has established various drug testing procedures to manage the issue (Midford et al, 1997; Holland, 2003).

In this study, although stimulant and/or alcohol use was frequently recounted as a common coping method they were not always spoken of as problematic. Previous research has raised concerns regarding the role of the 'wet mess' as one of the key recreational spaces for on-site workers, which has contributed to a culture of excessive drinking (Carrington et al, 2011). However, the consumption of alcohol and/or stimulant drinks legitimately aided some workers to relax or stay awake. Still, some participants noted that their consumption of alcohol was excessive and/or that they had seen many co-workers who were clearly consuming alcohol or stimulant drinks to physically detrimental levels. In addition, it was noted that the use of

stimulant drinks such as Red Bull to make it through long 12 hour-plus shifts was then undermining workers' ability to sleep adequately by keeping them awake post-shift. Workers who develop a reliance on stimulant drinks return to shifts more fatigued; increasing their reliance on stimulant drinks and creating a cycle of poor sleep, fatigue and extreme stimulant drink intake. Previous research corroborates that FIFO workers use alcohol, sleeping pills or other substances to cope with changing sleep patterns arising from shift work. Anecdotally, this reliance on stimulant drinks and other substances to cope with long shifts and fatigue may be increasing the number of fatigue-related accidents during daytime hours.

In regard to illicit drugs, in most references to their use, participants maintained that FIFO workers largely engaged in recreational drugs during their off time: "*people might do it on their weeks off, but there are random drug tests, they wouldn't want to be very heavy users*". However, participants frequently recounted that on-site gyms were the location of widespread steroid use. The use of on-site illicit drugs was closely contained to the gym context, though a small number of interviewees reported illicit drug use on-site in regard to other substances such as marijuana and unknown injectable substances. For the main part, there appeared a clear distinction between recreational drugs as an off-time activity. A minority of interviews revealed drug use happened on site, between shifts during 24 hour periods. Recreational drug use also happened on evenings when workers went to pubs during on-site down times. On-site drug testing regimes encouraged workers to choose illicit drugs known to leave their systems within 48 hours (i.e. stimulants, coke, speed, methamphetamine, LSD) or drugs harder to detect such as synthetic marijuana. They also led to some workers asking for urine samples from 'clean' co-workers.

5.2.4 Awareness of supports for FIFO workers

Most participants were aware of an Employee Assistance Program offered by the companies that employed them and gave them access to free counselling. A minority had used EAP, primarily for problems in their intimate relationships, and their satisfaction with the program was mixed; some felt it had helped them and others found the service poor.

Other supports participants reported as available to them included:

- Nightly meditation.
- On-site safety officer and supervisors.
- Managing lifestyle and fatigue courses.
- Peer Support Programs.
- Personal trainers.
- On-site chaplains.
- Union.
- Men's group.
- Online group i.e. Mining Family Matters and FIFO Families.

Two community organisations were named by multiple participants as supports available to them; Beyond Blue and Lifeline. Most of the participants were unaware of specifically online supports available to them. Almost none of the participants had heard of 'self-care techniques'.

5.2.5 Support seeking behaviours

The majority of participants expressed reluctance or refusal to engage in a formal support service either in person, by telephone or online. It was the case that awareness of available supports was clearly not matched by a willingness to access them:

> "*In this modern day and age, they're fairly well catered for. There's counselling available for everything from relationship issues to drug and alcohol issues, the information is there people just have to reach out for it ... all we can do is tell people that they're there, it's the old cliché you can lead a horse to water but you can't make it drink."*

Reasons provided for this rejection were:

- Preference talking to friends/family.
- Confidence in their own coping and health.
- Dislike of reading materials.

- Scepticism about utility of counselling services.
- Belief that using services would be unmanly.
- Time constraints.

A number of participants specifically stated doubt in the relevance of counselling which they perceived as too *"textbook"* and counsellors as *"strangers"* lacking a true understanding of their situation. These barriers to support seeking behaviour partly crossed into generational attitudes: one participant noted that older FIFO workers were less likely to approve of accessing support and younger ones would be more inclined. Another barrier referred to by participants related to their sense of insecurity that accessing support may threaten their position:

> *"I would be afraid that I would be tarred with a brush. If you went there for stress or something, it might be used against you. I think it would be confidential what you say to them but I think the fact that you show you have a weakness or if you are making regular visits for stress and stuff, it doesn't look good on… I just wouldn't, I wouldn't want everyone knowing my business."*

This widespread unwillingness to access support services has been identified in other interviews with FIFO workers (Torkinton, Larkins & Gupta, 2011). Like this study, other research shows that FIFO workers prefer to turn to their immediate circle (family, friends, co-workers) for support and are largely averse to more formal supports (Voysey, 2012).

It is already well-established in the mental health literature that men are less likely to access support services than women. Given that the resources sector is male dominated and often associated with 'stoic' and 'macho' work cultures, it was unsurprising that the male participants in this study commonly showed an aversion or embarrassment to accessing support which would have given the unwanted impression that "*you're soft*". One participant who recalled being given a Lifeline pamphlet explained "*you can talk to these people 24 hours a day. I mean, realistically in a man's world sort of thing, a man is too strong to do that."* Similarly another participant explained that he would never use a company support service

"because my mate might hear of it … and I'll never hear the end of it." Or as another observed of his co-workers' reluctance to access supports: *"It could be pride, it could be not wanting to talk to strangers, they could see it as a sign of personal weakness."* Such quotes illustrate a discomfort with accessing support stemming from stigma. These sentiments expressed in the interviews have been observed in the media in which a *"toughen up princess"* attitude was reportedly prevalent amongst FIFO work in WA (Preston, 2012). Any mental health services available or targeting FIFO workers must address this over-arching reluctance and dismissal of support services.

The dominant reluctance and stigma attached to seeking support amongst FIFO workers should be considered in light of other key findings in this report. It was found that most FIFO workers hold minimal knowledge about FIFO work prior to commencing their employment. Although by itself this suggests that targeting novice FIFO workers *before* their employment represents an effective point of providing relevant supports and awareness raising efforts, caution is advised. First, FIFO workers expressed scepticism about the ability of pre-work information to be able to adequately convey or prepare workers for their role, which was regarded as a necessarily *experiential* learning process. Second, given the strong stigma regarding accessing support and the common "*suck it up princess*" attitudes found within the interview sample, it would appear that any training, information or support service targeting FIFO workers prior to entering the industry would have limited impact.

Alternatively, these findings suggest that pre-FIFO work support services would need to be designed in such a way as to directly break down the support-seeking barriers evident in this occupation group. Certainly, the very clear aversion to accessing formal support expressed by participants in this study and others indicates that reducing the stigma of mental health issues and help-seeking is a necessary precursor to any mental health program or service. Stigma reducing efforts may further benefit by addressing men's reduced capacity for identifying signs of emotional stress in themselves (Addis & Mahalik, 2003). They may also benefit by targeting gendered barriers toward help-seeking such as beliefs about male invulnerability and notions of emotional toughness.

Despite the dominant reluctance to seeking support, a small number of participants were open to using face-to-face, telephone and/or online support services; the preference leaning toward in-person support. For a minority of participants, accessing support was regarded as a highly valuable way of managing stress. For example, one participant likened mental health and wellbeing to the already established concern for on-site safety:

> *"Safety is a big thing but, you know, people's minds and that sort of thing is a big safety factor because if some bloke is thinking about, you know, his kids or his wife at home or whatever he's not thinking about this three and a half tonne piece of steel he's about to put in the ground next thing it drops on his hand and cuts his hand off well, you know, it's just that knock on effect."*

Hence, although many participants expressed refusal or reluctance to access formal support services, some showed awareness of the significance of maintaining mental wellbeing as a matter of general occupational health and safety.

Another significant barrier to the uptake of support services, such as EAP or other telephone line counselling, reported by multiple participants was the inadequacy or non-existence of mobile phone coverage on-site. The issue of on-site access to existing supports was more relevant to workers in long rotations, such as 4 weeks on, and who may be under more strain and less able to draw on supports at home. Some on-site supports were further made unavailable for people in light of time constraints. For example, many supports were offered in the evenings after day shifts, which meant that workers on night shifts had less opportunities for support. Moreover, the nature of long shifts and work rotations entailed that some participants may have been aware of supports but did not see them as practically accessible given their time constraints.

In terms of turning to co-workers for support, participants were mixed. Some drew on co-workers to talk about personal issues and reported acting in-kind. Other participants reported never talking with co-workers or doing so in a limited fashion. The barriers to talking to co-workers included:

- High staff turnover made developing trusting work relationships difficult.

- Gender divide.

The issue of gender further presented itself with one female participant noting that, although she was aware of men's support services, she had not come across any female-focussed services or programs. In her experience of FIFO work sites her colleagues were predominantly male which created a gender barrier impacting on her willingness to draw on co-workers for support. Although the female sample in this study was small (3 female participants), the finding that gender poses a barrier to seeking support from co-workers is consistent with the small number of studies that have similarly pointed to the significance of gender (Smith et al, 1993; Steed & Sinclaire, 2000; Finlayson, 2005). These other studies have noted that women may enter FIFO for the same reasons as their male counterparts but often face unique stresses working within a male dominated workplace. It has likewise been highlighted that women also contend with earning disparities within the resources sector. This research further shows that women FIFO workers lack access to other female co-workers and female-specific services from which they could draw support from on-site. With increasing numbers of women entering the FIFO workforce it is likely that gender issues will become more relevant to this occupation group. Given that the resources sector itself is showing signs of concern for making the workplace more women-friendly (i.e. more flexible, compressed work hours etc), investment in female supports parallels such leanings.

Lastly, it was apparent that in the face of isolation and limited supports, some FIFO workers have developed a disengaged style of coping to manage their situation which made them more unlikely to access supports. For example, one female participant explained she learnt to shut off the need to talk *"as the years go on and the more years that I spend away from home, the more that I sort of shut off and those kind of feelings of speaking to anyone."* This process of internalising stress was further elaborated: the "*longer that I work away, the more stressed out that I get, but the more that I would keep it to myself."*

5.2.6 Support suggestions

Many participants could not think of specific supports that could be of help to FIFO workers. Those who had responses, presented the following suggestions:

- Online counsellor.
- On-site counsellors.
- Peer support groups.
- More opportunities for recreational activities on sites (i.e. sporting contests).
- On-site social coordinator.
- Personal trainer/lifestyle coach.
- Family liaison officers at home cities.
- Family/relationship coping service.
- Team-based sports.

The above suggestions came from a mixture of concerns and thoughts. Even though many sites provide gyms; they are not attractive to everyone and more team-based exercises were considered more beneficial to overall morale on site. As a way of offsetting the stress of separation from family, one suggestion related to family liaison officers who could fulfil key support roles of absent FIFO partners during particular times of need, such as helping mothers manage with children sickness or family death. In a similar vein, one suggestion for relationship coping support stemmed from the observation:

> *"There is [sic] a lot of lads up there, you hear them having a lot of over–the-phone arguments with their partner. I think it's the time away, I imagine the guys that do 4 and 1, it's hard on them. I think some family coping service or something like that because a lot of people are still in that position that they need the money because they have high outgoing or want to get a house. I know a couple of lads that feel like they're trapped up there."*

A FIFO family contact person could also keep in touch with FIFO workers on return and generally monitor wellbeing. The peer support groups were favoured as a more authentic form of therapy which relied on co-workers rather than 'stranger' counsellors.

A common theme throughout participants' interviews also related to shorter rosters on work as a significant form of support. Those participants stressed about long rosters believed that introducing new external supports was not as important as improving work arrangements and conditions such as capping rosters to no more than 3 consecutive weeks at work. However one participant mentioned that some employees prefer the longer rosters as they come with greater financial reward. He also noted that for some workers, they appreciate the space it gives them from their partners:

> *"I have never done a 4 and 1 and I have no desire to do it to be honest. It's a personal choice, there is no barrier around the site, you can leave whenever you want. I think there is a lot of lads up there quite content doing the 4 and 1 and wouldn't want to give up the money and they wouldn't want to see it being reduced to a 2 and 1. On the other hand you hear lads who are happy to come to work because it gets them away from the missus... Different strokes for different folks."*

According to one participant, there was no need for new services or supports. However, there was a need to encourage FIFO workers to feel more comfortable about accessing existing supports:

> *"So much about the actual service, because it doesn't really matter what it is, as long as it's a service; but it needs to be known and accessible. Because a lot of people tend to think of it as a bit of a taboo subject. So I think mental health really needs to come to the forefront of what we're doing out there, because it's the long hours, away from our family and friends, and to keep things in check, so it's going to have a detrimental effect, of course it is. So I think it's more to do about people feeling okay about accessing those resources, rather than different types."*

Given the high level of expressed reluctance to use supports this point suggests that any new programs should consider engagement and awareness as key to its success.

5.2.7 Positives of FIFO work

Other research has shown that there are a number of advantages for workers and families engaged in the FIFO model, such as high salaries (Keown, 2005; Gent, 2004). Likewise in this study, overwhelmingly the number one reported benefit of FIFO work was the high level of remuneration participants received. The financial pay-off allowed participants to support other family members and to establish financial security by being able to afford the acquisition of significant assets like homes.

There were other commonly reported benefits to FIFO work which included:

- Quality time during time off to be with family (especially children).
- Easier to schedule meetings/appointments during business hours when at home.
- Travel to new locations for jobs.
- Meet new people.
- Travel frequently for pleasure during off-times (i.e. Bali).
- Clear separation between personal and work life.
- Opportunity to study on-site.
- Avoid the rut of standard 9-5 positions.
- Maintain regular exercise on the job.
- Access to healthy food options on-site.
- Accumulate frequent flyer points that can be used on rostered time off.

Some participants were confident that their FIFO allowed them to be more engaged and present than most 9-5 parents. This has been found in other research in which FIFO workers reported appreciating extended periods at home for the quality time it afforded them with family (Watts, 2004). Such findings suggest that, when managed properly, FIFO rosters can benefit family relationships and should not be regarded as entirely detrimental to family functioning.

6. Conclusions and Recommendations

The aim of this research was to recruit FIFO workers throughout Australia from a variety of industry sectors and roster schedules and explore the factors that impact on their mental health and wellbeing. The research sought to explore why some cope with the demands of FIFO work and others do not, what characteristics promote resilience within FIFO workers and how best to structure support services for FIFO workers. When asking these three questions, the researchers took multiple factors into account including gender, income level, roster, work type, education level, family status and ethnicity. A mixed method approach was used which included the completion of a survey by 924 FIFO workers and the conduct of interviews with a sample of 18 FIFO workers. Given the nature of findings canvassed in Chapters Four and Five of this report, the following is recommended.

Recommendation 1:

Develop support services that focus on increasing help-seeking behaviour within FIFO populations.

The principal finding of this research was a general reluctance across FIFO workers to seek help during times of stress; in particular from formal support services. This finding is not unique to FIFO workers as research consistently demonstrates within the general population individuals are more likely to seek help from *informal* as opposed to *formal* support services (Rickwood & Braithwaite, 1982; Rickwood & Wilson, 2007). Furthermore, “up to one-half of those with depression, and only one-third to one-half of those affected by anxiety disorders seek professional help” (Gulliver, Griffiths, Christensen & Brewer, 2012, p2). Therefore, this finding is indicative of a general reluctance to seek help within the population.

Currently, it is not possible to definitively recommend support services evidencing an increase in help-seeking. Recent research conducted by Gulliver et al. (2012) has demonstrated that existing support services are not typically informed by help-seeking models and show limited evidence of behavioural change. Therefore, it is important that the development of any support service intended for FIFO workers be

grounded within a help-seeking model and be assessed to determine if behavioural change occurs.

Recommendation 2:

Develop targeted supports.

Findings showed that a significant number of FIFO workers were divorced. For this sample, effects of divorce on support structure preferences, coping, relationship quality with family and friends, stress and psychological distress were borderline significant and were therefore not reported within the findings section of this report. However, the pattern of findings did show that divorced workers reported lower wellbeing and relationship quality with friends and family, and higher stress, compared with all other workers (i.e. singles, those married or partnered and widowed workers). These effects were more pronounced for divorced workers with children, and the differences became more noticeable with each additional child. With greater statistical power, these trending effects may become detectable and facilitate a more reliable recommendation for the provision of services for this already vulnerable population. Types of services might target navigating the Family Court, how to maintain open communication with an ex-spouse where children are concerned, how to develop a parenting plan, and how to maintain mutually rewarding relationships with children post-separation.

In addition to the issue of divorce, it is important to acknowledge that the survey data showed:

- Males were more likely to access informal supports during times of personal stress and females were more likely to access formal supports.
- Young people were more likely to access formal and informal supports.
- Those 50+ were less likely to access *any* form of support.
- Trades and professionals preferred to access mental health services at home whereas labourers did not.

Research has also shown that men are less likely than women to recognise emotional problems or feelings of distress (Kessler et al. 1981). Collectively, these

findings imply that if support services are to be successful, they must target at risk groups differently, taking into consideration preferences associated with the location and mode of support service and the time of day services are offered (to accommodate those on day and night shifts).

Recommendation 3:

Develop pre-employment services: What to expect from FIFO and how to cope.

Survey data showed that workers were not aware of mental health support services within their organisation. This finding is consistent with expectations, as support services are not typically noticed until they become relevant to immediate needs. However, this finding was inconsistent with interview data indicating that workers were aware of support services within their organisation. This inconsistency could be attributed to differences across samples, as those consenting to an interview may be more invested in addressing issues associated with mental health and therefore be more aware of the existence of support services. Despite this issue, collective findings show that organisations need to promote employee awareness of actual services and their availability. This is particularly important as this research also demonstrated that compared to the general population there is a higher prevalence of psychological distress and a greater likelihood of psychological disorder incidence amongst FIFO workers. Collectively, 30% of this sample evidenced a likelihood of having a psychological disorder and a significant number adopted poor coping mechanisms such as reliance on stimulant drinks, illicit drugs and alcohol. Workers also coped by suppressing problems and involving themselves in work.

These issues might be addressed within pre-FIFO employment training addressing:

- What to expect from FIFO work.
- How to cope effectively with the practical demands of FIFO work (hydration, eating healthily).
- How to cope effectively with the impact of FIFO work on the self, family and friends.
- Types of support services and their availability.
- Role of support services and different health professionals.

- How to recognise symptoms associated with mental health problems.
- Self-care.

Recommendation 4:

Develop ongoing post-employment support services that reduce stigma and address mental health literacy and coping.

As this research demonstrated that FIFO workers were unlikely to access support services during times of personal stress and use any of the modes by which mental health services could be delivered, there is a clear need for ongoing support services to:

- Reduce the stigma associated with mental health and help-seeking.
- Increase mental health literacy.
- Promote effective coping.
- Promote self-efficacy in this highly regulated and regimented working environment.
- Promote self-care.

This is supported by additional research showing that support services should aim to reduce inaccurate beliefs about mental health treatment by providing accurate information regarding the role of different health professionals (Wilson, 2005). This teaches people to recognise early symptoms and signs of psychological distress and encourages people to seek assistance for symptoms of general distress. Research has also demonstrated that early prevention and treatment successfully reduces the long-term impact of a number of mental health problems (Rickwood et al. 2007).

Recommendation 5:

Address organisational culture.

Regimented safety routines impacted on the ability of workers to apply judgement in situations where they were able and capable to do so. They also felt vulnerable to intensive scrutinising, intimidation from higher management and the threat of job loss. Workers also reported no control after working hours – they were not free to

move around, drink in their room, or have meals at a preferred time. Workers felt trapped as they had financially committed themselves in accordance with current earning capacity and therefore could not leave. The impact of this on self-efficacy, or the perceived ability to succeed in a particular venture is not known. However, workers did report a sense of powerlessness about their ability to exercise control over their lives in the tightly regimented confines of the FIFO working environment.

Bower (2011) also recommends that a productive and successful mental health strategy should be well thought out, have real commitment at a broad level, tackle all possible challenges such as cultural resistance, and should be a robust element of an organisations culture and policies. Given these collective findings, there is a clear need for organisations employing FIFO workers to actively address the ‘suck it up princess’ culture and build policies and services from the ‘ground’ up to address the ‘real’ mental health needs of workers.

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